

Exploring the Relationship between Exposure to Intimate Partner Violence and an Emotional-
Behavioral Disability among Children Involved in the Child Welfare System

by

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Presented to the Faculty of the Graduate School of the
University of Texas at Arlington in Partial Fulfillment
of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF TEXAS AT ARLINGTON

May 2020

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Acknowledgments

It takes a village to raise a child, but also to create a scholar. I am deeply thankful for each person who has supported, mentored, and guided me through this process. I would like to thank my dissertation chairperson, Dr. Beverly Black, for her mentorship, on-going guidance, and feedback in this project from the conceptualization to the final version of the dissertation. One of the many lessons that Dr. Black has taught me is the importance of perseverance. I am thankful for each of my committee members, Drs. Rachel Voth Schrag, Ling Xu, Megan Holmes, and Beth Ann Shelton who have been tremendously supportive. Each of you has strengthened this project and contributed to my growth as a scholar. Thank you to my professors and to faculty I have worked with at the University of Texas at Arlington. I am grateful to my cohort, and the friends I have made during my doctoral program. Your support and encouragement throughout this process was incredible. I look forward to a lifetime of friendship and collaboration.

Thank you to my parents, Betty and John Blanch. I could not have done this without you both. Thank you for a lifetime of love, support, and encouragement, and for devoting two years of your lives to my family and me while I completed my coursework and again while I finished writing this dissertation. Thank you to my in-laws Prabhakar Reddy and Girija Reddy, who traveled from India, to stay with us for several months while I completed my specialty exam and the beginning of my third year in the program. I will always be appreciative of the help and support you provided.

To the love of my life and partner, Ramakanth Ravi. You encouraged me to pursue a doctoral degree in social work and supported me along the way. Thank you for believing in me,

loving me, and for your on-going support during the program. Rohith, you were 16 months old when I started this journey and have grown into an incredibly smart, funny, and loving person. May you always have a love of learning and determination to accomplish whatever you set your mind to. Thank you for always helping me to remember what is most important. Finally, I must acknowledge Luna, who faithfully sat on my desk everyday while I wrote this dissertation and has been my writing companion since I began my BSW program in 2004.

April 22, 2020

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This three-article dissertation examines the relationship between exposure to IPV and having an emotional-behavioral disability (EBD) among children in the child welfare system. The first article is a scoping review of the literature that explores how IPV and EBD have been defined and measured in the literature as well as the relationship between them. The second article is a cross-sectional study utilizing secondary data from Wave 3 of the second National Child and Adolescent Wellbeing (NSCAW II) Survey. Structural equation modeling (SEM) is used to analyze a mediational model to examine the role children's trauma symptoms has on the relationship between exposure to IPV and EBD among 398 children involved in the child welfare system. The third article utilizes data from Wave 1 of the NSCAW II to build on the model from the previous article and uses SEM to analyze a moderated mediation model to examine the impact of maternal depression and social support on EBD among children in the child welfare system ($n = 814$). The results from this body of research underscores the impact of children's trauma symptoms on the relationship between exposure to IPV and EBD among children involved in the child welfare system and the interconnectedness of maternal and child well-being.

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Chapter 1: Introduction and Approach

Statement of the Problem

Research consistently demonstrates that various types of violence are interconnected. The relationships between them extend in multiple directions and endure across the life course (Hamby & Grych, 2013). The occurrence of multiple victimizations that result from the various types of violence is termed *polyvictimization* (Finkelhor et al., 2007). Often, experiencing one form of violence is associated with the doubling or tripling of another type of violence (Finkelhor et al., 2009).

The Centers for Disease Control and Prevention (CDC; 2018) define intimate partner violence as (IPV) “physical violence, sexual violence, stalking, and psychological aggression (including coercive acts) by a current or former intimate partner” (p.1). Scholars and advocates alike recognize that the underlying construct of IPV is power and control, which is referred to as coercive control (Hamberger et al., 2017). That is, abusive partners attempt to express and maintain power and control over their intimate partners using physical violence, emotional, or financial abuse (Shepard & Pence, 1999; Stark, 2007). Coercive control also includes controlling and monitoring their partner’s time, space, and movement (Stark, 2007).

Each year, approximately 15.5 million children are exposed to IPV (McDonald et al., 2006). Holmes and colleagues (2018) estimated that the lifetime costs of childhood IPV exposure to be over \$50,000 per child (2016 U.S. Dollars) due to increased health care costs (\$11,000), increased crime costs (\$14,000) and loss of productivity (\$26,000). When this amount is applied to an annual birth cohort, it is estimated to cost society over \$55 billion (Holmes et al., 2018).

Historically, scholars have referred to children as direct *witnesses* of IPV, however, recently the more inclusive term *exposure* has been adopted to capture the “multiple experiences

children have living in homes where an adult is using violent behavior in a pattern of coercion against an intimate partner” (Edleson et al., 2007, p.963). Holden (2003) created a taxonomy of exposure to IPV. The taxonomy includes prenatal exposure, being oblivious to the violence, observing the effects of the violence, experiencing the aftermath, hearing about the violence, overhearing the violence, direct observation, participating in the violence, victimization, and intervening in the violence.

In 2014, the National Survey of Children's Exposure to Violence concluded that one in four children were exposed to a parental physical assault in their lifetime (Finkelhor et al., 2015). Thirty-two percent of older youth (14-17 years old) had witnessed a parental assault in their lifetime (Finkelhor et al., 2015). A population-based surveillance study conducted by Fusco and Fantuzzo (2009) of 1,581 IPV incidents demonstrated that in 43% ($n=679$) of the cases children were in the home at the time of the violence and 95% of those children had sensory exposure. Among the children who had sensory exposure, 22% heard it, 4% saw it, more than 60% heard and saw it, and 3% were injured in the incident.

IPV exposure and child maltreatment. Child maltreatment is defined as “Any act or series of acts of commission or omission by a parent or other caregiver that results in harm, the potential for harm, or threatens the harm of the child” (Leeb et al., 2008, p.11). In 2017, 3.5 million children were the subject of child maltreatment investigations. Of these, 674,000 were substantiated or confirmed to have occurred (Administration for Children and Families, 2019). Of the substantiated cases, 74.9% of children were neglected, 18.3% physically abused, and 8.6% were sexually abused (Administration for Children and Families, 2019).

The co-occurrence of exposure to parental IPV and child maltreatment has been well documented (e.g., Appel & Holden, 1998; Finkelhor et al., 2009; Jouriles et al., 2008). Children

exposed to parental IPV are over six times more likely to experience neglect, five times more likely to experience child physical abuse or sexual abuse, and four times more likely to experience child psychological abuse compared to children not exposed to parental IPV (Finkelhor et al., 2009).

This research examines the relationship between exposure to parental IPV and an emotional-behavioral disability (EBD) among children involved in the child welfare system with both substantiated and unsubstantiated maltreatment. Although some states may consider exposure to parental IPV as a form of child maltreatment (e.g., emotional abuse, risk of physical abuse, or neglect) (Lawson, 2019), this study looks at IPV exposure separately from maltreatment. This research also examines the potential role of children's trauma symptoms on the development of EBD as well as the impacts of maternal depression and social support. While evidence suggests that survivors of IPV can benefit from both material and social support (Wright, 2015), this study focuses only on social support.

EBD

EBD refers to the disability category of an *emotional disturbance* within the Individuals with Disability Act (2004), which is defined within codified federal regulations as:

An inability to learn that cannot be explained by intellectual, sensory, or health factors, an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate types of behaviors or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, a tendency to develop physical symptoms or fears associated with personal or school problems. (Child with a Disability, §300.8, 2017, par.12)

This study refers to this disability as EBD since that is the preferred term by the National Mental Health and Special Education Coalition (Mitchell et al., 2019). Over 6 million children received special education services through IDEA in 2016, and more than 335,000 children had EBD (United States Department of Education; USDOE, 2018). Males and children of color are disproportionately represented in the disability category of EBD. Specifically, American Indian or Alaska Native children are 60% more likely to have EBD. Native Hawaiian or other Pacific Islanders and children who identify with two or more races are also more likely to have EBD (20% and 30% more likely, respectively). In 2016, African American children were twice as likely to have EBD than any other racial or ethnic group (USDOE, 2018).

Significance of the Problem

Exposure to IPV and child maltreatment frequently carry adverse short-term and long-term consequences for children. Short-term consequences include mental and physical health issues, emotional dysregulation, behavioral problems, and social difficulties (e.g., Artz et al., 2014; Evans et al., 2008; Fong et al., 2017; Kimball, 2016; Olofsson et al., 2011). Research also indicates that children's exposure to IPV and child maltreatment are at a higher risk for long-term consequences such as future victimization and perpetration of violence (Holt et al., 2008; Levendosky et al., 2002; Palmetto et al., 2013; Wekerle & Wolfe, 1999).

Research demonstrates that exposure to violence, including IPV and child maltreatment, is associated with poor school functioning (Kiesel et al., 2016; Perkins & Graham-Bermann, 2012). Perkins and Graham-Bermann (2012) posit that these problems result from exposure to violence such as IPV and child maltreatment that may be severe and interact to create a "complex web of disabilities" (p. 90). Moreover, children with exposure to violence may develop EBD (Perkins & Graham-Bermann, 2012).

Children with EBD often experience the worst academic and employment outcomes compared to children without disabilities, as well as other disability categories (Mitchell et al., 2019). Among adolescents with disabilities, children with EBD are the most likely to be suspended or expelled from school (USDOE, 2018). Specifically, 65% of adolescents with EBD have been suspended, and 19% expelled (Lipscomb et al., 2017). Additionally, adolescents with EBD are at high risk for high school dropout (USDOE, 2018). Almost 35% of adolescents with EBD between the ages of 14-21 dropped out of school in the 2015-2016 school year (USDOE, 2018).

Children with EBD are typically the most socioeconomically disadvantaged group of students receiving special education (Lipscomb et al., 2017). As a result, they often attend poor-quality schools (Lipscomb et al., 2017). Thus, the combination of these previously stated factors may impact high school completion, post-secondary education attainment, and employability (Newman et al. 2011; Wagner & Newman, 2012).

The second National Longitudinal Transition Study indicates that young adults with EBD were significantly more likely than young adults with other disabilities to be involved with the criminal justice system (Newman et al., 2011). Young adults with EBD were more likely to have been stopped by the police, arrested, and been put on probation. Seventy-five percent of young adults with EBD surveyed were involved in the criminal justice system (Newman et al., 2011).

Literature Review

Short-term Effects of Exposure to IPV and Child Maltreatment

Children who are exposed to IPV and child maltreatment are often at risk for a variety of adverse short-term outcomes. Extant research on children exposed to IPV and child maltreatment indicates these children have difficulties with managing their behavior which is often detrimental

to the development of social relationships with their peers (Graham-Bermann & Levendosky, 1998; Haj-Yahia & Dawud-Noursi, 1998; Holmes et al., 2015; Manly et al., 2001). For instance, children exposed to IPV often have difficulty regulating their emotions and exhibit aggressive behavior towards their siblings and peers (Graham-Bermann & Levendosky, 1998; Haj-Yahia & Dawud-Noursi, 1998). Additionally, research indicates that childhood exposure to IPV has adverse effects on children's executive functioning, memory, and attention (Gustafsson et al., 2013; Gustafsson et al., 2015).

Exposure to IPV and child maltreatment can impact children's social skills and their ability to concentrate in class (Margolin & Gordis, 2000). Additionally, these children frequently score lower on measures of cognition and academic achievement (Crozier & Barth, 2005; Irigaray et al., 2013; Kiesel et al., 2016; Peek-Asa et al., 2007). Children exposed to IPV and child maltreatment often struggle with developing and maintaining social relationships (Blaustein & Kinniburgh, 2010; Lundy & Grossman, 2005).

Long term Effects of Exposure to IPV and Child Maltreatment

In addition to experiencing behavioral, social, and academic difficulties as a result of exposure to IPV, children are at risk for increased perpetration and victimization of IPV in their adolescent and adult relationships (Holt et al., 2008; Levendosky et al., 2002; Wekerle & Wolfe, 1999). In a study of 697 young women (ages 15-24), Palmetto and colleagues (2013) found that adolescents and young adults who were exposed to IPV in childhood were 88% more likely to perpetrate IPV in their relationships and 95% more likely to experience IPV victimization. Furthermore, a systematic review of the literature examining children's exposure to IPV and perpetration of adult IPV found that children exposed to IPV can be up to four times more likely to perpetrate IPV in adulthood (Kimber et al., 2018). However, a limitation in the literature is

that the majority of the research examines exposure to physical IPV alone and perpetration of adult physical IPV (Kimber et al., 2018).

Regarding child maltreatment, research indicates that experiencing child maltreatment is significantly related to adult IPV victimization and perpetration (Murphy, 2011). Individuals who reported experiencing physical abuse were 78% more likely to experience IPV victimization (Murphy, 2011). Young women who were sexually abused as children were 93% more likely to perpetrate IPV in their relationships and more than two times more likely to experience IPV victimization (Palmetto et al., 2013).

Theoretical Foundation

The current study is guided by developmental psychopathology and trauma theories. Developmental psychopathology was selected as part of the theoretical foundation because it recognizes that adverse experiences can impact children's capabilities later in life (Sroufe & Rutter, 1984). Developmental psychopathology also recognizes that children's behavior and mental health challenges are the results of negative adaptation to the environment (Sroufe, 2009). Moreover, developmental psychopathology acknowledges the importance of processes and mechanisms to understanding variations in outcomes as well as how risk and protective factors can impact children's outcomes (Rutter, 1990). Trauma theory was included in the theoretical foundation because it helps to explain how exposure to traumatic experiences such as IPV impacts children's brain development of the areas responsible for affect regulation, behavior regulation, and cognition.

Developmental Psychopathology

Developmental psychopathology is an integrative framework that has been most simply defined as "the study of behavioral health and adaptation in a developmental context" (Masten,

2006, p.47). The goal of developmental psychopathology is to understand how individuals develop capacities to cope with difficulties posed at each developmental period and what contributes to the failure of those capacities or functional adaptation (Sroufe, 2013). It is concerned with the origins and development of psychopathology, the differences in manifestation, its predictors and sequelae, and the relationship to nonproblematic behavior (Sroufe & Rutter, 1984). Developmental psychopathology underscores that mental health and behavior concerns occur within a developing person. Thus, a developmental perspective is needed to understand, prevent, and intervene in the causes, problems, and outcomes related to these difficulties (Masten, 2006; Sroufe, 2009). The terms mental health and behavior concerns will be used instead of developmental psychopathology to better align the discussion with social work language. Several aspects of the developmental psychopathology framework aid in the understanding of the exposure to IPV among children involved in the child welfare system and EBD. These include the relationship between person and environment, adaptation, processes and mechanisms, and risk and protective factors.

Relationship between person and environment. The developmental psychopathology framework emphasizes the importance of examining the relationship between the developing child and developing parent as well as the impact of contextual factors in the environment (Bronfenbrenner, 1979; Lerner, 1991). In this instance, IPV occurs in the child's home environment between his or her parents or caregivers. Additionally, children often experience abuse and neglect in their home environment. IPV and child maltreatment are often exacerbated by contextual factors such as low socioeconomic status and unemployment (Ernst et al., 2007; Fusco, 2017). Research demonstrates that exposure to parental IPV and child maltreatment in the

child's home is significantly related to adverse behavior and academic outcomes (Holmes et al., 2017; Kiesel et al., 2016).

Adaptation. Developmental psychopathology suggests that mental health and behavior concerns result from successive negative adaptations by individuals in response to their environment (Sroufe, 2009). Applying this construct to children exposed to IPV and child maltreatment, when children are exposed to IPV and maltreatment in their environment, how they adapt influences their outcomes (Holmes et al., 2015). When children are exposed at an early age, they learn to adapt to the circumstances. Although children may adapt to adverse situations in the short-term, aggression often increases over time (Holmes, 2013). For instance, children who are exposed to IPV and child maltreatment may interpret regular social interactions with peers or other adults as more hostile, threatening, or aggressive and respond more aggressively to protect themselves (Hamby & Grych, 2013). This behavior may have been beneficial in an unsafe environment where they were maltreated or exposed to IPV. However, it makes it challenging to assess situations and to respond appropriately to other contexts (Romano et al., 2015). Frequently, children who are maltreated find it hard to trust others because they view them as dangerous (Romano et al., 2015).

Risk and protective factors. A critical feature of developmental psychopathology is the consideration of the role of risk and protective factors in the presence of differential outcomes (Rutter, 1990). Existing research with children who have been maltreated suggests that some children may not be adversely affected by the experiences of maltreatment. For instance, Woodruff and Lee (2011) conducted a secondary data analysis using the National Survey of Child and Adolescent Wellbeing (NSCAW) data ($N=2,064$). They found that 57% of children who were involved in the child welfare system had a “low” to “typical” behavior trajectory,

indicating that the majority of children had minimal or no behavioral problems. This finding suggests that there may be protective factors that prevent children from experiencing behavior difficulties. Risk and protective factors help to provide clarity about the differences in outcomes related to exposure to IPV and child maltreatment. The inclusion of risk and protective factors as mediators and moderators offer a more nuanced understanding of the relationship between exposure to IPV and child maltreatment and adverse outcomes (Cicchetti & Cohen, 1995).

Child risk factors. At the child level, traumatic stress symptoms are a risk factor for the development of behavior and mental health difficulties. Miller and colleagues (2012) examined whether children's traumatic stress symptoms were associated with children's internalizing (i.e., anxiety/depression, somatic symptoms, withdrawal) and externalizing (i.e., aggression and delinquency) behaviors. The results of the study demonstrated that traumatic stress symptoms mediated the relationship between IPV and children's internalizing and externalizing behaviors.

Maternal risk factors. Research demonstrates that survivors of IPV experience mental health concerns such as depression frequently (Bacchus et al., 2018). Maternal depression can adversely affect children who were exposed to violence. Extant research indicates a positive correlation between maternal depression and children's trauma symptoms (Costello & Klein, 2019; Graham-Bermann et al., 2006). Both studies examined the relationship between maternal depression and post-traumatic stress symptoms among children exposed to IPV and found that maternal depression predicted children's trauma symptoms. Costello and Klein (2019) analyzed the impact of maternal depression on children's trauma symptoms among a nationally representative sample of 713 children in the U.S. child welfare system exposed to IPV. The researchers found that maternal depression predicted children's trauma symptoms in models examining differences related to IPV frequency and severity.

Additionally, research indicates that maternal depression is positively related to internalizing (e.g., anxiety/depression, withdrawal, somatic symptoms) and externalizing behaviors (e.g., aggression, delinquency) of children exposed to IPV (Martinez-Torteya et al., 2009; Wickramaratne, 2011). In a longitudinal study of children exposed to IPV involved in the child welfare system, Holmes and colleagues (2017) examined the role of maternal depression on children's aggression. Specifically, Holmes and colleagues (2017) examined children's aggressive behavior across three developmental stages (toddlerhood, preschool/kindergarten years, and elementary years). They found that exposure to IPV was significantly associated with maternal depression at all three time points and that maternal depression mediated the relationship between exposure to IPV and aggressive behavior at all three time points.

Family level risk factors. In addition to maternal risk variables, research has identified low socioeconomic status (SES) as a family level risk factor. Ernst et al. (2007) found that exposure to IPV was associated with low income (less than \$20,000 per year). Fusco (2017) demonstrated that among mothers and their children involved in the child welfare system, mothers reporting IPV were more likely to be receiving Temporary Aid for Needy Families. Similarly, Holmes et al.'s (2017) study of children exposed to IPV involved in the child welfare system indicated that income below the federal poverty line was positively associated with increased aggressive behavior over time.

Regarding family risk factors for low academic achievement among children exposed to IPV, several studies have identified that low SES (Hecht et al., 2000; Molfese et al., 2003), living in a shelter (Blackburn, 2009; Moore & Pepler, 1998) and frequent moves (Blackburn, 2009; Mehana & Reynolds, 2004) were associated with lower reading skills. Extant research demonstrates that children with low SES who are not exposed to IPV often have lower readings

and pre-reading skills such as phonological awareness compared to children from high SES backgrounds (Hetch et al., 2000; Molfese et al., 2003). Among children exposed to parental IPV, children living in shelters tend to have lower reading skills. The lower reading scores may be related to disruption in their routine and stress, which makes it difficult to concentrate (Moore & Pepler, 1998). Moreover, mothers may not be able to engage with their child in reading practice because of depression or exhaustion related to IPV or trying to secure housing if the family lives in a temporary shelter (Ezell et al., 2000; Levendosky & Graham-Bermann, 2000). Frequent moves or changes in residence may also negatively impact academic achievement since children often have to change schools, thus losing continuity in their education (Blackburn, 2009; Mehana & Reynolds, 2004).

Trauma Theory

According to Van der Kolk (1989), “traumatization occurs when both internal and external resources are inadequate to cope with external threats” (p. 393). Traumatization often occurs in children when they fear for their lives or bodily integrity or the lives or physical security of a loved one (Bloom, 1999; The National Child Traumatic Stress Network, n.d.). The trauma is not responsible for the adverse outcomes; instead, it is the way individuals process and react to the experiences in addition to the response from the individual’s support system (Bloom, 1999).

Complex trauma is defined as exposure to multiple traumatic events, which tend to be invasive and interpersonal (The National Child Traumatic Stress Network, n.d.). Exposure to complex trauma often impairs children's ability to self-regulate and appropriately relate to their peers (Cook et al., 2005). Based on an extensive review of the literature, Cook and colleagues (2005) identified seven domains of impairment experienced by children exposed to complex

trauma. These include biology, affect regulation, behavior regulation, and cognition. The following sections discuss each of the domains. The following section applies a review of the literature on children's exposure to IPV and child maltreatment to the constructs of trauma theory.

Biology. Carpenter and Stacks (2009) conducted a literature review and found that exposure to IPV in utero and during early years of life affects the development of the brain and often results in the reduced size and functioning of the brain. The researchers found that children's exposure to violence harms their neuroendocrine system and brain development during critical periods of development that create vulnerabilities in children's cognitive and emotional processing. Based on the findings of their review, Perkins and Graham-Bermann (2012) postulate that the problems in mental health, cognitive, processing, language development, and overall school functioning interact to create a "complex web of disabilities" (p. 90).

Exposure to IPV and child maltreatment can negatively impact neural circuits that regulate affective and cognitive development (Perkins & Graham-Bermann, 2012; Carpenter & Stacks, 2009; Perry & Szalavitz, 2017). Specifically, neurological changes can impact cognition, memory, executive functioning, which organizes and synthesizes information, and emotional regulation (Perry, 2000; Perry & Szalavitz, 2017). In young children, exposure to extreme stress may lead to neuron death and lower levels of cognitive development and delays in expressive and receptive language, which can potentially result in language delays or disabilities (Carpenter & Stacks, 2009). Dababnah and colleagues (2018) conducted a systematic review of 11 studies that examined the relationship between exposure to parental IPV and intellectual and developmental disabilities. Their findings indicated that 64% of the studies identified a

significant relationship between exposure to IPV and intellectual disabilities. Further, child maltreatment impacts the development of the nervous system and can impact the total brain volume, the size of the hippocampus, and the volume of the prefrontal cortex and the anterior cingulate cortex (Carvalho et al., 2016).

Affect and behavior regulation. Children exposed to IPV and child maltreatment often have difficulty with emotional regulation and exhibit aggressive behaviors towards their siblings and peers (Graham-Bermann & Levondosky, 1998; Haj-Yahia & Dawud-Noursi, 1998; Manly et al., 2001). Moreover, children exposed to parental IPV are more likely to experience social problems (Lundy & Grossman, 2005). Graham-Bermann and Levondosky (1998) examined the social interactions and emotional regulation among preschool children exposed to IPV compared to children not exposed. Direct observations of the children showed that children exposed to IPV displayed significantly more emotional expressions (e.g., sadness, anger, frustration, and negativity) compared to non-exposed peers.

Additionally, children exposed to IPV engaged in more aggressive play, violence, and verbal abuse with peers compared to children who were not exposed. Further, emotional IPV towards the mother was a significant predictor of children's emotional dysregulation and aggression; however, physical IPV was not. Haj-Yahia and Dawud-Noursi (1998) conducted a study assessing the conflict tactics with 832 Arab adolescents from Israel. The results of the study indicated that the more they witnessed or experienced verbal abuse or physical violence, the more frequently they engaged in verbal or physical aggression with their siblings.

When child maltreatment occurs during the preschool age, evidence suggests that children tend to display more externalizing behavior and internalizing behaviors (Manly et al., 2001). Children who experienced physical abuse in preschool tended to have higher levels of

externalizing behaviors, while physical neglect was significantly related to internalizing symptoms (Manly et al., 2001). The severity of emotional maltreatment and physical abuse during preschool predicted aggression.

Cognition. As mentioned previously, children exposed to IPV and child maltreatment often experience academic difficulties. Systematic reviews of research conducted with children who have experienced maltreatment have found that child maltreatment disrupts healthy brain development and cognitive functions such as concentration, memory, language, and organization abilities (Carvalho et al., 2016; Romano et al., 2015). Children who have experienced IPV that has occurred from an early age tend to have the most academic difficulties due to greater brain plasticity at a young age (Romano et al., 2015; Appleyard et al., 2005; Yates et al., 2003). Moreover, children exposed to IPV are more likely to fail to reach language, personal-social, and fine-motor milestones by the age of six (Gilbert et al., 2013).

The developmental psychopathology perspective informs the current study at the individual and family level. The study examines the individual factors of the child having EBD and child trauma symptoms. Family level factors included IPV, child maltreatment substantiation, and maternal depression and social support. Additionally, maternal depression and social support are examined as risk and protective factors, respectively. Drawing upon trauma theory, children's trauma symptoms were examined as a potential mediator of exposure to IPV and EBD to explore whether trauma symptoms may be an underlying factor that influences a relationship between exposure to IPV and EBD.

Purpose and Rationale

Despite the well-established body of knowledge regarding the impacts of exposure to IPV and child maltreatment on children's mental health and the growing literature on the impacts on

learning and academic achievement, there is a gap in the extant research examining the relationship between children involved in the child welfare system who have been exposed to IPV and EBD. Given the adverse academic and employment outcomes and an increased risk of criminal justice involvement of adolescents with EBD, it is critical to examine factors such as exposure to IPV and child trauma symptom so that interventions can be implemented to prevent the development of EBD. The purpose of the proposed study is to attempt to address the gap by examining the relationship between exposure to IPV and EBD among children involved in the child welfare system. This study aims to answer three research questions:

1) What is the state of the literature regarding the relationship between children's exposure to IPV and EBD? (Article 1)

2) 2A. What is the relationship between children's exposure to IPV and EBD among children involved in the child welfare system? (Article 2)

Hypothesis: Higher frequency of IPV will relate to having EBD.

2B. How do children's trauma symptoms impact the relationship between exposure to IPV and EBD? (Article 2)

Hypothesis: Trauma symptoms will mediate the relationship between exposure to IPV and EBD (Figure 1.1).

3) How do maternal depression and social support impact EBD among children exposed to IPV involved in the child welfare system? (Article 3)

Hypothesis: Maternal depression will be positively related to children's trauma symptoms and the likelihood of having EBD. Higher maternal social support is predicted to reduce children's trauma symptoms, indirectly decreasing the likelihood that the child has EBD (Figure 2).

A scoping review of the literature was conducted to examine what literature is available related to the relationship between exposure to IPV and EBD to address the first research question. The second and third questions were answered using data from the Second National Survey of Child and Adolescent Wellbeing (NSCAW II) (National Data Archive on Child Abuse and Neglect, 2013). Wave 3 data was utilized to answer parts A and B of the second question. The third question was answered using Wave 1 data.

Methodology

This study utilized the NSCAW-II data, which was obtained as part of a research project sponsored by the Office of Planning, Research, and Evaluation. NSCAW II is a longitudinal study that examines the functioning, service needs, and service utilization of children involved in the child welfare system (Dolan et al., 2011). NSCAW II includes 5,873 children (ages birth to 17.5) who have been involved with the child welfare system. The sample consists of children with child welfare investigations that were closed between February 2008 and April 2009 and includes both substantiated and unsubstantiated cases (Dolan et al., 2011).

The NSCAW-II sampling process was conducted for 15 months using a two-stage stratified sampling design (Dowd et al., 2014). In the first stage, the United States was divided into nine sampling strata. Eight of the nine strata consisted of the eight states with the highest child welfare caseloads. The ninth strata included the remaining 38 states and the District of Columbia.

Primary sampling units (PSUs) were created within each of the nine strata. PSUs were defined as geographic areas that include the population served by a single child protective service (CPS) agency. These included a single or two or more counties in an adjacent area from which the sample was drawn. A total of 86 PSUs were included in NSCAW II, which

represented 81 counties within 30 states. The within-PSU sampling frame consisted of lists or files of children who were assessed for child abuse or neglect by CPS between February 2008 and April 2009 and they or a sibling had not participated in NSCAW-I (Dowd et al., 2014). The sample includes both children exposed to IPV as well as those who were not. Due to differences in selection probabilities at each level, the sample was weighted to address these variations and allow for inferences to be made to the entire population.

Data Collection Methods

Data collection for NSCAW-II was conducted over three time points. Baseline interviews were conducted between April 2008 and December 2009, and the 18-month follow-up was conducted between October 2009 and January 2011. The three-year follow-up was conducted between June 2011 and December 2012. All interviews were conducted face-to-face by trained interviewers. The interviews were conducted with children, parents, non-parent caregivers, and CPS caseworkers, and teachers if applicable at each of the three time points (Dowd et al., 2014). Teacher data was not collected at the three-year follow-up.

Cohort Characteristics

Of the 5,873 children, approximately half of the sample was male (50.8%) (Dolan et al., 2011). Almost 30% of the sample were children between 11-17 years old, 27.4% were between 6-10 years old, 22.6% were between 3-5 years old, and almost 21% were between 0-2 years of age. Less than half were White (41.5%), 28.3% were Latino, 22.4% were Black, and 7.7% described their race and ethnicity as “other”. Approximately 58% of caregivers were living beneath the federal poverty level. Nearly three-quarters of the children (72%) received public health insurance. Most of the children in the study (87.3%) were living with a parent at the time of the baseline interview. Only 8.5% of the children lived with kinship caregivers, and an

additional 3.4% and 0.5% were living in foster care and group homes, respectively. The majority of their caregivers were female (90.7%), with 44.9% reporting having a high school education, and 27.8% reported education beyond high school (Dolan et al., 2011).

Current Sample

The sample for the current study included children with substantiated and unsubstantiated child maltreatment who remained in the home. Substantiation refers to the confirmation of an allegation after an investigation was conducted. Children in the sample were between the ages of 8-17. This age range was selected because only children who were eight years or older completed the trauma symptoms questionnaire. Additionally, children with EBD are often not identified until they are older compared to other children with disabilities (Bradley et al., 2004). The sample size for Article 2 is 452 and 989 for Article 3.

Independent Variable

IPV Exposure. Children's exposure to IPV was measured using The Revised Conflict Tactics Scale (CTS2; Straus, 1990) from Wave 1, which includes 39 items and identifies the type and frequency of violence directed toward the mother in the last 12 months. Alpha coefficients for the subscales were .42 (Reasoning), .77 (verbal aggression), and .86 (physical aggression), respectively (Straus, 1990). For the current sample, only 13 items were included, and they pertained to physical aggression ($\alpha = .98$). Example items include "In the past 12 months, how many times has your partner slapped you?", "In the past 12 months, how often has your partner kicked you?" and "In the past 12 months, how often has your partner beat you up?"

Mothers indicated whether it happened once, twice, 3-5 times, 6-10 times, 11-20 times, more than 20 times, not in the past 12 months but had happened before, or never happened. The

IPV frequency is the total number of violent episodes reported. There was no missing data for exposure to IPV at Wave 1 or Wave 3.

Dependent Variables

EBD. Children were considered to have EBD if their mother endorsed the category of *emotional disturbance/behavior disorder* to the item: “What special learning problems or special needs were you told your child has?” Having EBD was coded (0=*no*, 1=*yes*). There was no missing data for this variable at Wave 1 or Wave 3

Mediator

Child trauma symptoms. Trauma Symptoms Checklist for Children-PTSD section (TSCC; Briere, 1996) is a 54-item self-report survey that assesses trauma-related symptoms. Ten items from the TSCC were administered to children in the study who were eight years of age and older. The children were asked to identify how often they experience trauma-related symptoms such as nightmares, intrusive thoughts, dissociation, and memories of traumatic events using a 4-point scale (0=*never* to 4=*almost all the time*). Scores range from 0-40 with higher scores indicating greater trauma symptoms. The raw total score was used in the analyses. The TSCC has demonstrated good internal consistency ($\alpha=.98$) within the current sample. There was no missing data for this variable at Wave 1 or Wave 3.

Moderators

Maternal social support. Perceived maternal social support was measured using 11 items adapted from the Duke Functional Social Support Questionnaire (Broadhead et al., 1989). Mothers were asked to identify on a 5-point scale how much social support they receive, ranging from (1=*I get much less than I would like* to 5= *I get as much as I like*). Example items include “I get love and affection,” “I get the chance to talk to someone I trust about my personal and family

problems,” and “I get invitations to go out and do things with other people.” Scores range from 11-55 with higher scores indicating greater social support. Broadhead and colleagues (1989) examined reliability using the average item-remainder correlations for the two subscales (Confidant Support and Affective Support), which were .62 and .64, respectively. However, the measure shows good internal consistency for the current sample ($\alpha=.95$). There was no missing data for this variable.

Maternal depression. Maternal depression was measured using the depression module from the World Health Organization Composite International Diagnostic Interview Short-Form (CIDI-SF; Kessler et al., 1998). A review of the measure’s reliability indicates good test-retest reliability ($\kappa=.71$) (Wittchen, 1994). The CIDI-SF identifies major depressive episodes based on the *Diagnostic and Statistical Manual of Mental Disorders: DSM-IV* criteria (American Psychiatric Association, 2000). A dichotomous major depressive disorder variable was created (0=no major depressive disorder, 1=has major depressive disorder). The variable was based on whether the mother answered affirmatively to the two items, “During the past 12 months, was there a time when you felt sad, blue, or depressed for two weeks or more in a row?” and “During the past 12 months, was there a time lasting two weeks or more when you lost interest in most things like hobbies, work, or activities that usually give you pleasure?”. If the participant answered affirmatively to either item, then they were coded as having a major depressive disorder (National Data Archive on Child Abuse and Neglect, 2014). There was no missing data for this variable.

Control variables. The control variables of child race, gender, age, and poverty level were selected since evidence demonstrates that there are variations in EBD outcomes based on these characteristics. Specifically, males of color, especially African Americans, are

disproportionately identified as having EBD (USDOE, 2018). As mentioned previously, children are often identified with EBD at a later age than other children with disabilities (Bradley et al., 2004). Children with EBD frequently have lower SES and attend poor quality schools (Lipscomb et al., 2017). Child maltreatment substantiation was included as a control variable because the entire sample was reported to CPS for maltreatment. Child trauma symptoms and EBD at baseline were controlled to account for existing trauma symptoms and EBD for Article 2.

Child race. Mothers provided information about the child's race. The five categories were based on the categories used in the 1990 U.S. census (1=*American Indian*, 2=*Asian, Hawaiian/Pacific Islander*, 3=*Black*, 4=*White*, and 5=*Other*). When the respondent identified more than one race, NSCAW-II researchers used the rarest race. The variable was recoded into a dichotomous variable (0=*White*, 1=*Of Color*). There was no missing data.

Child gender. Information about child gender was obtained from the mother. Gender was coded (1=*male*, 2=*female*). Data was recoded (0=*female*, 1=*male*). There was no missing data for this variable.

Child age. Mothers reported the child's age at baseline, which was measured continuously. There was no missing data for this variable.

Maltreatment substantiation. Maltreatment substantiation was reported by the caseworker. Cases were considered substantiated if the allegation of maltreatment was supported by state law or policy (0=*unsubstantiated*, 1=*substantiated*). There is no missing data for this variable at Wave 1 or Wave 3.

Poverty level. Poverty level was determined using the family's income as a percentage of above or below the federal poverty level (1=*less than 50%*, 2=*50%-100%*, 3=*100%-200%*, 4=*greater than 200%*). The variable was recoded into a dichotomous variable (0=*above the poverty*

line, 1=at, or below the poverty line). Less than 50% and 50%-100% were recoded as 1 and 100%-200% and greater than 200% were recoded as 0. There was no missing data for this variable.

Data Analysis

Analytic strategies for research question 1 (Article 1). A scoping review of the literature was conducted to answer the research question: What is currently known about the relationship between exposure to IPV and EBD, as documented in the studies' findings? The search terms "child* expos* to" AND (domestic violence or domestic abuse or intimate partner violence or IPV) AND (emotional disturbance or emotional disorder or behavior disorder or serious emotional disturbance or emotional behavioral disorder or emotional and behavioral disability). The following databases were searched: Academic Search Complete, Education Abstracts (H.W. Wilson), ERIC, Family Studies Abstracts, Health Source: Nursing/Academic Edition, MEDLINE, PsychARTICLES, Psychology and Behavioral Sciences Collection, PsychINFO, and Social Work Abstracts. The special education journals *Journal of Emotional and Behavioral Disorders* and *Behavioral Disorders* were hand-searched.

Studies were included if they 1) tested the relationship between IPV and EBD and 2) involved families with children under the age of 18. Studies that included child abuse and neglect were only included if exposure to IPV was an independent variable.

Analytic strategies for research question 2A and 2B (Article 2). Descriptive statistics were used to examine demographics, exposure to IPV, EBD, and children's trauma symptoms. Research question 2A refers to the direct effects of exposure to IPV and having EBD at Wave 3. Research question 2B examines the potential mediating effect of children's trauma symptoms on the relationship between exposure to IPV and EBD at Wave 3. Figure 1.2 displays the conceptual

model. Structural equation modeling (SEM) was employed to answer these questions. SEM allows for the simultaneous testing of the direct and indirect effects of the model while also assessing the strength and significance of the relationship between the predictor and mediator/outcome variables.

Analytic strategies for research question 3 (Article 3). Univariate statistics were generated to examine demographics, exposure to IPV, maternal depression, maternal social support, and prevalence of EBD. SEM was used to examine the moderating effect of maternal depression as a risk factor and maternal social support as a protective factor. Thus, a moderated mediation model was tested to examine the impact of maternal depression and social support on the relationship between exposure to IPV and child trauma symptoms on EBD at Wave 1. Maternal depression and social support were tested as moderators on the direct relationship between exposure to IPV and EBD. Figure 2 displays the conceptual model for Question 3.

Analysis weights. All of the analyses in the study were conducted utilizing weighted data to account for the complex sampling design. NSCAW research staff created analysis weights to adjust for the unequal probabilities. The weights were adjusted further to correct for nonresponse and under coverage (Biemer et al., 2008). A longitudinal weight was used to account for the adjustment made in the previous waves (Biemer et al., 2008).

Data analysis software. All analyses were conducted using Mplus v.8.3 Muthén & Muthén, 2019). Mplus was selected because of the robustness of the software. Specifically, it was selected for its ability to handle complex samples (Muthén, 2017). Moreover, Mplus allows for path analysis with a dichotomous outcome variable (Muthén, 2011). Mplus employs maximum likelihood estimation for data that are missing completely at random, missing at random, and not missing at random (Muthén & Muthén, 2017). Mplus allows for path analysis

with a dichotomous outcome variable (Muthén, 2011). The maximum likelihood with robust standard error estimator (MLR) was used for all analyses. MLR considers the non-normality of outcomes and non-independence of observations due to cluster sampling (Muthén & Muthén, 2017). Figures 1.3 and 1.4a and 1.4b display the path analysis models. The University of Texas at Arlington reviewed this study and determined it to be exempt from completing the IRB approval process (Appendix).

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Figure 1.1

Article 2 Conceptual Model

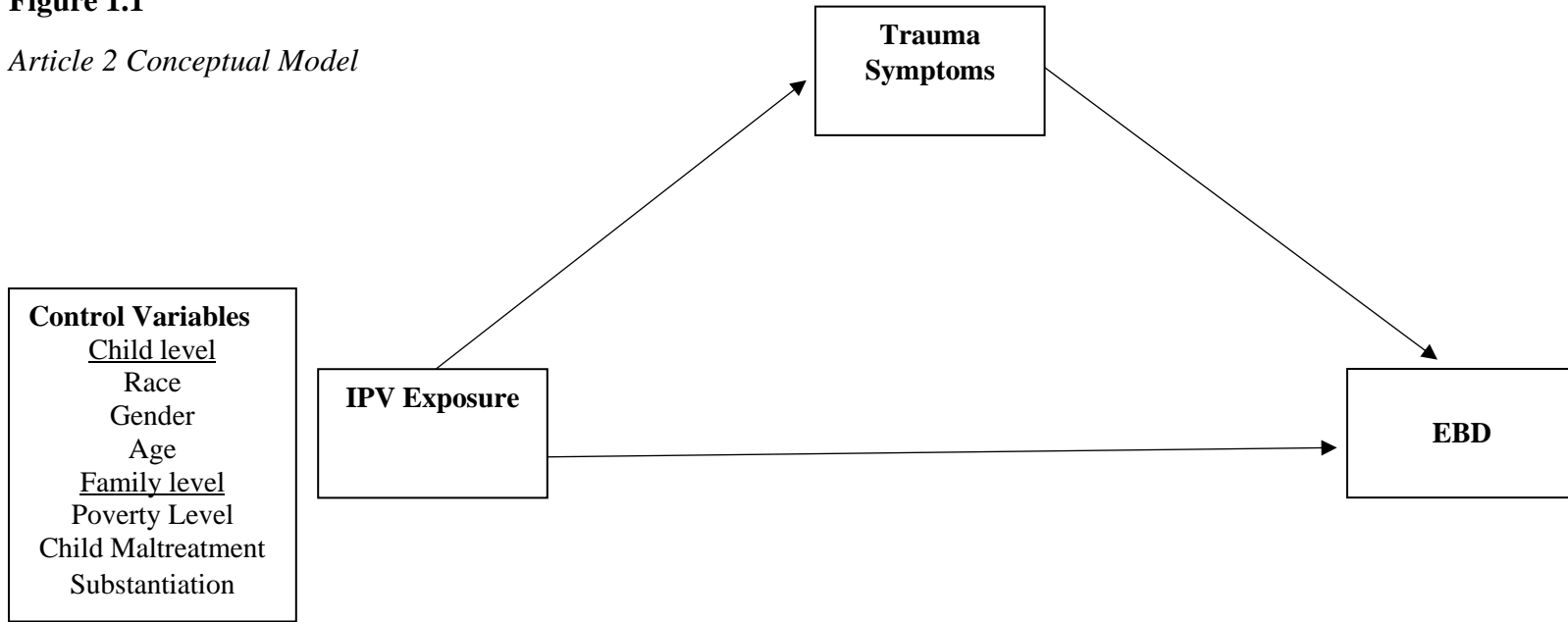


Figure 1.2

Article 3 Conceptual Model

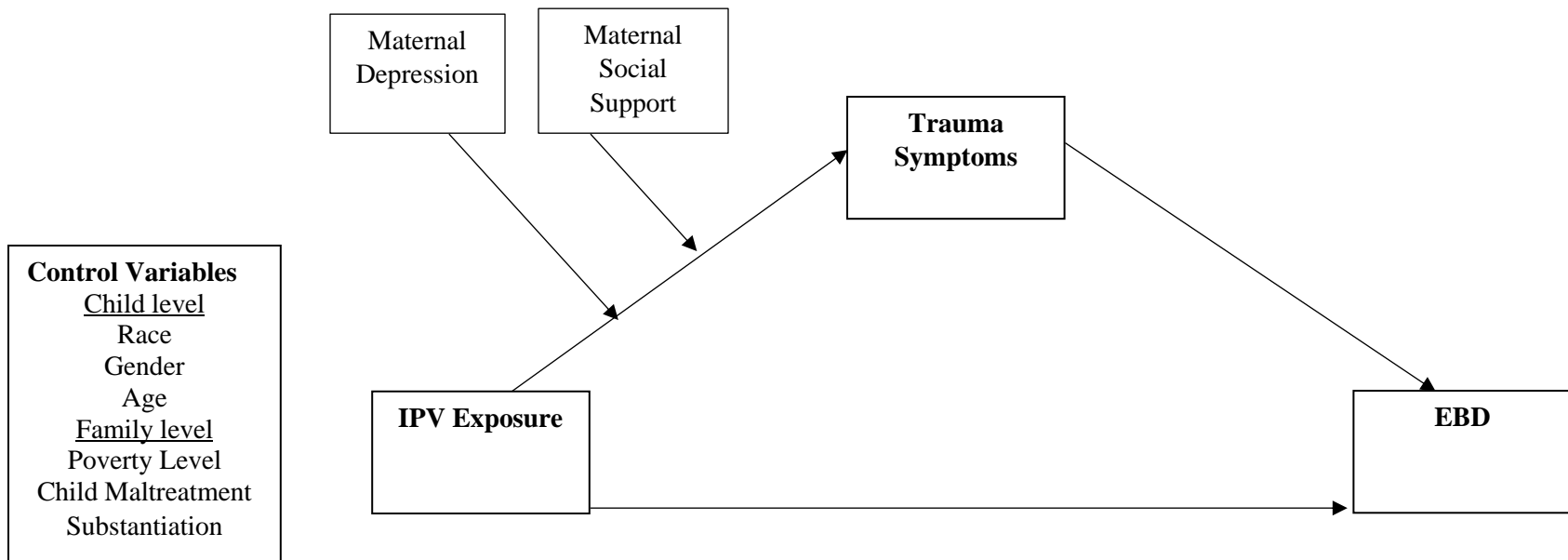


Figure 1.3

Article 2 Path Analysis Model

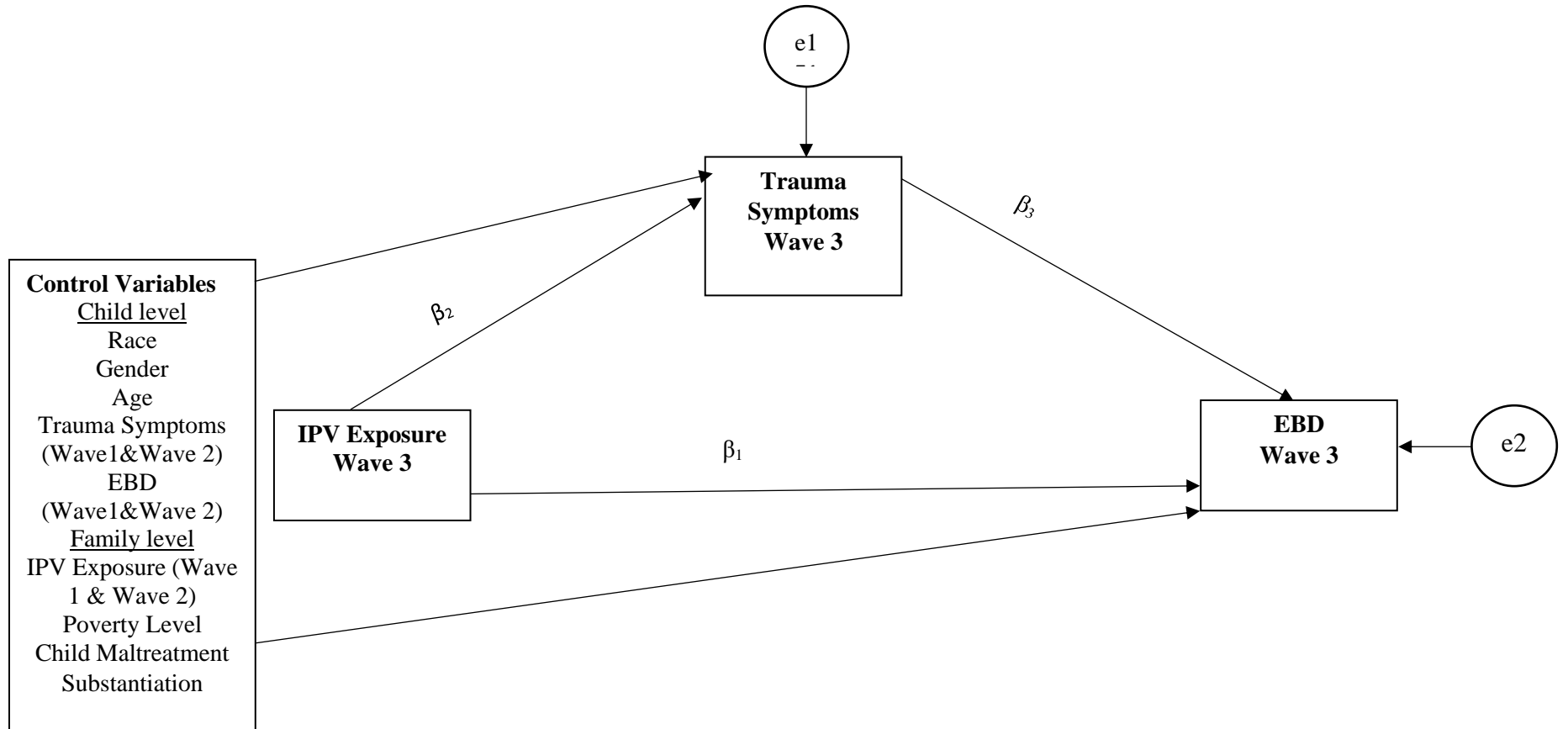


Figure 1.4a

Article 3 Path Analysis Model: Maternal Depression

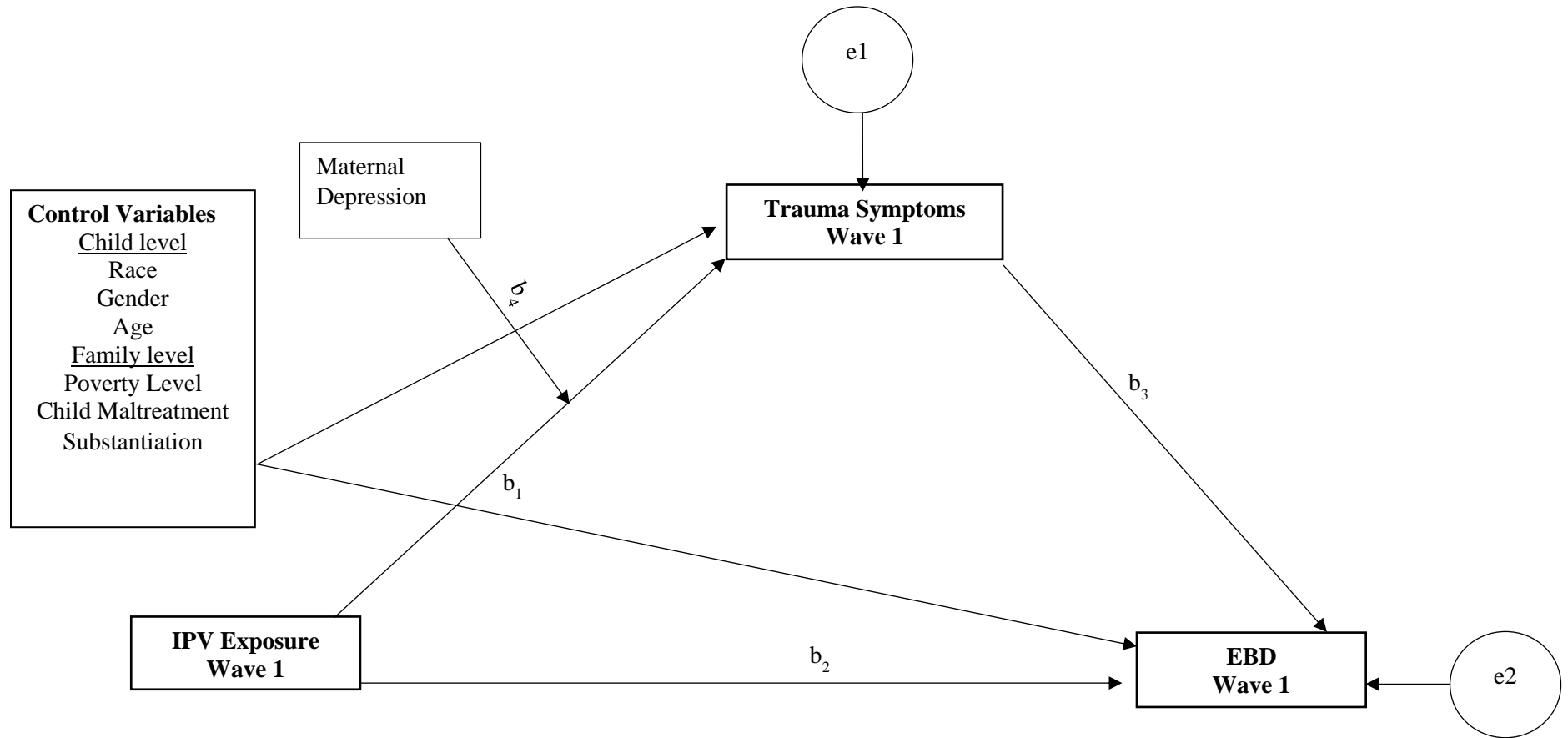
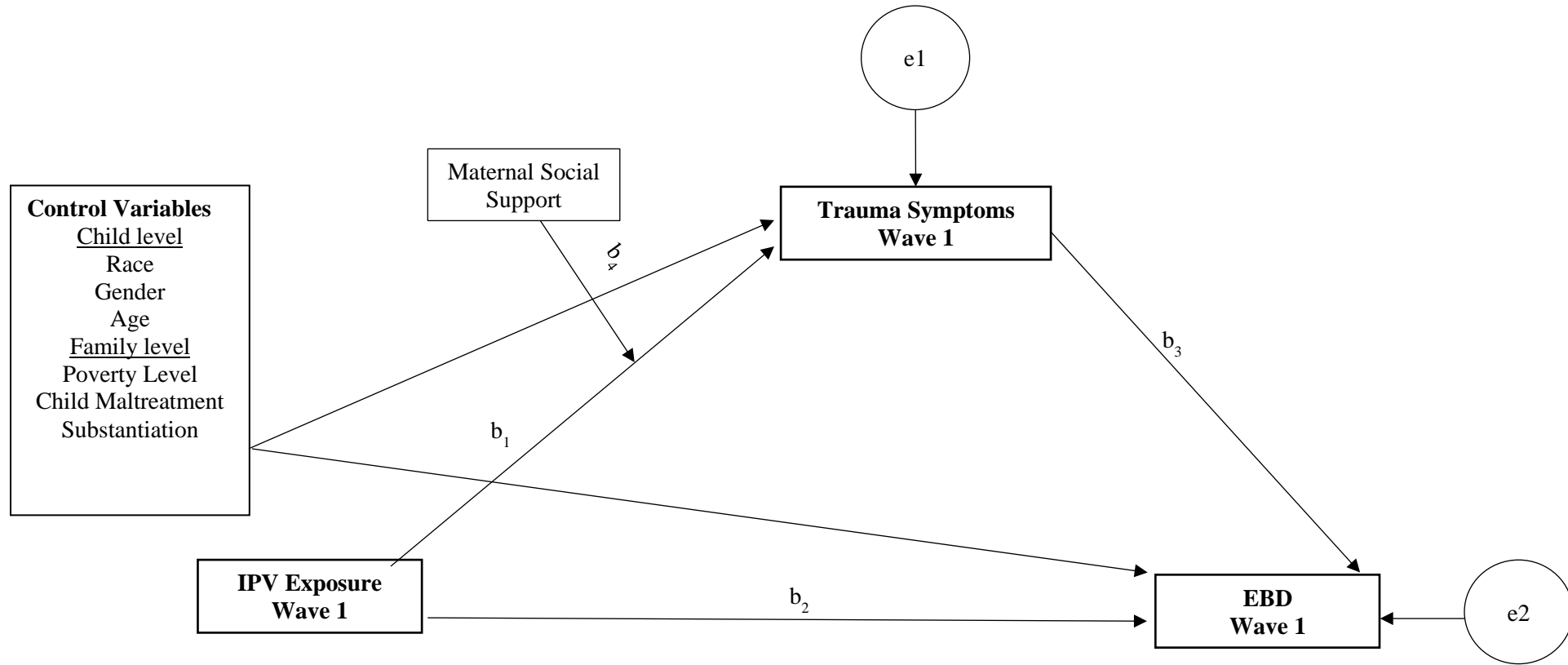


Figure 1.4b

Article 3 Path Analysis Model: Maternal Social Support



Chapter 2: Article 1

The Relationship between Children's Exposure to Intimate Partner Violence and an Emotional-Behavioral Disability: A Scoping Review

Abstract

Children's exposure to intimate partner violence (IPV) is an adverse childhood experience that often results in academic, behavior, and mental health difficulties. This study aims to review the empirical studies examining the relationship between children's exposure to IPV and an emotional-behavioral disability (EBD). Studies were included in the review if they examined the relationship between exposure to IPV and EBD. This research identified three empirical studies that analyzed the relationship between exposure to IPV and EBD. The review demonstrated that few studies had been conducted that explored the relationship between children's exposure to IPV and EBD and that most of the extant studies are dated. Findings from this review showed that children exposed to IPV were more likely to have EBD compared to other disabilities such as a learning disability, hearing disability, speech and language disability, and an intellectual disability. Higher frequency of violence exposure was associated with EBD. Practice implications include assessing children's functioning at school and discussing with families or caregivers the option of requesting an evaluation for EBD for children with severe emotional or behavioral difficulties. Special education evaluators assessing children for EBD should consider screening for children's exposure to IPV and providing resources for IPV. Future research should conceptualize the full range of IPV experiences and collect exposure data from children directly using a validated measure.

Keywords: Emotional and Behavioral Disorders, Emotional Disturbance, Children's exposure to Intimate partner violence, Witnessing domestic violence, Scoping Review

The Relationship between Children’s Exposure to Intimate Partner Violence and an Emotional-Behavioral Disability: A Scoping Review

Children’s exposure to intimate partner violence (IPV) is recognized by the Centers for Disease Control and Prevention (CDC) as an adverse childhood experience (2016). Children’s exposure to IPV has far-reaching consequences for individuals and society. Annually, children’s exposure to IPV costs the national economy over \$55 billion related to increased use of social services, health care utilization, educational outcomes, loss of work productivity, and criminal behavior (Holmes et al., 2018).

The CDC (2018) defines IPV as “physical violence, sexual violence, stalking, and psychological aggression (including coercive acts) by a current or former intimate partner” (p.1). Both scholars and advocates assert perpetrators of these behaviors desire to attain power over and control of an intimate partner (Hamberger et al., 2017; Shepard & Pence, 1999; Stark, 2007). Children’s exposure to IPV is defined as the “multiple experiences of children living in homes where an adult is using violent behavior in a pattern of coercion against an intimate partner” (Edleson et al., 2007, p. 963).

Various studies have examined the prevalence of children’s exposure to IPV. The Second National Children’s Exposure to Violence Survey of over 4,000 children found that one in four children have been directly exposed to a parental assault in their lifetime (Finkelhor et al., 2015). McDonald and colleagues (2006) estimate that 15.5 million children are exposed to IPV annually in the United States. Further, a population-based surveillance study ($n=1,581$), found that 43% of children were home at the time of the violence, and 95% had sensory exposure (Fusco & Fantuzzo, 2009). The purpose of this scoping review is to examine the relationship between

children's exposure to IPV and the development of a disability referred to as an emotional-behavioral disability (EBD).

Overview of Adverse Outcomes of IPV Exposure

A substantial body of knowledge demonstrates that children's exposure to IPV can result in short-term and long-term consequences. Numerous systematic reviews indicate that exposure to IPV often results in mental health and behavioral problems (e.g., Evans et al., 2008; Fong et al., 2017; Kimball, 2016; Kitzmann et al., 2003). Specifically, children exposed to IPV often exhibit externalizing symptoms such as aggression and conduct problems (Kimball, 2016; Kitzmann et al., 2003) as well as internalizing symptoms such as depressive symptoms, anxiety, and post-traumatic stress disorder (Evans et al., 2008; Kimball, 2016; Kitzmann et al., 2003).

Although most of the existing research focuses on outcomes related to children's behavior and mental health, the impact of exposure to IPV on academic outcomes is a burgeoning area of study. Extant studies demonstrate that children exposed to IPV frequently experience educational problems. Lundy and Grossman (2005) found in their study of over 40,000 children that 20% had educational problems. To that end, Peek-Asa and colleagues (2007) found in a sample of children ($n=306$) between the ages of 6-17 years old, those who lived in a home with parental physical violence scored an average of 12.2 percentile points lower on standardized tests in all test categories and had difficulties focusing.

Research demonstrates that exposure to IPV impacts children's cognition. Evidence suggests that exposure to violence negatively affects the neuroendocrine system and disrupts brain development during sensitive periods during the developmental process (Carpenter & Stacks, 2009). This disruption then interferes with cognitive and emotional processing (Perkins & Graham-Bermann, 2012). Carpenter and Stacks (2009) reviewed literature related to children's

exposure to IPV in utero and during early childhood and reported that exposure to parental IPV at this age affects the development of the brain and often results in the reduced size and functioning of the brain. Violence exposure adversely affects memory, executive functioning (i.e., the ability to organize and synthesize information), language, and attention (Perkins & Graham-Bermann, 2012). Moreover, exposure to IPV can result in IQ suppression. Koenen and colleagues (2003) conducted a study with 1,116 five-year-old twins and found that after controlling for underlying genetic influences, children exposed to high levels of IPV scored eight points lower on an IQ test compared to children who were not exposed.

Dababnah and colleagues (2018) conducted a systematic review of 11 studies to examine the nature and strength of the relationship between children's exposure to IPV and intellectual or developmental disabilities (IDD). The researchers also sought to examine how IPV and IDD have been defined, conceptualized, and measured in the existing literature. The results of the systematic review indicated that 64% of the studies identified a significant relationship between IPV and IDD. However, the studies lacked consistency in the definition of IPV and IDD. Further, most of the studies were cross-sectional, limiting the ability to assess directionality.

Current Scoping Review

Although many studies have examined the impact of exposure to IPV on children's behavior and mental health, to our knowledge no prior study has systematically examined the literature related to IPV exposure and EBD as defined by the Individuals with Disabilities Act (IDEA;2004). EBD is defined in the codified federal regulations as having one or more of the following characteristics over a long period and to a marked degree that adversely affects a child's educational performance:

An inability to learn that cannot be explained by intellectual, sensory, or health factors, an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate types of behaviors or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, a tendency to develop physical symptoms or fears associated with personal or school problems. (Child with a Disability, §300.8, 2017, par.12)

Children with EBD tend to have the poorest educational, employment, and criminal justice outcomes compared to children with other disabilities and children without disabilities (Mitchell et al., 2019). In comparison with adolescents with other disabilities such as a learning disability or intellectual disability, those with EBD are the most likely to be suspended or expelled from school (USDOE, 2018). A total of 65% of adolescents with EBD have been suspended, and 19% expelled (Lipscomb et al., 2017). Adolescents with EBD experience the highest rate of drop out, with 35% among youth between the ages of 14 and 21 (USDOE, 2016). The second National Longitudinal Transition Study of young adults with EBD revealed that young adults with EBD were less likely to be employed compared to young adults with learning disabilities. Of the young adults with EBD who have been employed, these individuals had a more difficult time maintaining long-term employment (Newman et al., 2011).

Moreover, young adults with EBD are more likely to be involved with the criminal justice system, with 75% young adults with EBD reporting criminal justice involvement (Newman et al., 2011). Considering the difficulties experienced by youth and young adults with EBD, it is important to examine factors that may contribute to the development of EBD to enable the creation of prevention or intervention programs.

Currently, extant literature has shown that other adverse childhood experiences (ACE) are significantly related to a EBD (Jonson-Reid et al., 2004). Considering the co-occurrence of ACEs and IPV, a logical next step is to examine the relationship between IPV exposure and EBD.

A scoping review is an important contribution to knowledge building because it aids in mapping the “extent, range, and nature of research” identifying gaps, and providing direction for future research (Arksey & O’Malley, 2005, p.21). The goals of this scoping review were to comprehensively and systematically review the empirical studies related to the relationship between exposure to IPV and EBD. This scoping review investigated the following research question: What is currently known about the relationship between exposure to IPV and EBD, as documented in the studies’ findings? The steps outlined by Arksey and O’Malley (2005) were utilized to conduct this scoping review, which included identifying and selecting relevant studies, charting the data, and summarizing and reporting results.

Method

Search Strategy

We included the Boolean search terms (child*or youth or adolescent) and (expos* or witness) AND (domestic violence or domestic abuse or intimate partner violence or IPV) AND (emotional disturbance or emotional disorder or behavior disorder or serious emotional disturbance or emotional behavioral disorder or emotional and behavioral disability or “special education” or disability). We searched the following databases: Academic Search Complete, Education Abstracts (H.W. Wilson), ERIC, Family Studies Abstracts, Health Source: Nursing/Academic Edition, MEDLINE, PsychARTICLES, Psychology and Behavioral Sciences Collection, PsychINFO, and Social Work Abstracts. Additionally, we enhanced the database

search by hand-searching the special education journals *Journal of Emotional and Behavioral Disorders* and *Behavioral Disorders*.

Study Selection

We, the authors, included studies if they 1) examined the relationship between children's exposure to IPV and EBD and 2) involved families with children ages 18 and younger. We only included studies that examined child abuse and neglect if the study specifically included IPV as an independent variable. We included studies with EBD as the outcome variable. We restricted our search to empirical articles published between 1990 and 2019 since IDEA was enacted in 1990.

The combined database search yielded 2,875 articles. The journal searches resulted in an additional 67 articles. A total of 2,942 studies were identified. We loaded all the studies into Covidence, a web-based systematic review software, to facilitate the process of tracking studies from the initial title and abstract screen through the selection of full-text articles. After duplicates were removed, we screened 1,452 studies at the title and abstract level. At the full-text screening level, we screened 124 studies. The Population, Exposure, Outcome (PEO) framework was used to identify studies that met the inclusion criteria. Studies were included if children under 18 who were exposed to IPV and included the outcome of EBD. Both authors screened all the studies at the title and abstract and full-text levels. When disagreements arose at each stage of the process, we met to resolve the conflicts. In total, we met for two hours to resolve the conflicts. The first author, with expert knowledge on EBD made the final decision. Figure 2.1 displays the study selection process. The final sample included three studies.

Results

Study Characteristics

Table 2.1 provides details about the studies' characteristics. Only one of the studies (Backos & Samuelson, 2017) was published within the past ten years. The other two studies were published 20 years ago or more (Garcia, 1997; Sullivan & Knutson, 2000). Two of the studies included in the review were published in peer-reviewed journals (Backos & Samuelson, 2017; Sullivan & Knutson, 2000), and the other was a study conducted for a doctoral dissertation (Garcia, 1997). All the studies were cross-sectional (Backos & Samuelson, 2017; Garcia, 1997; Sullivan & Knutson, 2000). Since the studies were cross-sectional, it is impossible to determine causality. Longitudinal research would help to clarify the relationship between children's exposure to IPV and EBD.

Definition and measurement of exposure to IPV. The three studies varied on how they defined and measured IPV. Backos and Samuelson (2017) defined IPV as physical, sexual, and verbal abuse, and mothers provided information about children's exposure to IPV. Garcia (1997) included both physical and verbal abuse in the definition of IPV and used the child self-report measure (Things I've Seen and Heard). Sullivan and Knutson (2000) relied on secondary data from the Nebraska Department of Social Services and police reports and did not specify how IPV was operationalized for their study.

Study aims. Each of the studies included in the review had different aims. The aims of Backos and Samuelson's (2017) study was to examine the ability of the Draw A Person: Screening Procedures for Emotional Disturbance (DAP: SPED) and Kinetic Family Drawing (KFD) to differentiate groups of children based on whether they had a diagnosis of Post-traumatic Stress Disorder. Garcia (1997) aimed to analyze the relationship between exposure to IPV and behavior problems among Latinx adolescents with EBD and without. The purpose of

Sullivan and Knutson's (2000) study was to assess whether there is an association between running away, school attendance, and academic achievement in addition to exposure to IPV.

The three studies included various methods to answer their research questions. Backos and Samuelson (2017) recruited from a larger study exploring the impact of exposure to IPV and maternal PTSD on children's emotional, behavior, and neuropsychological functioning. Mothers and children with PTSD and without completed the DAP and KFD assessments. The researchers examined the differences in the scores between mothers and children with PTSD and those without PTSD. Garcia (1997) compared groups of Latinx adolescents with EBD and a control group without exposure to examine the relationship between exposure to IPV and behavior problems. Sullivan and Knutson (2000) conducted a secondary record review of law enforcement records and social service records.

Study outcome measures. Each study employed a different outcome measure. Backos and Samuelson (2017) used the DAP: SPED and the KFD. These assessments utilized projective drawing to screen for EBD and facilitate therapeutic discussion about the children's experience in their family and their relationships with family members. Garcia (1997) utilized the Youth Self-Report and Teacher's Report Form. Sullivan and Knutson (2000) obtained electronic records from the Nebraska Department of Social Services Central Registry and police databases from Omaha and Douglas County, which served as outcome measures for running away.

Sample Characteristics

The studies included in the review were conducted in the western and midwestern United States. Of the two studies conducted in the western United States, one was conducted in Southern California (Garcia, 1997), and the other reported that the study was conducted in a west coast city (Backos & Samuelson, 2017). Therefore, these studies do not generalize to other areas

of the United States, nor are they nationally representative. There is a clear need for additional research examining the relationship between exposure to IPV and EBD in various regions of the United States as well as research that is nationally representative. The sample size reported for each study was 56 (Backos & Samuelson, 2008), 92 (Garcia, 1997), and 562 (Sullivan & Knutson, 2000), respectively. The total sample size of all the studies combined was 710.

Age. The participants' ages in the study ranged from 7-21. Participants in the Backos and Samuelson (2017) study ranged from 7-17 with a mean age of 12.9 ($SD=2.96$). Garcia (1997) included adolescents between the ages of 10-18. Participants in the EBD group had a mean age of 13.9 ($SD=1.84$), and the mean age of adolescents in the control group was 16.8 ($SD=.93$). Participants in Sullivan and Knutson's (2017) study sample ranged from 0-21 and did not report a mean age; however, the authors reported that less than four percent of the sample was under the age of eight.

Race. The studies included participants from diverse racial backgrounds. Backos and Samuelson (2017) included over 80% children of color and 15% biracial children. Of these, most of the participants were African American (67%). Garcia (1997) included all Latinx participants. The racial background of participants in Sullivan and Knutson's (2000) study was relatively evenly split, with (53%) being children of color, with the majority being African American (81%).

Gender. Regarding gender, slightly over half of the participants (53%) in Sullivan and Knutson's (2000) study were male. All the participants in Garcia's (1997) study were male. Backos and Samuelson (2017) did not report the participant gender.

Relationship between Exposure to IPV and EBD

Backos and Samuelson (2017) tested the DAP:SPED among a sample of children exposed to parental IPV and compared the scores of children with PTSD and without. The mean scores for all the children in the study on the DAP:SPED indicated that no further testing was needed for EBD. Further, findings showed that there were no significant differences in scores between children with PTSD symptoms and those without which suggests that the DAP:SPED does not differentiate between children with and without PTSD. Backos and Samuelson argue that the DAP:SPED does not accurately detect EBD among children who have PTSD that would be expected to have signs of EBD, which could signify a high rate of false negatives, thus increasing the likelihood of type II errors. A possible reason could be that the assessment is not sensitized to PTSD symptoms.

This study is important considering that children with exposure to IPV frequently experience PTSD symptoms. A strength of the study is that it was conducted with a diverse sample. However, some of the limitations are that it was conducted with a small sample of children in one geographic location, and the mothers reported children's exposure to IPV.

Findings from Garcia's (1997) study revealed that 10% of youth with EBD reported exposure to physical IPV "many times." None of the participants in the control group endorsed the response option "many times." Youth with EBD were more likely to be exposed to IPV. Twice as many youths with EBD reported exposure to verbal IPV, and increased exposure to violence predicted higher levels of behavior problems. Further, increased violence exposure predicted EBD. Garcia (1997) asserted that there is a need for more comprehensive evaluations of EBD that includes identifying the presence, frequency, and severity of the multiple stressors that children may experience. These stressors include the histories of assault, abuse, and violence

exposure, including exposure to IPV. Although a strength of this study is the use of a comparison group, the findings are limited to Latinx males in Southern California and do not generalize to other racial or ethnic groups, females, or adolescents in other areas of the U.S.

Sullivan and Knutson (2000) analyzed the relationship between exposure to IPV among 562 children who received special education services and had a history of running away. The results showed that children exposed to IPV were more likely to have EBD compared to other disabilities such as a learning disability, hearing disability, speech and language disability, or an intellectual disability. Perhaps, this is because children exposed to IPV often respond in an externalized manner that captures the teacher's attention. For instance, children exposed to IPV may demonstrate a pattern of aggressive behaviors with peers or teachers. The behaviors that the teacher observes may begin the EBD referral process. A significant strength of the study is the large sample size. However, the authors did not disclose the type of IPV to which children were exposed. The study also lacks generalizability since it was conducted among a sample of children who had run away and included children from only one state. Additionally, the researchers did not operationalize IPV.

Discussion

The purpose of this scoping review was to examine existing research that tested the relationship between children's exposure to IPV and EBD. To our knowledge, this is the first study to systematically review the literature examining the relationship between IPV and EBD. This research identified three empirical studies that analyzed the relationship between exposure to IPV and EBD. Our research question was "What is the relationship between exposure to IPV and EBD, as documented in the studies' findings?"

Summary of Findings

Few studies have been conducted that explore the relationship between children's exposure to IPV and EBD, and most of the extant studies are dated. The lack of studies examining the relationship between children's exposure to IPV and EBD indicates a significant gap in the literature. Understanding the relationship between exposure to IPV and EBD is vital because it may offer a point of intervention to support the child that could potentially prevent the proximal outcome of EBD and more distal outcomes related to employment and criminal justice involvement.

This review highlighted the heterogeneous nature of the studies that evaluate the relationship between children's exposure to IPV and EBD. Only one of the studies included information collected directly from the children exposed to IPV. One of the significant findings is that a widely used assessment for EBD may not be valid for children with PTSD that were exposed to IPV since it did not differentiate between children with PTSD and those without PTSD. The two studies that analyzed the relationship between exposure to IPV and EBD among children in special education provided some preliminary evidence about the relationship (Garcia, 1997; Sullivan & Knutson, 2000). Specifically, children exposed to IPV were more likely to have EBD compared to other disabilities (i.e., learning disability, hearing disability, speech and language disability, intellectual disability) (Sullivan & Knutson, 2000). Compared to children without EBD, children with EBD were more likely to be exposed to a higher frequency of IPV. A higher frequency of exposure predicted a higher level of behavior problems among children with EBD.

Review Limitations and Implications

The findings of this scoping review should be considered with respect to the following limitations. This review only included quantitative data. Qualitative studies may provide more nuanced information. Although we searched ten databases, it is possible that we missed studies which were indexed in other databases. Additionally, all the studies included were cross-sectional, which limits the ability to establish temporality and causality.

The findings of this review call for practitioners working with children exposed to IPV to discuss with families or legal guardians the possibility of requesting a special education EBD evaluation for children experiencing severe emotional or behavior difficulties. Children who meet the criteria for EBD are eligible to receive an individualized education plan (IEP) to receive accommodations at school for academic, behavioral, or emotional difficulties. Likewise, special education evaluators who are assessing a child for EBD should consider screening for children's exposure to IPV and refer the child and their family to the appropriate resources. Including mental health professionals in educational and intervention planning may be advantageous. Strategies that reach beyond the classroom and involve community resources may be beneficial for children with EBD exposed to IPV (Garcia, 1997). Considering that violence victimization and exposure are an indicator of EBD, there is a pressing need to address children's exposure to IPV that is multidisciplinary and includes community agencies at the home, school, and community levels (Garcia, 1997).

The results of this review call for a need to continue to examine exposure to IPV among children with EBD. Future research should conceptualize IPV to include the full range of experiences of IPV, including financial abuse. Further, there is a need to validate and assess the reliability of other EBD assessments with children exposed to IPV, both with and without PTSD.

Studies should utilize a standardized child self-report measure such as the Child Exposure to Domestic Violence Scale (CEDV; Edleson et al., 2008). The CEDV is a measure that has been shown to be valid and reliable (Ravi & Tonui, 2019). Using child self-report measures ensures accurate assessment of exposure to IPV since prior research demonstrates there are differences in maternal and child self-reports of exposure to IPV (Kolko et al., 1996). Moreover, a scoping review of qualitative research could help to better understand the exposure to parental IPV among children with EBD.

Conclusion

Scant literature is available examining the relationship between children's exposure to IPV and EBD. Although there is little research available, there appears to be preliminary evidence that there is a significant relationship between exposure to IPV and EBD. However, substantially more research is needed to clarify the relationship.

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Figure 2.1

Study selection process

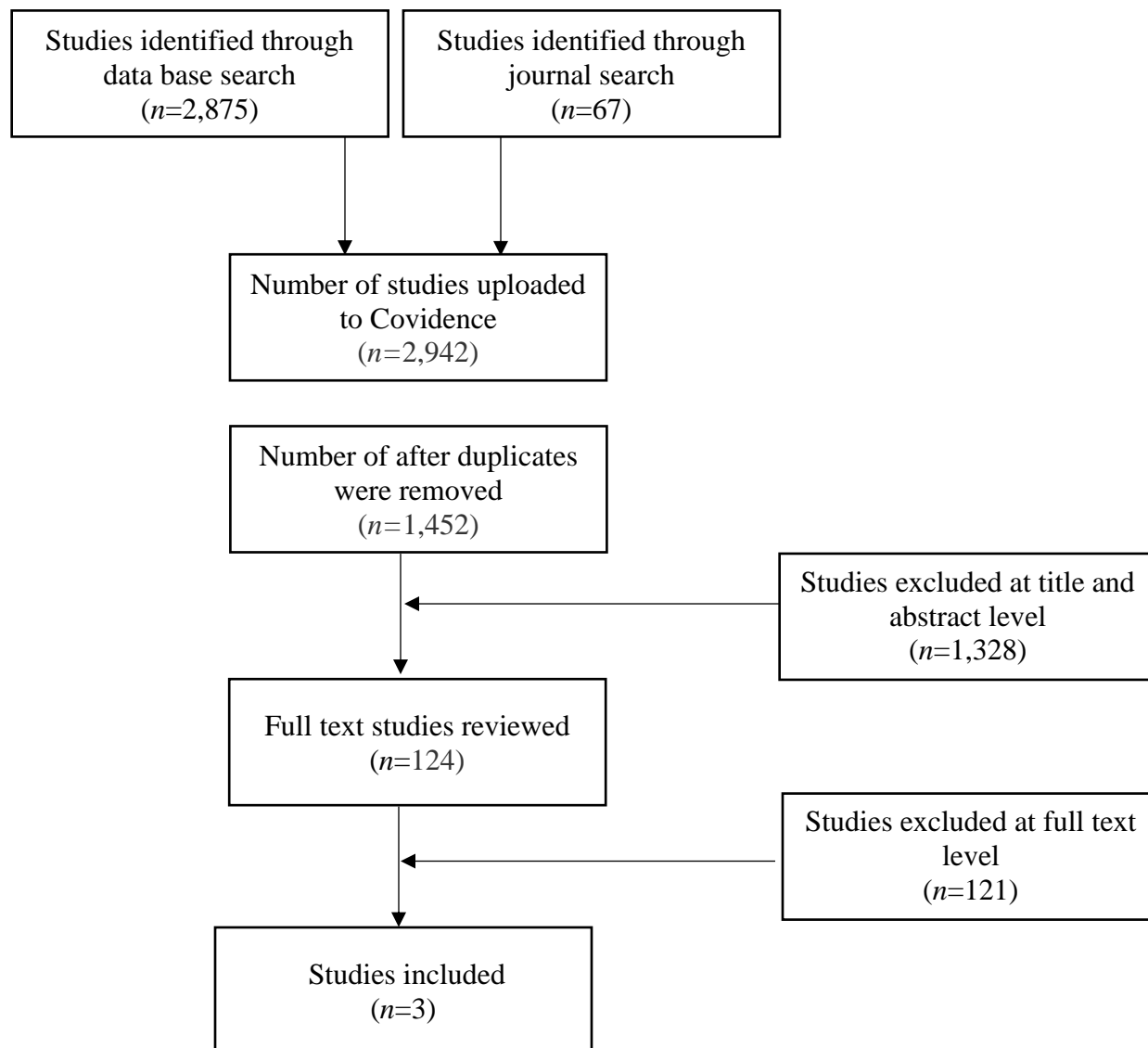


Table 2.1*Data Extraction*

Author (year)	Study Location	Study Population	Aims of the Study	Racial Demographics	Age	Methodology	Outcome measures	Important Results
Backos and Samuelson (2017)	West Coast City	43 Mothers and 56 children exposed to IPV	Examine the ability of the Draw a Person: Screening Procedures for Emotional Disturbance (DAP:SPED) and the Kinetic Family Drawing (KFD) to differentiate groups of mothers and children based on whether they had PTSD related to experiencing or witnessing IPV.	Majority African American (67.8%), Biracial (15.3%), Latinx (11.9%), White (5.1%), and Asian (2.2%)	7-17 ($M=12.9$, $SD=2.96$)	Part of a larger project examining the impact of IPV on children's emotional, behavior, and neuropsychological functioning. Participants recruited from pool of prior participants, online advertising, and word of mouth. Mothers and children completed assessment.	DAP-SPED and KFD. DAP is an EBD screener. KFD assesses subjective experiences of living in the family . Helps understand social environment. Used to understand attachment. Youth Self report (Achenbach , 1991), Teachers Report Form (Achenbach , 1991)	Mean scores of all children on DAP:SPED indicated no further testing was needed for EBD. Children with PTSD did not score higher on indicators of EBD than those without PTSD. No significant differences based on PTSD. DAP:SPED did not differentiate between children with and without PTSD. DAP:SPED may not detect EBD in children with EBD. Potentially indicates a high rate of false negatives. Increase likelihood of Type II errors. 10% of youth with EBD reported exposure to physical violence IPV "many times". None of the control group endorsed "many times"? Youth with EBD more likely to be exposed to IPV. Twice as many youths with EBD reported verbal abuse. Increased exposure to violence was predictive of EBD placement. Higher
Garcia (1997)	Southern California	92 Latinx male adolescents in Los Angeles	Examined the relationship between exposure to IPV and behavior problems among Latinx adolescents in both EBD and control groups.	100% Latinx	EBD 10-18 ($M=13.9$, $SD=1.84$) Control ($M=16.8$, $SD=.93$).	Study group included 56 Latinx students at non-public school providing education and therapeutic services for students with EBD. Control included 36 Latinx males		

					from LA Highschool		level of exposure to violence predicted higher levels of behavior problems. Need for more comprehensive evaluation of EBD that includes multiple stressors.
Sullivan & Knutson (2000)	Nebraska	562 children in special education with records of running away	Examine if there is an association between running away, school attendance, academic achievement, as well as IPV and other family stressors.	46.9% White, 43.1% African American, 5.8% Latinx, 3.9% Native American, .5% Asian American	Secondary record review of law enforcement and Nebraska Department of Social Services records.	Record of running away	Among children who had run away, IPV was significantly associated with a behavior disorder diagnosis.

Chapter 3: Article 2

Children's Exposure to Intimate Partner Violence, Emotional-Behavioral Disability, and Trauma Symptoms Among Children Involved in the Child Welfare System

Abstract

Exposure to intimate partner violence (IPV) and child maltreatment are pervasive and far-reaching problems with adverse short-term and long-term consequences for individuals and society. Scant research has examined the relationship between trauma symptoms and emotional and behavioral disabilities (EBD). This study utilizes structural equation modeling to address this gap by examining the relationship between children's exposure to IPV and the identification of EBD among children between the ages of 8-17 ($n=398$) who have experienced maltreatment. Children's trauma symptoms is also explored as a potential mediator between IPV exposure and EBD. The results of the study indicated that children's trauma symptoms mediated the relationship between exposure to IPV and EBD. Implications include increasing training of school personnel about how trauma affects children, universal screening for IPV, the adoption of a trauma lens when evaluating children for EBD, and the implementation of trauma-focused interventions to address children's exposure to IPV.

Keywords: Emotional and behavioral disabilities, EBD, trauma, children's exposure to intimate partner violence, domestic violence

Children's Exposure to Intimate Partner Violence, Emotional-Behavioral Disability, and Trauma Symptoms Among Children Involved in the Child Welfare System

Exposure to intimate partner violence (IPV) and child maltreatment are pervasive and far-reaching problems with adverse short-term and long-term consequences for individuals and society (Centers for Disease Control and Prevention; CDC, 2016; Holmes et al., 2018; Peterson et al., 2018). Often, experiencing one form of violence is associated with the doubling or tripling of another type of violence (Finkelhor et al., 2009). This study explores the impact of IPV exposure among children involved in the child welfare system and the development of an emotional-behavioral disability (EBD). Children involved in the child welfare sample were selected because existing research has shown that children in the child welfare system who experienced maltreatment are more likely to have EBD (Jonson-Reid et al., 2004). However, prior studies have not examined exposure to IPV among children involved in the child welfare system.

Exposure to IPV and Children in the Child Welfare System

Annually, 15.5 million children are exposed to IPV (McDonald et al., 2006). The CDC (2018) defines IPV as “physical violence, sexual violence, stalking, and psychological aggression (including coercive acts) by a current or former intimate partner” (p.1). Edelson and colleagues (2007) define children's exposure to IPV as the “multiple experiences children have living in homes where an adult is using violent behavior in a pattern of coercion against an intimate partner” (p.963). A population-based surveillance study conducted by Fusco and Fantuzzo (2009) of 1,581 IPV incidents demonstrated that in 43% ($n=679$) of the cases children were in the home at the time of the violence and 95% of those children had sensory exposure. Among the children who had sensory exposure, 22% heard it, 4% saw it, more than 60% heard

and saw it, and 3% were injured in the incident. The co-occurrence of exposure to IPV and child maltreatment has been well documented (Finkelhor et al., 2009). This study examines the exposure to IPV among children in the child welfare system and EBD. Additionally, this study examines the potential role of trauma symptoms as a mediator of the relationship between exposure to IPV and EBD.

EBD

EBD refers to the disability category of an *emotional disturbance* within the Individuals with Disability Act (2004), which is defined within codified federal regulations as:

An inability to learn that cannot be explained by intellectual, sensory, or health factors, an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate types of behaviors or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, or a tendency to develop physical symptoms or fears associated with personal or school problems. (Child with a Disability, §300.8, 2017, para.12)

This study refers to this disability as EBD since that is the preferred term by the National Mental Health and Special Education Coalition (Mitchell et al., 2019). Over 335,000 children were classified as having EBD in 2016 (United States Department of Education; USDOE, 2018). Males and children of color are disproportionately represented in the disability category of EBD (USDOE, 2018).

Children with EBD often experience the worst academic and employment outcomes compared to children without disabilities and children with other disabilities (Mitchell et al., 2019). Among adolescents with disabilities, children with EBD are the most likely to be suspended or expelled from school (USDOE, 2016). Almost 35% of adolescents with EBD

between the ages of 14-21 dropped out of school in the 2015-2016 school year (USDOE, 2016). Children with EBD are typically the most socioeconomically disadvantaged group of students receiving special education and often attend poorer quality schools (Lipscomb et al., 2017). Thus, the combination of these factors may impact high school completion, post-secondary education attainment, and employability (Newman et al. 2011). Further, young adults with EBD are significantly more likely to be involved with the criminal justice system compared to children in other disability categories (Newman et al., 2011).

Literature Review

Exposure IPV and child maltreatment frequently carry adverse short-term and long-term consequences for children. Short term outcomes include mental and physical health issues, emotional dysregulation, behavioral problems, and social difficulties (Heleniak et al., 2016; Ravi& Casolaro, 2018). Research also indicates that children exposed to IPV and child maltreatment are at a higher risk for long-term long term consequences such as future victimization and perpetration of violence (Holt et al., 2008; Levendosky et al., 2002; Palmetto et al., 2013; Wekerle & Wolfe, 1999).

Research demonstrates that exposure to violence, including IPV and child maltreatment, is associated with poor school functioning (Kiesel et al., 2016; Perkins & Graham-Bermann, 2012; Galano et al., 2019b). A recent systematic review of the impact of adolescents' exposure to IPV and academic achievement demonstrated both significant direct and indirect negative effects of exposure to IPV on adolescent academic achievement (Supol et al., 2020). Perkins and Graham-Bermann (2012) posit that the problems that result from exposure to violence such as IPV and child maltreatment may be severe and interact to create a "complex web of disabilities" (p. 90).

Exposure to IPV and child maltreatment can negatively impact neural circuits that regulate affective and cognitive development (Perkins & Graham-Bermann, 2012; Carvalho et al., 2016). Neurological changes can impact cognition, memory, executive functioning, and emotional regulation (Carpenter & Stacks, 2009; Perry & Szalavitz, 2017). In young children, exposure to extreme stress may lead to neuron death and lower levels of cognitive development and delays in expressive and receptive language, which can potentially result in language delays or disabilities (Carpenter & Stacks, 2009).

Relationship between Exposure to IPV and EBD

Despite the evidence that exposure to IPV has adverse effects on children's neuroendocrine system and that exposure potentially results in mental health concerns and disabilities, there is a dearth of research examining exposure to IPV and the development of EBD. A scoping review of studies examining children's exposure to IPV and EBD concluded that only three studies examined the relationship between children's exposure to IPV and EBD (Ravi & Black, forthcoming).

More research has been conducted on child maltreatment and EBD. In a prospective analysis of the relationship between child maltreatment and special education eligibility among low-income children conducted by Jonson-Reid and colleagues (2004), children with a physical abuse report were three times more likely have EBD compared to a learning disability. Additionally, among children with disabilities involved in the child welfare system, 21% of the children in the special education sample had EBD (Lee & Jonson-Reid, 2009).

Relationship between Exposure to IPV and Trauma Symptoms

Various empirical studies and meta-analyses have demonstrated an association between exposure to IPV and trauma symptoms (e.g., Castro et al., 2017; Kimball, 2016). The prevalence

of trauma symptoms among children exposed to IPV ranges from 13% to 60% (Castro et al., 2017). Several studies show a positive correlation between frequency of IPV and severity of trauma symptoms (Castro et al., 2017; Costello & Klein, 2019; Galano et al., 2019b). Child maltreatment has also been demonstrated to be positively associated with children's trauma symptoms (Milot et al., 2010; van Vugt et al., 2013; Yoon et al., 2016).

Relationship between Trauma Symptoms and EBD

Despite the well-established knowledge base regarding the impacts of trauma on children's development, mental health, and academic achievement, scant research has examined the relationship between children's trauma symptoms and EBD. Trauma symptoms and characteristics of EBD share similar qualities (Buxton, 2018; Winder, 2015). Buxton (2018) conducted a retrospective review of the individualized education plans (IEP) of children with EBD ($n=12$) to assess the presence of the four domains of trauma established by Tishelman and colleagues (2010). These domains include academics, relationships, self-regulation, and physical functioning. The results provided preliminary evidence that most students with EBD have difficulties in three out of the four domains (i.e., academics, relationships, and self-regulation).

Theoretical Framework

This study is guided by trauma theory and examines children's trauma symptoms as a potential mediator of the relationship between children's exposure to IPV and EBD.

Traumatization often occurs in children when they fear for their lives or bodily integrity or the lives or physical security of a loved one (The National Child Traumatic Stress Network, n.d.).

Complex trauma is defined as exposure to multiple traumatic events, which tend to be invasive and interpersonal in nature (The National Child Traumatic Stress Network, n.d.). Exposure to complex trauma often impairs children's ability to self-regulate and appropriately relate to peers

(Cook et al., 2005). Children may experience one or more of the domains of impairment, which include brain development, affect regulation, behavior regulation, and cognition (Cook et al., 2005). Moreover, young children exposed to complex trauma are at risk of not fully developing areas of their brain that are used to regulate emotions in response to stress (Cook et al., 2005). Chronic exposure to trauma activates the body's stress response system, which can result in structural changes in the child's brain which can impact children's memory, attention, cognition, and arousal resulting in hyperactivity, anxiety, impulsivity, and sleep problems (Carpenter & Stacks, 2000; Perry, 2000; Perry & Szalavitz, 2017). Additionally, children exposed to complex trauma may experience learning difficulties which often result from anatomical changes in the prefrontal cortex, which is responsible for attention, emotional control, and executive functioning and as a result, they may be referred to special education services (Cook et al., 2005). Presently, there is a dearth of research connecting trauma symptoms to EBD. At this time, no studies have examined trauma symptoms related to IPV and EBD among children involved in the child welfare system.

This study attempts to address this gap by answering the following research questions: 1) What is the relationship between children's exposure to IPV and EBD among children involved in the child welfare system? 2) To what extent do children's trauma symptoms impact the relationship between exposure to IPV and EBD among children involved in the child welfare system? Figure 3.1 displays the study's conceptual model. It is hypothesized that more frequent IPV will be positively related to EBD among children involved in the child welfare system. It is also hypothesized that children's trauma symptoms will mediate the relationship between exposure to IPV and the identification of EBD.

Method

Sample Design and Data Set

This study utilized the data from the second National Survey of Child and Adolescent Well-being (NSCAW-II) study. NSCAW II is a longitudinal study that examines the functioning, service needs, and service utilization of children involved in the child welfare system (Dolan et al., 2011). NSCAW II includes 5,873 children ages birth to 17.5 years old who have been involved with the child welfare system and includes both substantiated and unsubstantiated cases. NSCAW-II researchers employed a two-stage sampling process that was conducted for 15 months (Dolan et al., 2011).

Data Collection Methods

Data collection for NSCAW-II was conducted over three time-points between April 2008 and December 2012. All interviews were conducted face-to-face by trained interviewers. The interviews were conducted with children, parents, non-parent caregivers, and CPS caseworkers, and teachers if applicable, at each of the three time-points (Dowd et al., 2014). Teacher data was not collected at the three-year follow-up.

Current Sample

The sample for the current study included children (ages 8-17) with substantiated and unsubstantiated child maltreatment who remained in the home ($n=398$) with their mothers or female caregiver. This age range was selected because only children who were eight years or older in the NSCAW II study completed the trauma symptoms questionnaire. Additionally, children with EBD are usually identified at the age of eight or later (Bradley et al., 2004). Not all the children in the sample may have experienced exposure to IPV. Child maltreatment is considered substantiated if the caseworker determines from the investigation that child

maltreatment occurred. It is important to examine the relationship between IPV and EBD specifically in a child welfare sample because children in the child welfare system are often among the most vulnerable children and in need of the supportive resources.

Independent Variable.

IPV Exposure. Children's exposure to IPV was measured using the Revised Conflict Tactics Scale (CTS2) (Straus, 1990), which includes 39 items and identifies the type and frequency of violence directed toward mothers in the last 12 months. NSCAW only includes the 13 items, pertaining to physical aggression ($\alpha = .98$) in the conceptualization of IPV. Participants indicated whether it happened once, twice, 3-5 times, 6-10 times, 11-20 times, more than 20 times, not in the past 12 months but had happened before, or never happened. There was no missing data for this variable.

Dependent Variables

EBD. Children were considered to have EBD if their mother positively endorsed "emotional disturbance/behavior disorder" when asked: "What special learning problems or special needs were you told your child has?" Having EBD was coded (0=no, 1=yes). There was no missing data for this variable.

Mediator

Child trauma symptoms. Ten items from the Trauma Symptoms Checklist for Children-PTSD section (TSCC; Briere, 1996) were administered to children eight years of age and older. The children were asked to identify how often they experience trauma-related symptoms such as nightmares, intrusive thoughts, dissociation, and memories of traumatic events using a 4-point scale (0=never to 4=almost all the time). Scores can range from 0-40 with higher scores

indicating greater trauma symptoms. The raw total score was used in the analyses. The TSCC has demonstrated good internal consistency ($\alpha=.98$). There was no missing data for this variable.

Control Variables

Child race. Mothers provided information about the child's race. The five categories were based on the categories used in the 1990 U.S. census (1=*American Indian*, 2=*Asian, Hawaiian/Pacific Islander*, 3=*Black*, 4=*White*, and 5=*Other*). The variable was recoded into a dichotomous variable (0=*White*, 1=*Of Color*). There was no missing data for this variable.

Child gender. Information about child gender was obtained from the mother. Gender was coded (1=*male*, 2=*female*). Data was recoded (0=*female*, 1=*male*). There is no missing data for this variable.

Child age. The parent reported the child's age. Age was measured continuously. There is no missing data for this variable.

Maltreatment Substantiation. Maltreatment substantiation was reported by the caseworker. Cases were considered substantiated if the allegation of maltreatment was supported by state law or policy (0=*unsubstantiated*, 1=*substantiated*). No data is missing for this variable.

Poverty level. Poverty level was determined using the family's income percentage of the federal poverty level (1=*less than 50%*, 2=*50%-100%*, 3=*100%-200%*, 4=*greater than 200%*). The variable was recoded into a dichotomous variable (0=*above the poverty line*, 1=*at, or below the poverty line*). *Less than 50% and 50%-100%* were recoded as 1 and *100%-200% and greater than 200%* were recoded as 0. There is no missing data for this variable.

Trauma symptoms at Waves 1 and 2. The child's trauma symptoms at Wave 1 was used as a control variable to examine the impact of exposure to IPV better. There was no missing data at Wave 1 or Wave 2.

EBD at Waves 1 and 2. Having EBD at Wave 1 was controlled to examine the effect of exposure to IPV on EBD at Wave 3. There is no missing for this variable at Wave 1 or Wave 2.

Data Analysis

Descriptive statistics were used to examine demographics, exposure to IPV, EBD, and children's trauma symptoms. Path analysis was employed to analyze the relationship between exposure to IPV and the identification of EBD and whether trauma symptoms mediate the relationship. Path analysis allows for the simultaneous testing of the direct and indirect effects of the model while also assessing the strength and significance of the relationship between the predictor and mediator/outcome variables (Muthén & Muthén, 2017). The longitudinal weight was used to account for the adjustment made in the previous waves.

All analyses were conducted using Mplus v. 8.3 (Muthén & Muthén, 2019). Mplus was selected for its ability to handle complex samples (Byrne, 2012; Muthén, 2017). Mplus allows for path analysis with a dichotomous outcome variable (Muthén, 2011). The maximum likelihood with robust standard error estimator (MLR) was used for all analyses. MLR considers the non-normality of outcomes and non-independence of observations due to cluster sampling (Muthén & Muthén, 2017).

Two goodness-of-fit indices were used: chi-square and standardized root mean square residual (SRMR). The major question that SEM aims to answer is whether the model produces an estimated population covariance matrix that is consistent with the sample covariance matrix (Ullman & Bentler, 2013). That is, how well does the model fit the data. A small chi-square value with a *p*-value greater than .05 is preferred as it indicates that there is little difference between the model and the data (Ullman & Bentler, 2013). SRMR values below .06 indicate acceptable fit (Hu & Bentler, 1999). The University of Texas at Arlington institutional review

board (IRB) reviewed this study and determined it was exempt from the IRB approval process (Appendix).

Results

Descriptive Statistics

Table 3.1 provides descriptive statistics of the study sample. The ages of the children in the sample ranged from 8-15 years ($M=10.96$, $SD=1.92$). Approximately 40% of the children identified as White, 30.9% as Latinx, 22% as Black, , and 7.6% identified as another race. Slightly over half of the sample was male (56.1%). Almost 63% of the children were living below the federal poverty level. A total of 22.2% of maltreatment cases were substantiated.

[Table 3.1 about here]

Regarding key study variables, six percent of the children in the sample were identified as having EBD. A total of 12.% of mothers reported experiencing IPV. IPV incidents ranged from 1-177 ($M=1.62$, $SD=11.63$). The number of children's trauma symptoms ranged from 0-26. A total of 86.7% of children had at least one trauma symptom ($M=6.73$, $SD=6.03$).

Path Analysis: Mediation

The path analysis (Fig. 3.2) illustrates the direct and indirect pathways that children's exposure to IPV influences the identification of EBD using standardized coefficients. Table 3.2 displays the standardized coefficient for all variables. The nonsignificant chi-square value of 2.34 and the SRMR of .03 indicate a good fit of the data.

The model explained 51.2% of the variance in children's identification of EBD and 43.4% of the variance in children's trauma symptoms. As hypothesized, there was a direct relationship between frequency of IPV and children's trauma symptoms ($\beta=.11$, $SE=.03$, $p<.001$) as well as a direct relationship between children's trauma symptoms and EBD ($\beta=.31$,

$SE=.12, p=.004$) indicating a mediation between IPV exposure and EBD through children's trauma symptoms ($\beta=.01, SE=.003, p=.001$). Although the relationship between IPV and EBD was not significant, under the updated guidelines for mediation, a significant relationship between the independent and dependent variables is no longer necessary to interpret mediation (Hayes, 2009; Preacher & Hayes, 2004).

Age, Gender, and Race

Age was positively related to children's trauma symptoms ($\beta=.20, SE=.06, p<.001$) and EBD ($\beta=-.34, SE=.12, p=.003$) indicating that older children were more likely to experience trauma symptoms and older children were less likely to have EBD. Gender was not significantly related to trauma symptoms or EBD. There were no significant differences based on race for children's trauma symptoms nor EBD.

Discussion

The purpose of this study was to examine the relationship between children's exposure to IPV and EBD among children involved in the child welfare system. This study also aimed to explore how children's trauma symptoms may impact the relationship. To the author's knowledge this study is the first study that has examined the relationship between exposure to IPV and EBD.

It was hypothesized that more frequent exposure to IPV would be positively associated with EBD, and children's trauma symptoms would mediate the relationship. Contrary to the hypothesis there was not a significant relationship between IPV exposure and EBD. A potential reason that the relationship was not significant could be related to the measurement of IPV and EBD. The IPV variable only captured physical IPV. Perhaps, if other forms of IPV were included such as psychological or verbal abuse were included there may have been a stronger

association. Particularly because these forms of IPV frequently include coercive control, which are non-physical abuse tactics that are used in an attempt to control or dominate an intimate partner (Stark, 2007). Moreover, coercive control itself was not included as a variable in the model. The current literature indicates that after controlling for physical and psychological IPV, coercive control is significantly related to children's internalizing and externalizing behaviors (Jouriles & McDonald, 2015). EBD was measured based on the mother's results which is subject to self-report bias.

The findings of the study revealed a positive association between frequency of IPV and children's trauma symptoms, which is in line with existing research (Castro et al., 2017; Costello & Klien, 2019; Galano et al., 2019a; Kimball, 2016). The results also indicated a positive relationship between children's trauma symptoms and EBD. This finding makes sense in light of Buxton's (2018) study, which identified three out of four of Tishelman et al.'s (2010) domains of trauma (i.e., academics, relationships, and self-regulation) within a sample of IEPs of children with EBD. Prior research has also shown that trauma symptoms impair children's abilities to engage with friends and teachers as well as learning and cognitive difficulties (Cook et al., 2005; Galano et al., 2019b).

As hypothesized, children's trauma symptoms mediated the relationship between IPV exposure and EBD. An indirect relationship was present through children's trauma symptoms. Although no other studies have examined this relationship, Robbie Rossman's (1999) findings that IPV exposure was indirectly related to behavior and school performance through children's trauma symptoms. These findings are relevant since behavior and school difficulties are hallmarks of EBD.

Age, Gender, and Race

Regarding covariates, age was significantly related to EBD, but in an unexpected direction. Older children were less likely to have EBD compared to younger children which differs from existing research that children with EBD are often identified at a later age (USDOE, 2016). A possible reason for this finding is that younger children may be displaying more emotional and behavioral difficulties in the classroom and attract the attention of school personnel. This interpretation is consistent with Peek-Asa et al. (2007) who found that younger children exposed to parental IPV scored lower on standardized tests compared to older children as well as Vu and colleagues (2016) who found that younger children tend to experience more severe emotional and behavioral difficulties when exposed to IPV.

Age was also positively related to trauma symptoms. Older children experienced more trauma symptoms than younger children, which contradicts several other studies that demonstrated that younger children tend to have more trauma symptoms compared to older children (Costello & Klein, 2019; Trickey et al., 2012). An interpretation of the current findings could be that older children have had more time to experience cumulative traumatic events (Graham-Bermann et al., 2012). For example, Galano and colleagues (2019a) conducted an eight-year study examining traumatic stress symptoms among children exposed to IPV and found that children's trauma symptoms increased even after participating in an intervention for children exposed to IPV. An alternative explanation could be that children's cognitive abilities improve from early to middle childhood, and cognitive appraisals of trauma have been found to be strong predictors of children's trauma symptoms (Galano et al. 2019a; Stallard & Smith, 2006).

Gender was not significantly related to EBD, which departs from prevalence data that shows boys are more likely to have EBD (USDOE, 2018). This finding makes sense since girls

also have EBD, and frequently girls with EBD have histories of traumas that carry over into school (Whitlow et al., 2019). There was no difference between genders related trauma symptoms which differs from other research that indicates that girls often have more trauma symptoms compared to boys (Koolick et al., 2016; Trickey et al., 2012). The difference could be related to that fact that this study sampled children in the child welfare sample who may be exposed to more traumatic events. The finding that race was not significantly related to EBD was surprising, considering the evidence that exists related to the disproportionality of identification of EBD among students of color (USDOE, 2018). It could be that in the current model, race alone was not a strong predictor and that other risk factors such as exposure to IPV and children's trauma symptoms were more salient.

An unexpected finding was that child maltreatment substantiation was not significantly related to trauma symptoms, which differs from several existing studies (e.g., Castro et al., 2017; Milot et al., 2010; Yoon et al., 2016). It is also inconsistent with the findings from Jonson-Reid et al. (2004), who found that children who were maltreated were more likely to have EBD. One explanation could be that the children in the current study were involved in the child welfare system and may have received services such as counseling that could have addressed any trauma symptoms that the children were experiencing. Further, as Kiesel et al. (2016) suggests interventions that children receive from child protective services may help children with their social, emotional, and educational functioning, thus, potentially preventing being identified with EBD.

Limitations

There were several limitations to the current study. First, the study was cross-sectional, which limits the ability to determine causality. Second, the study only examined IPV exposure

within the last year, making it difficult to examine the impact of exposure to IPV over time. Longitudinal studies are needed to examine the impact of exposure over time to show causality and the impact on children's development. Third, both IPV exposure and identification of EBD were reported by mothers, which could have created biased results. Future studies should consider collecting information about exposure to IPV from children directly, such as the Child Exposure to Domestic Violence Scale, which is valid and reliable among various populations (Edleson et al., 2008; Ravi & Tonui, 2020). Moreover, EBD data should be collected from school records to reduce bias. Fourth, the study only included physical IPV, and a more comprehensive definition of IPV should be included in future studies. Finally, the children in the study sample were drawn from a sample of children involved in the child welfare system, which does not allow the findings to be generalized to all children in the United States.

Implications

The findings of this study have implications for child welfare workers, special educators, mental health professionals, and policymakers. Child welfare workers working with families experiencing IPV should consider including a counseling evaluation for children exposed to IPV to assess for and treat trauma symptoms. Regarding special education evaluation, diagnosticians should adopt a trauma lens when evaluating children for EBD (Tishelman et al., 2010; Winder, 2015). Winder (2015) advocates for adding a subcategory of EBD that addresses the needs of children who have experienced trauma and are experiencing academic failure, which includes children who have been exposed to or directly experienced violence, abuse, and natural disasters. Additionally, there is a need to provide training to parents and teachers about how children are affected by trauma. Currently, only 11 states have policies related to teacher professional development about trauma (Chriqui et al., 2019). Further, special education diagnosticians

should consider including trauma symptoms checklists and screening for child exposure to IPV as part of the EBD evaluation.

Alternatively, if evaluators prefer not to use a clinical assessment tool, special education professionals can utilize an assessment strategy that focuses on obtaining data from the four core domains of trauma (i.e., self-regulation, physical functioning, relationships, and academics) to create trauma-related accommodations in children's individual education plan (IEP) (Tishelman et al., 2010). School mental health professionals should consider utilizing school-based trauma-informed interventions such as Cognitive Behavior Intervention for Trauma in Schools (CBITS; Jaycox et al., 2018) for older children in middle or high school and Bounce Back (Langley et al., 2015) for younger children in elementary school for children exposed to IPV. These programs aim to teach children skills to manage their symptoms and promote coping.

Schools should consider adopting a trauma-sensitive school model that supports children exposed to IPV. Trauma sensitive schools can be established through the integration of effective practices, programs, and procedures in all aspects of the school, including school culture (Cole et al., 2005). Trauma sensitive schools are characterized by training school personnel and caregivers about the effects of trauma on children, linking students with mental health professionals, establishing relationships with children, and providing predictable schedules, and trauma-sensitive discipline policies, communication procedures, and safety planning (Cole et al., 2005). Additionally, schools should consider universal screening for IPV and other ACEs at multiple timepoints so that school personnel are aware of possible traumatic experiences that children have experienced that can be used to inform teacher interactions with students. Mitchell and Colleagues (2019) also advocate for regular universal screening that is focused on social, emotional, and behavioral challenges citing that there are several psychometrically validated

instruments and questionnaires and some can be administered to the entire class by the classroom teacher in approximately 10 to 15 minutes.

Conclusion

The findings of this study provide evidence of an indirect relationship between exposure to IPV and EBD through trauma symptoms. Interventions should focus on reducing the presence of trauma symptoms that negatively impact children's affect, behavior, relationships, and academics to potentially prevent children from developing EBD. By intervening to prevent EBD before emotional and behavior problems become severe, children will be less likely to have detrimental outcomes later in life, such as unemployment and incarceration. More research is needed to better understand the relationship between these variables as well as examine potential risk and protective factors that influence the relationship that could be used to identify effective interventions.

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Figure 3.1

Conceptual Model

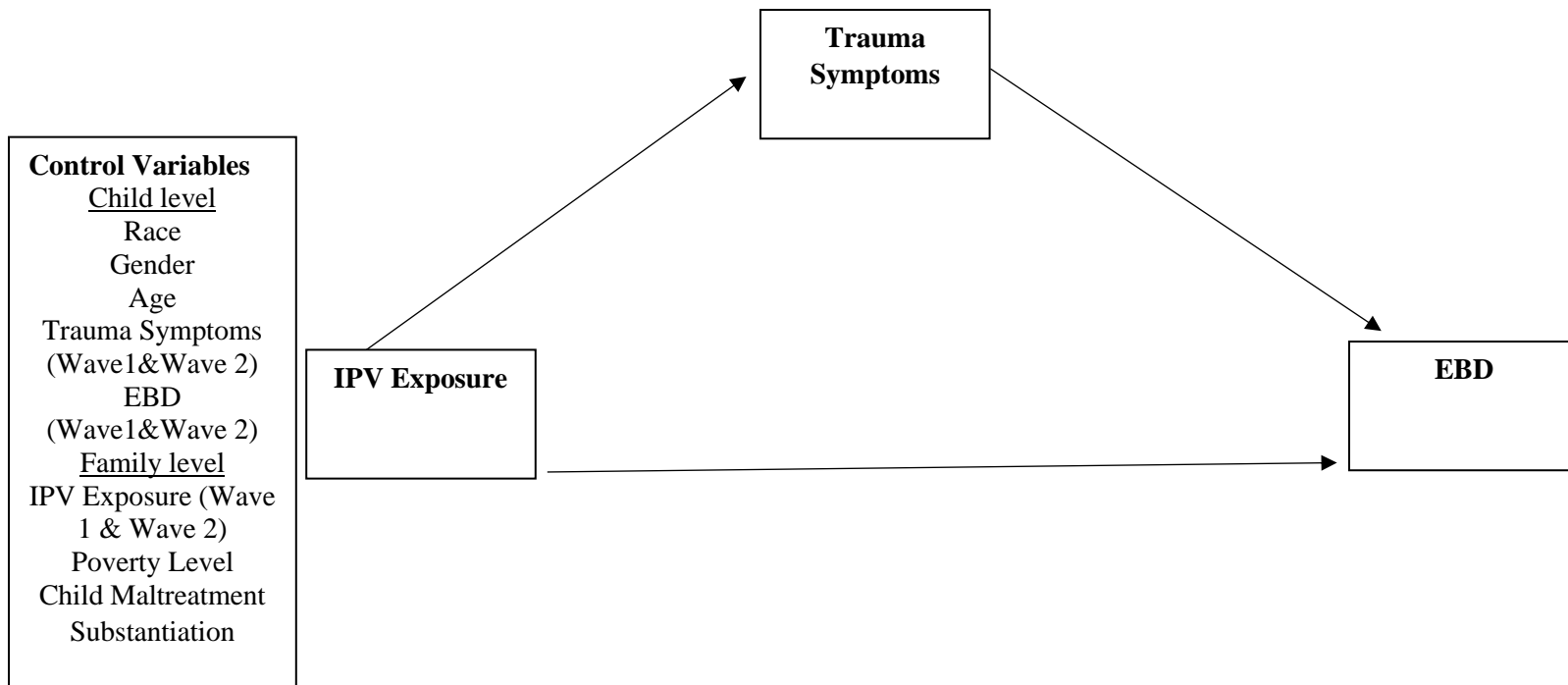


Table 3.1*Sample Description*

Characteristic	<i>M(SD)</i>	%
Child Age	10.96(1.92)	
Child Race		
Black		22%
White		39.6%
Latinx		30.9%
Other		7.6%
Gender		
Male		56.1%
Female		43.90%
Maltreatment status		
Unsubstantiated maltreatment		77.8%
Substantiated Maltreatment		22.2%
Poverty level		
Above Federal poverty level		37.4%
Below Federal poverty level		62.6%

EBD

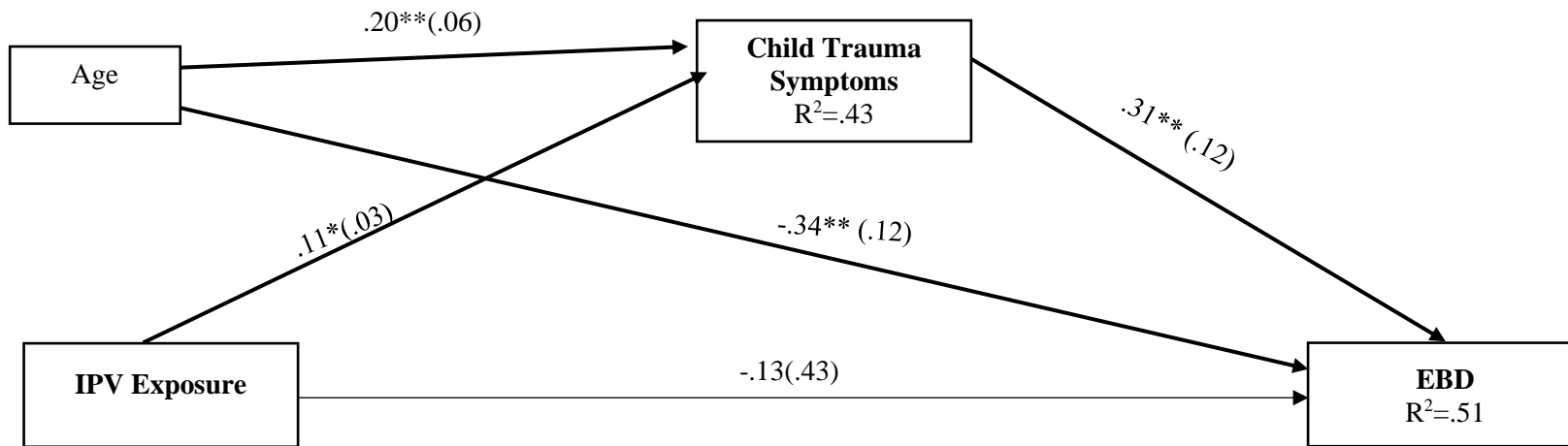
Identified with EBD	7.2%
Not identified with EBD	92.8%

IPV

Any IPV	12.0 %
No IPV	88.0%
Frequency of IPV	1.62 (11.63)
Child trauma symptoms	6.73 (6.03)

Figure 3.2

Observed Model of Influences of IPV, Child Trauma Symptoms, and EBD with Standardized Coefficients



* $p < .05$

** $p < .01$

Table 3.2*Standardized coefficients*

Dependent Variable	Independent variable/Covariate	Coefficient	SE
EBD Wave 3	Trauma Symptoms Wave 3	0.31**	.12
	IPV Wave 3	-0.13	.43
	Wave 2 EBD	0.51**	.06
	Wave 1 EBD	0.17*	.06
	Age	-0.34**	.12
	Race	0.0	.12
	Poverty	0.03	.11
	Substantiated maltreatment	-0.06	.10
	Gender	0.06	.11
Trauma Symptoms Wave 3	Trauma Symptoms Wave 2	.51**	.07
	Trauma Symptoms Wave 1	.19**	.09
	IPV Wave 3	.11**	.03
	Age	.20**	.06
	Race	-0.05	.07
	Poverty	-0.06	.05
	Substantiated Maltreatment	0.04	.05
	Gender	-0.03	.05

* $p < .05$ ** $p < .01$

Chapter 4: Article 3

Exposure to IPV among Children in the Child Welfare System and an Emotional-Behavioral Disability: The Role of Maternal Depression and Social Support

ABSTRACT

Exposure to intimate partner violence (IPV) and experiencing child maltreatment are public health problems that have adverse effects on children and society. Presently, few studies have examined the relationship between children's exposure to IPV, child maltreatment, and an emotional-behavioral disability (EBD). This study uses structural equation modeling with data from the second National Survey of Child and Adolescent Wellbeing to examine the relationship between exposure to IPV and EBD among 989 children (ages 8-17) involved in the child welfare system. Moderated mediation was employed to examine whether children's trauma symptoms mediated the relationship between IPV exposure and EBD and whether differences in maternal depression and social support impact such mediation effect. Child trauma symptoms and maternal social support were significantly related to EBD. Implications of this research include trauma symptoms screening and providing interventions as well increasing maternal social support as a way to potentially reduce the likelihood of children developing EBD.

Keywords: Intimate partner violence, domestic violence, emotional and behavioral disabilities, trauma symptoms, protective factors

Exposure to IPV among Children in the Child Welfare System and an Emotional-Behavioral Disability: The Role of Maternal Depression and Social Support

Children's exposure to parental intimate partner violence (IPV) is considered an adverse childhood experience that affects 15.5 million children annually (CDC, 2016; McDonald et al., 2006). Exposure to IPV has been defined as the “multiple experiences children have living in homes where an adult is using violent behavior in a pattern of coercion against an intimate partner” (Edleson et al., 2007, p.963). Fusco and Fantuzzo (2009) estimate that 43% of children were home at the time IPV occurred ($n=679$). Among the children who were exposed, 95% had some type of sensory exposure.

Exposure to IPV and Children in the Child Welfare System

Research has established a co-occurrence of exposure to parental IPV and child maltreatment (e.g., Ravi & Casolaro, 2018; Finkelhor et al., 2009). A systematic review of 31 studies showed the co-occurrence of IPV and child maltreatment in 40% of cases (Appel & Holden, 1998). Children exposed to IPV are six times more likely to be neglected, five times more likely to be physically abused, and four times more likely to be psychologically abused compared to children not exposed to IPV (Finkelhor et al., 2009). This study explores the relationship between children's exposure to IPV and EBD among children involved in the child welfare system for suspected maltreatment (both substantiated and unsubstantiated). It specifically examines how children's trauma symptoms, maternal depression, and maternal social support may impact the relationship between exposure to IPV and EBD. Children in the child welfare system were selected due to prior research demonstrating that children involved in the child welfare system are more likely to have EBD (Jonson-Reid et al., 2004). Considering the

established co-occurrence between IPV and child maltreatment, the next step is to examine the relationship between IPV and EBD among children involved in the child welfare system.

EBD

EBD is a disability that is included in the category of an *emotional disturbance* covered by the Individuals with Disability Act (2004). It is defined within codified regulations as:

An inability to learn that cannot be explained by intellectual, sensory, or health factors, an inability to build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate types of behaviors or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, or a tendency to develop physical symptoms or fears associated with personal or school problems. (Child with a Disability, §300.8, 2017, par.12)

This study uses the term EBD, which is preferred by mental health and special education professionals (Mitchell et al., 2019). Over 335,000 children in the U.S. have EBD, and a disproportionate number of children of color and children from low-income families have been identified with EBD (United States Department of Education; USDOE, 2018).

Children with EBD often face worse academic and employment outcomes compared to children with other disabilities and children without disabilities (Mitchell et al., 2019). They are more likely to be suspended, have repeated suspensions, and are the most likely to drop out of school (USDOE, 2018). These factors can impact high school completion, employability, post-secondary education (Newman et al. 2011). Further, a longitudinal study evaluating outcomes of young adults who received special education found that young adults who had EBD were more likely to be involved in the criminal justice system (Newman et al., 2011).

Perkins and Graham-Bermann (2012) theorized that the harmful effects of exposure to violence interact to create a “complex web of disabilities” (p.90) and that children exposed to violence may be more likely to develop EBD; however, little is known about the relationship between exposure to IPV and the development of EBD. A recent systematic review found that only three studies have examined the relationship between exposure to IPV and EBD (Ravi & Black, forthcoming). More research has been conducted on the relationship between child maltreatment and EBD than on exposure to parental IPV and EBD. Children who experienced maltreatment tend to be at a higher risk for entering the special education system (Jonson-Reid et al., 2004). Children who experience physical abuse are three times more likely to be diagnosed with EBD compared to a learning disability (Jonson-Reid et al., 2004).

Literature Review

Extant research indicates that children’s exposure to IPV and child maltreatment are associated with mental health, behavioral, and academic problems. Children exposed to IPV and child maltreatment are at a higher risk for future victimization and perpetration (Wekerle & Wolfe, 1999). Exposure to IPV and child maltreatment can disrupt brain development (Carpenter & Stacks, 2009; Carvalho et al., 2016). These disruptions negatively impact children’s concentration, memory, language development, and executive functioning (i.e., organizing, and synthesizing information) and their emotional and behavioral regulation. (Carpenter & Stacks, 2009; Carvalho et al. 2016).

Studies of children’s exposure to IPV among children in the child welfare system have found that IPV exposure is related to depression, aggression, and academic difficulties (Costello, 2015; Holmes, 2015). Specifically, exposure to a higher frequency and severity of IPV were related to

an increase in children's depression scores. Higher frequency of exposure to IPV was associated with concurrent and later aggression among preschool children in the child welfare system (Holmes, 2015). Additionally, higher frequency and severity of IPV was related to lower reading and math scores three years later among children in the child welfare system (Costello, 2015).

Exposure to IPV, Child Maltreatment, and Trauma Symptoms

Exposure to IPV and child maltreatment are significantly related to children's trauma symptoms (e.g., Yoon et al., 2016). In a meta-analysis of 60 studies, Evans and colleagues (2008) found a strong association between exposure to IPV and trauma symptoms in children. The frequency and severity of IPV have been found to be positively related to trauma symptoms (Costello & Klein, 2019).

Similarly, research demonstrates a positive association between child maltreatment and children's trauma symptoms. Children's trauma symptoms have also been shown to mediate the relationship between child maltreatment and internalizing and externalizing behaviors. Yoon and colleagues (2016) tested the direct and indirect effect of exposure (IPV exposure and violent victimization) among 2,064 children involved in the child welfare system and found that trauma mediated the relationship between violent victimization and internalizing behaviors.

Trauma Symptoms and EBD

Despite numerous studies examining the effect of trauma on children's mental health, behavior, and academic achievement, few studies have analyzed the relationship between children's trauma symptoms and EBD among children exposed to IPV and maltreatment. Buxton (2018) and Winder (2015) observed that trauma symptoms and EBD share similar characteristics. These similarities include learning difficulties, impaired relationships, and behaviors and feelings that differed from age-appropriate norms (Buxton, 2018).

Buxton (2018) explored trauma symptoms among children with EBD by conducting a retrospective record review of the individualized education plans of children receiving special education services ($n=12$). Buxton (2018) utilized the four domains of trauma (Tishelman et al., 2010). Buxton's (2018) findings indicated that most of the children in the study experienced difficulties in the domains of academics, self-regulation, and relationships. Despite the similarities between trauma symptoms and EBD, the definition of EBD does not mention experiencing trauma symptoms, or the effect trauma has on children's learning, behavior, and relationships (Winder, 2015).

Maternal Depression

Research demonstrates that survivors of IPV often experience mental health concerns such as depression (e.g., Bacchus et al., 2018; Voth Schrag et al., 2019). A meta-analysis of 35 cohort studies found that survivors of IPV were 76% more likely to have subsequent depressive symptoms (Bacchus et al., 2018). Maternal depression is also positively correlated with children's trauma symptoms (Costello & Klein, 2019; Graham-Bermann et al., 2006).

Additionally, research indicates that maternal depression is positively related to children's internalizing and externalizing behaviors (Martinez-Torteya et al., 2009; Wickramaratne, 2011). In a longitudinal study of children exposed to IPV involved in the child welfare system, Holmes and colleagues (2017) examined the role of maternal depression on children's aggression. The researchers examined children's aggressive behavior across three developmental stages and found that exposure to IPV was significantly associated with maternal depression.

Maternal Social Support

Support systems may provide an individual with material support such as money or childcare to prevent or alleviate financial hardships. For survivors, friends, families, and acquaintances may provide instrumental or emotional support, which may help the survivor to leave the relationship or cope with the abuse (Wright, 2015). Research demonstrates that both appraisal support (advice/encouragement) and tangible support (physical help or needed items) are negatively associated with IPV (Voth Schrag et al., 2020). Social support has been found to be positively related to help-seeking and negatively associated with adverse outcomes for survivors such as depression (Dougé et al. 2014; Kamimura et al., 2013).

Regarding children exposed to IPV, few studies have examined the relationship between maternal social support and children's emotional, behavioral, and academic outcomes. However, extant research demonstrates that maternal social support positively impacts the wellbeing of children. In a study of children exposed to IPV, Graham-Bermann and colleagues' (2006) demonstrated that increased maternal social support was significantly related to lower child traumatic stress symptoms among African American children, but not Caucasian children or when both races were combined. In a more recent study, Fusco (2017) examined social support among children ($n=336$) exposed to IPV involved in the child welfare system and found that higher emotional support was significantly related to lower child socioemotional problems.

Theoretical Framework

Developmental psychopathology and trauma theories guide the study. Masten (2006) defines developmental psychopathology as “the study of behavioral health and adaptation in a developmental context” (p.47). Developmental psychopathology focuses on pathways, or causal processes, that lead to a particular outcome and how risk and protective factors operate to

produce different outcomes in individuals over time. The inclusion of risk and protective factors as moderators provides a more nuanced understanding of the relationship between exposure to IPV and maltreatment and adverse outcomes (Cicchetti & Cohen, 1995).

Trauma theory postulates that when children fear for their lives or the lives of their loved ones, they may become traumatized (The National Child Traumatic Stress Network, n.d.). Chronic exposure to trauma activates the body's stress response system, which results in structural changes in the child's brain (Perry & Szalavitz, 2017). The chronic activation of this system in a young child whose brain is still developing can cause changes in the receptors, sensitivity, and dysfunction in the brain, which can have adverse impacts on children's memory, attention, cognition, and arousal (Perry & Szalavitz, 2017).

The current study attempts to address a significant gap in the literature related to the relationship between exposure to IPV and EBD. This study aims to answer the following question: How do maternal depression and social support impact the relationship between exposure to IPV and EBD? Based on the existing literature, the developmental psychopathology framework, and trauma theory, it is predicted that the frequency of exposure to IPV will be positively related to EBD. Specifically, it is hypothesized that exposure to a higher frequency of IPV will increase the likelihood of having EBD. Additionally, it is hypothesized that children's trauma symptoms will mediate this relationship. Higher maternal depression is expected to be positively related to children's trauma symptoms and the likelihood of having EBD. Further, it is hypothesized that high levels of maternal social support will reduce children's trauma symptoms, indirectly decreasing the likelihood that the child is diagnosed with EBD (See fig. 4.1).

Method

Sample Design and Data Set

The current study utilizes data from the second National Survey of Child and Adolescent Wellbeing (NSCAW II). NSCAW II is a nationally representative longitudinal survey of children and families involved in the U.S. child welfare system (Dolan et al., 2011). The Administration for Children and Families, a division of the U.S. Department of Health and Human Services funded the survey to assess children's well-being, service needs, and service utilization. A total of 5,873 children between birth and 17.5 years of age are included in the NSCAW II. These children were involved in child welfare investigations for suspected maltreatment between February 2008 and April 2009. Their cases may have been substantiated or unsubstantiated (Dolan et al., 2011). NSCAW II uses a two-stage sampling that is stratified by state and region to create a nationally representative sample. NSCAW II researchers applied weights to account for differences in the probability of selection and allow for inferences to be made to the entire population (Biemer et al., 2008).

The Current Sample

The sample for the current study utilizes Wave 1 data and includes children involved in the child welfare system who were living at home ($n=814$). It is important to examine the relationship between IPV exposure and EBD among children in the child welfare system since these children are one of the most vulnerable populations and are often in need of supportive services. Wave 1 data was selected due to the larger sample size needed to test the complex model. The children in the present sample are between the ages of 8 and 17 years old. This age range was selected because children who were eight years old or older completed the trauma

symptoms questionnaire. Additionally, children with EBD are often not identified until they are older (over the age of seven) compared to other children with disabilities (Bradley et al., 2004).

Independent Variable

Exposure to IPV. The Revised Conflict Tactics Scale (CTS2; Straus, 1990) was used to measure the frequency of children's exposure to IPV. NSCAW II utilized 13 items from the CTS physical aggression subscale. Cronbach's alpha for the current study is .98. Example items include, "In the past 12 months, how many times has your partner slapped you?" and "In the past 12 months, how often has your partner beat you up?". Participants indicated the abuse happened "once", "twice", "3-5 times", "6-10 times", "11-20 times", "more than 20 times", "not in the past 12 months, but happened before", or "never happened". There is no missing this variable.

Dependent Variable

EBD. Children in the sample were considered to have EBD if mothers positively endorsed "emotional disturbance/behavior disorder" to the question "What special learning problems or special needs were you told your child has?". Having EBD was coded dichotomously (0=no, 1=yes). No data is missing for this variable.

Mediator

Child trauma symptoms. Ten of the items from the Trauma Symptoms Checklist of Children-PTSD (TSCC; Briere, 1996) were administered to children eight years or older in the sample. The children were asked to identify how frequently they experience trauma-related symptoms such as intrusive thoughts, nightmares, memories of the traumatic event, or dissociation using a 5-point Likert scale (0=never to 4=almost all the time). Scores range from 0-40 with higher scores indicating a greater frequency of trauma symptoms. The total raw score

was used in the analysis. The TSCC has good internal consistency with the current sample ($\alpha=.98$). There is no missing data for this variable.

Moderators

Maternal depression. Maternal depression was measured using the depression module from the World Health Organization Composite International Diagnostic Interview Short-Form (CIDI-SF; Kessler et al., 1998). Mothers were considered to have a major depressive disorder if they answered both of the following items affirmatively: “During the past 12 months, was there a time when you felt sad, blue, or depressed for two weeks or more in a row?” and “During the past 12 months, was there a time lasting two weeks or more when you lost interest in most things like hobbies, work, or activities that usually give you pleasure?”. A dichotomous variable was created to indicate whether the participant had major depressive disorder (0=*no major depressive disorder*, 1=*has major depressive disorder*). There were no missing data for this variable.

Maternal social support. Perceived maternal social support was measured using 11 items adapted from the Duke Functional Social Support Questionnaire (Broadhead et al., 1989). Mothers were asked to identify on a 5-point scale how much confidant and affective support they receive, ranging from (1=*I get much less than I would like* to 5=*I get as much as I like*). Example items include “I get love and affection,” “I get the chance to talk to someone I trust about my personal and family problems,” and “I get invitations to go out and do things with other people.” Scores range from 11-55 with higher scores indicating greater social support. The measure shows good internal consistency for the current sample ($\alpha=.95$). No data is missing for this variable.

Control Variables

Child race. Mothers provided information about the child's race. Race was recoded into a dichotomous variable (0=*White*, 1= *of color*). The frequency of children in each racial category are provided in the descriptive statistics. There is no missing data for this variable.

Child gender. Mothers provided information about the child's gender. Gender was coded (0=*female*, 1=*male*). There are no missing data for this variable.

Child age. The child's mother reported the child's age. Age was measured continuously. There are no missing data for this variable.

Maltreatment substantiation. The caseworker reported maltreatment substantiation. Cases were considered substantiated if the allegation of maltreatment was found to have occurred (0=*unsubstantiated*, 1=*substantiated*). None of the data are missing.

Poverty level. The poverty level was assessed using the percentage that the family's income fell above or below the federal poverty line (1=*less than 50%*, 2=*50%-100%*, 3=*100%-200%*, 4= *greater than 200%*). The variable was recoded into a dichotomous variable *100%-200% and greater than 200% were recoded to 0=above the poverty line. 1=at, or below the poverty line*). There is no missing data for this variable.

Data Analysis

All analyses were conducted using weighted data. Path analysis was employed to examine the moderated mediation effect of maternal depression and social support on the relationship between exposure to IPV and child trauma symptoms on the development of EBD. Additionally, maternal depression and social support were tested as moderators on the direct and indirect relationship between exposure to IPV and EBD. Figure 4.1 shows the conceptual model.

Path analysis permits the simultaneous testing of direct and indirect model effects while also testing the strength and significance of the relationship between variables (Muthén & Muthén, 2017). Mplus v 8.3 was used to conduct all analyses (Muthén & Muthén, 2019). Maximum likelihood with robust standard errors (MLR) was used since MLR considers the non-normality of outcomes and the non-independence of observations that result from cluster sampling (Muthén & Muthén, 2017).

The goodness-of-fit indices used were root Mean Square Error of Approximation (RMSEA), comparative fit index (CFI), and the Standardized Root Mean Square Residual (SRMR). RMSEA values range from 0 to 1 with smaller values indicating a better fitting model (Hu & Bentler, 1999). The CFI also ranges from 0 to 1; however, a larger value indicates a better fitting model (Hu & Bentler, 1999). SRMR less than .06 signify a good fit. The University of Texas at Arlington institutional review board reviewed this study and determined it was exempt from the IRB approval process (Appendix).

Results

Descriptive Statistics

Tables 4.1 and 4.2 display the sample characteristics and prevalence of key study variables. The mean age of the children in the study was 11.88 ($SD=2.66$). A total of 39.6% of children were white, 30.9% Latinx, 22% African American, and 7.6% were from other races. There were slightly more males than females in the sample (54.3% vs. 45.7%). Over three-fourths of the maltreatment cases were unsubstantiated (77.8%). Approximately 63% of the families were living below the poverty level. A total of 6.9% of children were diagnosed with EBD. Mothers reported an average of 4.17 ($SD=19.31$) IPV incidents. Five percent of mothers met the criteria for a major depressive episode. The mean number of trauma symptoms reported by

children was 8.73 ($SD=6.29$). Mothers reported high levels of social support ($M=40.69$, $SD=11.67$).

Path Analysis: Moderated Mediation

The path analyses models build on the mediation model that was tested by (Ravi, forthcoming). Two expanded path analyses models were tested in the current study. The first examined the maternal depression symptoms as a moderator between exposure to IPV and child trauma symptoms. The second tested whether maternal social support moderated the relationship between exposure to IPV and child trauma symptoms. Table 3 displays the unstandardized coefficients for all variables.

Maternal Depression. An RMSEA of 0, a CFI of 1, and an SRMR of 0 indicate a well-fitting model. The model explained 16% of the variance in EBD and 4% of the variance in children's trauma symptoms. IPV exposure was not directly related to EBD ($b=-.01$, $p=.06$) or children's trauma symptoms ($b=0.02$, $p=.43$). A positive association between children's trauma symptoms and EBD was present ($b=.03$, $p=.01$). Children's trauma symptoms mediated the relationship between IPV exposure and EBD in an unexpected direction when maternal depression was included as a moderator. Children with mothers with depression reported fewer trauma symptoms ($b= -.15$, $p=.03$) were less likely to have EBD ($OR=.86$, $p =.03$).

Gender and Age. Boys were more likely to be diagnosed with EBD ($b=.69$, $p<.001$). Boys reported lower trauma symptoms compared to girls ($b= -1.07$, $p=.04$). Older children reported fewer trauma symptoms ($b= -.39$, $p<.001$). Children's age, poverty level, maltreatment substantiation, and race were not significantly related to EBD. Poverty level, maltreatment substantiation, and race were not significantly related to children's trauma symptoms.

Maternal Social Support. The model has a good fit with a CFI of 1 and RMSEA and SRMR of 0. A total of 25.4% of the variance of EBD and 4% of children's trauma symptoms were explained by the model. Contrary to the hypothesis, exposure to IPV was not significantly related to children's trauma symptoms ($b=-.004, p=.36$) or EBD ($b=-.01, p=.11$); thus, moderated mediation was not present. Children's trauma symptoms were positively related to EBD ($b=.04, p=.01$). The IPV and maternal social support interaction term was not significantly related to children's trauma symptoms ($b=.001, p=.11$) or EBD ($b=.00, p=.49$). Additionally, maternal social support was not directly related to children's trauma symptoms ($b=-.01, p=.40$). However maternal social support was significantly related to EBD ($b=-.03, p=.01$) indicating children with mothers with higher levels of social support were less likely to have EBD

Gender and age. Boys were significantly more likely to have EBD ($b=.71, p<.001$). Boys reported fewer trauma symptoms ($b=-1.07, p=.04$). Older children reported fewer trauma symptoms at ($b=-.40, p<.001$). Age, poverty level, substantiation, and race were not significantly related to EBD. Maltreatment substantiation, poverty, and race were not significantly related to children's reported trauma symptoms.

Discussion

The purpose of this study was to examine how maternal depression and maternal social support impact the relationship between exposure to IPV and EBD among children involved in the child welfare system for suspected maltreatment. This study adds to the knowledge base since prior studies have not looked at the impact of maternal depression and social support on the relationship between children's exposure to IPV and EBD among children involved in the child welfare system. It was hypothesized that children's trauma symptoms would mediate the relationship between IPV exposure and EBD. Maternal depression and maternal social support

were expected to moderate the relationship between children's exposure to IPV and EBD indirectly through children's trauma symptoms. Maternal depression was predicted to increase the likelihood of children developing trauma symptoms. Maternal social support was hypothesized to be a protective factor. Specifically, when mothers have high levels of social support; children will be less likely to develop trauma symptoms, therefore decreasing the likelihood of EBD.

Contrary to the hypothesis, there was not a significant relationship between exposure to IPV and EBD. A potential reason for the non-significant relationship may be related to IPV. First, only physical IPV was included. If other forms of IPV were included such as psychological abuse or verbal abuse, there may have been a stronger relationship. Additionally, coercive control was not included in the model. Coercive control is non-physical abuse that is characterized by using tactics to control or dominate an intimate partner (Stark, 2007). Existing literature shows that coercive control is positively related to children's internalizing and externalizing behaviors (Jouriles & McDonald, 2015), which are often seen in EBD. EBD was reported by mothers and may have been under reported.

Impact of Maternal Depression

It was hypothesized that children who were exposed to IPV were more likely to have EBD and that children's trauma symptoms would be amplified for children with mothers experiencing depression. That hypothesis was not supported. Children's trauma symptoms mediated the relationship between IPV exposure and EBD in an unexpected direction. Findings indicated a moderated mediation. Children with mothers who were depressed had fewer trauma symptoms and were less likely to have EBD. This finding differs from other research that demonstrates a significant positive correlation between maternal depression and children's

trauma symptoms among children exposed to IPV (Costello & Klein, 2019; Graham-Bermann et al., 2006). A possible explanation could be related to service engagement related to being in the child welfare system. Perhaps, mothers experiencing depression received mental health services for depression which buffered the effect of children developing trauma symptoms. It is also possible that both the mother and the child were receiving mental health which reduced children's trauma symptoms and prevented EBD. Future research should examine the impact of maternal and child service utilization on children's trauma symptoms and EBD.

Impact of Maternal Social Support

The interaction between exposure to IPV and maternal social support was not significantly related to children's trauma symptoms. This finding aligns with Graham-Bermann et al. (2006), who found that maternal social support was not significantly related to children's trauma symptoms among a combined sample of African American and Caucasian children. However, maternal social support was significant among a sample of African American children. Considering that Graham-Bermann and colleagues (2006) found a significant relationship between social support and trauma symptoms among African American children, there may be differences when maternal social support is examined among racial and ethnic groups individually.

Maternal social support did not moderate the relationship between IPV exposure and EBD. This finding conflicts with Fusco (2017), who found that among mothers with children involved in the child welfare system exposed to IPV, children with mothers with high social support had fewer socioemotional problems. A potential reason for the differing outcomes is that Fusco (2017) did not examine EBD specifically as an outcome variable. Although, there was not a significant moderation, maternal social support was directly related to EBD. Children with

mothers with higher levels of social support were less likely to have EBD. Drawing on EBD research, when parents of children of EBD have social support, children attend school more often, increase academic achievement, and attend their mental health appointments more frequently (Duppong Hurley, Huscroft-D'Angelo, 2018). Therefore, it is plausible that maternal social support acts as a protective factor that prevents EBD.

Differences Based on Gender and Age

Boys were more likely to have EBD, which is consistent with existing research. Boys also had lower trauma symptoms, which aligns with (Koolick et al., 2016). However, it conflicts with Graham-Bermann et al.'s (2006) finding that gender was not significantly related to trauma symptoms when maternal depression was included as a variable. The divergence could be due to the current study using a child welfare sample, and that Graham-Bermann and colleagues (2006) sampled a community population. In both models, older children had lower trauma symptoms consistent with prior studies (Costello & Klein, 2019; Graham-Bermann et al. 2006).

Findings from the current study revealed several unexpected findings. First, child maltreatment substantiation was not significantly related to trauma symptoms, which departs from existing studies (e.g., Milot et al., 2010; Yoon et al., 2016). Additionally, child maltreatment substantiation was not significantly related to EBD, which contradicts Jonson-Reid et al.'s (2004) finding that children who experience maltreatment are more likely to have EBD. A possible explanation is that the children in the sample may have been receiving services that could have mitigated trauma symptoms, emotional or behavioral difficulties. Additionally, race was not a significant predictor in either model when controlling for socioeconomic status, which conflicts with prevalence data that shows children of color are more likely to be diagnosed with

EBD (USDOE, 2018). This finding suggests that other variables, such as trauma symptoms, are more salient.

Limitations and Implications for Future Research.

Several limitations of the current study should be noted. First, the cross-sectional design of the study limits the ability to examine causation and temporality. Second, the study sample was a nationally representative sample of children involved in the child welfare system. Therefore, the study does not generalize beyond the child welfare sample. Third, exposure to IPV and EBD were based on the mother's self-report, which is subject to response bias. Additionally, only physical IPV was included, and the timeframe was only for the last 12 months and did not include coercive control as a variable. Finally, the study did not control for community violence or neighborhood quality, which could be related to trauma symptoms and EBD.

Based on the findings and limitations of this research, there are opportunities to extend this research. Specifically, longitudinal research could provide insight into causal relationships. Including children not involved in the child welfare system would increase the generalization of the findings. Using child self-report of exposure to IPV that includes a broader conceptualization of IPV such as the children's exposure to domestic violence scale (CEDV; Edleson et al., 2008). The CEDV is valid and reliable in samples of children worldwide (Ravi & Tonui, 2020). Collecting EBD data from school records would decrease self-report bias. Finally, controlling for community violence and neighborhood quality in the analysis may clarify the relationship between IPV, children's trauma symptoms, and EBD.

Practice Implications

The results of the study have several practice implications for working with children exposed to IPV and their mothers. Child welfare workers should consider including a counseling evaluation to assess for and treat trauma symptoms for children who are exposed to IPV. It would be beneficial for service plans to also include a referral to an IPV service provider for mothers who experience IPV. Children exposed to IPV who struggle with emotional and behavior regulation, social relationships, and academics could benefit from interventions that address these areas, which could potentially prevent EBD. School mental health professionals are in a unique position to address these difficulties since they can communicate with the child, teacher, and families. Further, they can provide interventions or referrals for services in the school or community for both children and mothers.

Trauma-informed interventions such as Trauma-Focused Cognitive Behavior Therapy (TF-CBT; Cohen et al., 2011) or Cognitive Behavior Intervention for Trauma in Schools (CBITS; Jaycox et al., 2018) could reduce children's trauma symptoms, potentially decreasing the likelihood of EBD. These interventions focus on cognitive-behavior skill-building to improve children's trauma symptoms and coping. Further, adopting a trauma-sensitive school model would be beneficial for all children and especially those who have experienced trauma. Trauma sensitive-schools provide training to school personnel and families about the effects of trauma on children, link students with mental health professionals who focus on building relationships with children, providing predictable schedules, creating trauma-sensitive discipline policies, and safety planning (Cole et al., 2005).

The findings of the current research highlight that maternal social support can be a protective factor for children in potentially preventing EBD. It would be beneficial for school

social workers to work with the mothers of children who may be demonstrating emotional and behavioral problems and at-risk of EBD to increase their social support.

Conclusion

The current study highlights the relationship between maternal and child functioning. The findings of the current research indicate that maternal social support operates as a protective factor for children to potentially prevent EBD. When the mothers have social support, children are positively affected. Mothers who feel supported may be able to better attend their children's emotional and behavioral needs, which could potentially prevent EBD.

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Figure 4.1

Conceptual Model

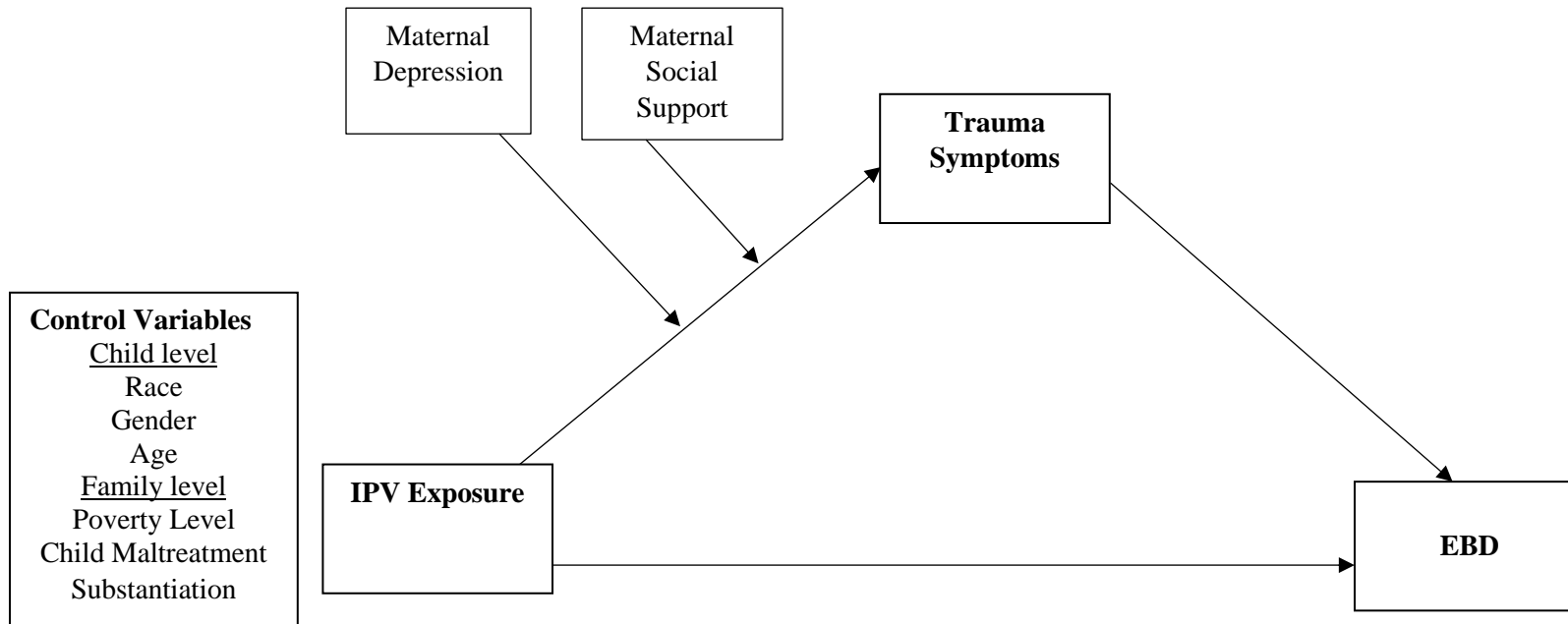


Table 4.1
Sample Characteristics

Variable	M(SD)/%
Child Race	
African American	22%
White	39.6%
Latinx	30.9%
Other	7.6%
Gender	
Male	54.3%
Female	45.7%
Maltreatment status	
Unsubstantiated maltreatment	77.8%
Substantiated Maltreatment	22.2%
Poverty level	
Above Federal poverty level	37.4%
Below Federal poverty level	62.6%

Table 4.2
Key Study Variables

Variable	M(SD)/%	Range
EBD		
Identified with EBD	6.9%	
Not identified with EBD	93.1%	
IPV		
Experienced any IPV	22.2%	
Frequency of IPV	4.17 (19.31)	0-142
Child trauma symptoms	8.73(6.29)	0-29
Maternal Depression		
Depression	5.2%	
No Depression	94.8%	
Maternal Social Support	40.69 (.661)	

Table 4.3
Unstandardized coefficients

Dependent Variable	Moderator: Maternal Depression			Moderator: Maternal Social Support			
	Independent variable/Covariate	Coefficient	SE	Dependent Variable	Independent variable/Covariate	Coefficient	SE
EBD	IPV Exposure	-.01	0.01	EBD	IPV Exposure	-.01	0.01
	Trauma	.03**	0.01		Trauma	.04**	0.01
	Age	0.03	0.03		Age	0.03	0.03
	Poverty	-.01	0.21		Poverty	-.13	0.20
	Maltreatment Substantiation	0.14	0.21		Maltreatment Substantiation	0.12	0.20
	Gender	.69**	0.17		Gender	.71**	0.18
	Race	-.11	0.18		Race	.08	0.40
	Maternal Depression	-.31	0.46		Maternal Social Support	-.03	0.01
	IPV Exposure X Maternal Depression	.02	0.03		IPV Exposure X Maternal Social Support	0.00	0.00
Trauma Symptoms	IPV Exposure	0.02	0.01	Trauma Symptoms	IPV Exposure	-0.004	0.01
	Age	-.39**	0.13		Age	-.40**	0.13
	Poverty	-.40	0.85		Poverty	-.25	0.82
	Maltreatment Substantiation	.23	0.65		Maltreatment Substantiation	0.28	0.63
	Gender	-1.07*	0.61		Gender	-1.07	0.61
	Race	.59	1.34		Race	1.39	1.39
	Maternal Depression	-.08	1.33		Maternal Social Support	-.01	0.05
	IPV Exposure X Maternal Depression	-.15*	0.08		IPV Exposure X Maternal Social Support	.001	0.001

* $p < .05$
 ** $p < .01$

Chapter 5

Conclusion

This three-article dissertation examines the relationship between exposure to IPV and EBD among children involved in the child welfare system. The dissertation begins with a scoping review article and then focuses on model creation and testing in the second and third articles. The first article (Chapter Two) consists of a scoping review that explored the existing literature related to exposure to IPV and EBD. The second article (Chapter Three) tests the direct and indirect effects of exposure to IPV on EBD and investigates whether children's trauma symptoms mediates the relationship. Article number three (Chapter Four) explores risk and protective factors using moderated mediation. The study tests whether child trauma symptoms vary based on maternal depression and social support.

Guided by Developmental Psychopathology (Cicchetti & Cohen, 1995), Trauma Theory (Perry & Szalavitz, 2017), and empirical literature, this study is the first to examine the relationship between exposure to IPV and EBD among a nationally representative sample of school-aged children involved in the child welfare system. The current chapter summarizes the findings from each article and discusses how the findings inform social work practice, policy, special education professionals, and social work education.

Summary of Major Findings

- 1) Few existing studies ($n=3$) have examined the relationship between children's exposure to IPV and EBD.
- 2) IPV exposure predicted children's trauma symptoms. A higher frequency of IPV exposure was related to more trauma symptoms.
- 3) Children's trauma symptoms influenced EBD. Specifically, children with more trauma symptoms were more likely to have EBD.

- 4) Children's trauma symptoms mediated the relationship between IPV exposure and EBD.
- 5) Maternal depression moderated the relationship between IPV exposure and trauma symptoms. Children with mothers with depression reported fewer trauma symptoms and were less likely to have EBD.
- 6) When social support was added to the model, children's trauma symptoms did not mediate the relationship between exposure to IPV and EBD. However, children's trauma symptoms still predicted EBD with higher trauma symptoms positively related to EBD.
- 7) Maternal social support was significantly related to EBD. Higher maternal social support was related to a lower likelihood of having EBD.

The first article (Chapter Two) was a scoping review that examined the current literature for studies that tested the relationship between exposure to IPV and EBD. Findings of the scoping review revealed that only three empirical studies that examined the relationship between exposure to IPV and EBD. Most of the studies were conducted over 20 years ago. The lack of studies exploring the relationship between IPV and EBD indicates a significant gap in the literature.

The second article (Chapter Three) tested a mediation model. This study investigated whether children's trauma symptoms mediated the relationship between exposure to IPV and EBD. Control variables included child race, gender, maltreatment substantiation, poverty level, and children's Wave 1 and Wave 2 trauma symptoms and EBD. Contrary to the hypothesis, exposure to IPV was not directly related to EBD. However, IPV was positively related to children's trauma symptoms, and children's trauma symptoms were positively related to EBD. As hypothesized, children's trauma symptoms mediated the relationship between exposure to IPV and EBD.

The mediation model was expanded to include a moderated mediation model in the third article (Chapter Four) to assess whether maternal depression and social support impacted children's trauma symptoms. Specifically, whether maternal depression is positively associated with children's trauma symptoms and if high levels of maternal social support is negatively related to children's trauma symptoms. Children's trauma symptoms did not mediate the relationship between exposure to IPV and EBD. However, when maternal depression was added to the model, maternal depression moderated the relationship between IPV exposure and children's trauma symptoms in an unexpected way. Children with mothers who were depressed reported fewer trauma symptoms and were less likely to have EBD. Maternal social support was directly related to EBD. Children with mothers with higher levels of social support were less likely to have EBD.

Limitations

The findings of the study should be considered considering the following limitations. First, this study was cross-sectional, which limits the ability to determine causation. Second, while the sample is nationally representative of children in the child welfare system, the findings from the study do not generalize to children who are not involved with the child welfare system.

Regarding variable conceptualization, the conceptualization of IPV was limited to physical violence and only included the last 12 months. Adding other forms of IPV such as psychological or verbal may have resulted in a significant relationship between IPV exposure and EBD. The study did not include coercive control which has been found to be associated with children's internalizing and externalizing behaviors (Jouriles & McDonald, 2015). IPV was reported by the mothers, which is subject to self-report bias and under-reporting. Mothers' self-report limits the validity of the extent children were exposed to IPV. EBD was also self-reported by the mother

and subject to self-report bias which may have contributed to the small number of children having EBD.

Implications for Social Work Research

Based on the limitations of the study, the following recommendations for social work research are discussed. Future studies should be longitudinal to help determine temporality and causation. A next step in advancing this research is to test the model with children not involved in the child welfare system. Additionally, including other forms of IPV and coercive control could provide a more nuanced relationship between IPV and EBD.

Based on the current study, there are several ways that the variable conceptualization and operationalization could strengthen future studies. Regarding IPV, a broader conceptualization that includes psychological, emotional, and financial abuse would capture IPV more fully and would allow for comparisons based on the type of IPV. Additionally, widening the timeframe of IPV allows for the inclusion of IPV that occurred prior to the last 12 months, which could impact children's functioning. Child self-report of IPV exposure using a validated and reliable measure such as the Child Exposure to Domestic Violence Scale (CEDV; Edleson et al., 2008) would increase the validity and rigor of future studies. Prior studies demonstrate that maternal and child reports differ regarding the child's exposure (Sternberg et al., 2006). Additionally, obtaining EBD data from school records would increase validity and reduce bias.

Implications for Social Work Practice

Children exposed to IPV who experience behavioral, emotional, social, or academic difficulties could benefit from interventions targeting these difficulties. Implications for child welfare workers include providing counseling referrals for an evaluation for children to assess

for and treat trauma symptoms. Child welfare workers should consider connecting mothers experiencing IPV service providers.

Providers working with children who are experiencing prolonged difficulties should consider discussing an EBD evaluation with the child's parents or caregiver. Providing trauma-informed interventions such as Cognitive Behavior Intervention for Trauma in Schools (CBITS; Jaycox et al., 2018), Bounce Back (Langley et al., 2015), and Trauma-Focused Cognitive Behavior Therapy (TF-CBT; Cohen et al., 2011) at school may provide a mechanism to address children's trauma symptoms and improve behavior, emotional regulation, social relationships, and academics. CBITS is a group-based cognitive-behavioral skill-building program for middle school and high school-aged youth that aims to reduce symptoms of post-traumatic stress disorder, depression, and anxiety related to exposure to violence. Bounce Back tailors CBITS for elementary-age children. TF-CBT, with children exposed to IPV, includes developing positive coping strategies and an opportunity to create and share a trauma narrative with the mother.

Additionally, providing social skills programs for children exposed to IPV who display difficulties interacting with peers or teachers is indicated since social skills interventions have been shown to reduce the development of EBD (Gresham, 2015). It is critical that school social workers work closely with educators to assist with preventative services, including multi-tier systems of supports for students exposed to IPV at risk for EBD. Examples of such interventions include response-to-intervention (RTI; Fuchs & Fuchs, 2006) and positive behavior intervention supports (PBIS; Lewis et al., 2010). RTI consists of systematic academic progress monitoring that provides various levels of supports to students (Fuchs & Fuchs, 2006). PBIS utilizes functional behavior analysis to solve school-related behavior issues and frequently includes teaching prosocial skills (Utley et al., 2002).

Children's well-being is influenced by mothers' well-being. Therefore, social workers working with survivors should be trained to assess and treat mental health difficulties such as depression or provide resources where survivors could obtain mental health services as well as work with mothers to increase social supports. Moreover, evidence shows that interventions that target both children and the mothers improve both the children's and the mother's well-being (Graham-Bermann et al., 2007; Jouriles et al., 2009). Two such interventions are *Project Support* (Jouriles et al., 2009), Pre-Kids Club (PKC), and Mom's Empowerment Program (MEP; Graham-Bermann et al., 2007). Project Support aims to reduce the mother's depression, anxiety, somatic symptoms, trauma symptoms, and to increase emotional support while also reducing children's conduct problems and frequency of oppositional behavior (Jouriles et al., 2009). The goal of MEP is to empower women through discussing the effect of IPV on themselves and their children, providing a safe place to discuss parenting concerns, and building connections with other survivors in the group. In conjunction with MEP, PKC targets children's knowledge and beliefs of IPV, emotions, and behavior (Graham-Bermann et al., 2007).

Implications for Special Education Professionals

The findings from this study have implications for special education. Adopting a trauma lens when evaluating children for EBD may provide a more nuanced understanding of the behavior, emotions, social, and academic difficulties the child may display. Providing training to special education and general education teachers about how trauma affects children can help teachers to contextualize the difficulties the child is experiencing and respond in a way that will be helpful for a child experiencing trauma symptoms in the classroom. Currently, only 11 states have a policy related to trauma professional development for teachers (Chriqui et al., 2019).

Further, when special education case managers are creating accommodations, including accommodations that are specific to children's trauma symptoms could help children to regulate their feelings and behaviors that would positively impact their social relationships and academics. Examples of such accommodations include providing schedule charts that allow students to review the order of daily school activities and their expected duration, cool down periods, and sound reductions (Harrison et al., 2013). Since trauma affects children's ability to process and learn information, there are several accommodations that could help children exposed to IPV such as utilizing teaching strategies that align with the child's learning style, pre-teaching new vocabulary, and concepts, as well as contextualizing information to aid in the child's processing of the information. Additionally, providing graphic organizers and manipulatives can help children stay on track with their schoolwork (Cole et al., 2005).

Implications for Policy

Findings from this dissertation have implications for national, state, and school policy. At the national level, the data support Winder's (2015) suggestion to create a subcategory of EBD that addresses how trauma may impact children. At the school level, including a trauma symptoms questionnaire and screening for IPV could increase school personnel's awareness of the child's trauma symptoms and how it affects their current functioning. Special education teachers can use this data to create trauma-related accommodations in the child's IEP (Tishelman et al., 2010). For schools that prefer not to use a clinical tool, evaluators should have the option to create an assessment strategy that focusses on obtaining data from the four domains of trauma, which include self-regulation, physical functioning, social relationships, and academic difficulties.

The findings from this study suggest that implementing a trauma-sensitive school model would be beneficial to students experiencing trauma symptoms. Trauma sensitive schools integrate effective practice, programs, and procedures that support students who have experienced trauma (Cole et al., 2005; Overstreet & Chafouleas 2016). Key elements of trauma-sensitive schools include training school personnel, caregivers, and parents about how trauma affects children and connecting students with mental health professionals to provide services either in the school or community. Additionally, when school personnel develop positive relationships with children and provide predictable school schedules, children develop a sense of safety. Further, schools should implement trauma-sensitive discipline policies, communication, and safety planning (Cole et al., 2005).

Universal screening for IPV would be helpful for school personnel to become aware of children's traumatic experiences. Knowledge of children's exposure to traumatic events can inform the teachers' and school administrator's interventions. Mitchell and colleagues (2019) advocate for ongoing universal screening for social, emotional, and behavioral challenges and state that validated instruments can be administered to a class by the teacher in 10 to 15 minutes.

Implications for Social Work Education

The findings from the current study have implications for social work education. Social work educators teaching content related to IPV or adverse childhood experiences should inform students about how exposure to IPV affects children's emotional regulation, behaviors, social interactions, and academic achievement. Applying developmental psychopathology framework and trauma theory to children's exposure to IPV could clarify how IPV exposure impacts children. Connecting human behavior to theories aids students' understanding of the individual and family functioning (Robbins et al., 2012). It is important that social work educators provide

content that highlights how maternal and child well-being are interconnected and the importance of providing interventions for both survivors of IPV as well as their children.

Students must understand the important role that school social workers have working among systems (child, family, and school) to improve children's emotional, behavioral, social, and academic outcomes (Frey et al., 2012). Special attention is needed on how IPV exposure affects attendance, learning, and school failure (Berzin & O'Connor, 2010). Social work students would benefit from understanding how exposure to IPV is related to EBD since school social workers often work with students in special education. Additionally, knowledge about the risk and protective factors for children's trauma symptoms and EBD, especially among children who have experienced maltreatment is important for social work students for future intervention planning.

Conclusion

This dissertation is one of the first efforts to examine the effect of IPV exposure on children's trauma symptoms and EBD among children involved in the child welfare system. Findings from this study indicate that children's exposure to IPV is related to EBD and that maternal and child well-being are related. Given that children with EBD often have adverse educational, employment, and criminal justice experiences, the findings of this study suggest that intervening with children and mothers exposed to IPV could potentially prevent EBD and avoid long-term adverse educational, employment, and criminal justice outcomes.

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Appendix



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OFFICE OF RESEARCH ADMINISTRATION
REGULATORY SERVICES

Institutional Review Board Notification of Exemption

December 12, 2017

Kristen Elizabeth Ravi
Dr. Beverly Black
School of Social Work
The University of Texas at Arlington
Box 19129

Protocol Number: 2018-0192

Protocol Title: *Exploring Exposure to Parental Intimate Partner Violence Among Children with an Emotional Disturbance Involved in the Child Welfare System*

EXEMPTION DETERMINATION

The UT Arlington Institutional Review Board (IRB) Chair, or designee, has reviewed the above referenced study and found that it qualified for exemption under the federal guidelines for the protection of human subjects as referenced at Title 45CFR Part 46.101(b)(4).

- (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

You are therefore authorized to begin the research as of **December 12, 2017**.

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, “promptly report to the IRB any proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject.” All proposed changes to the research must be submitted via the electronic submission system prior to implementation. Please also be advised that as the principal investigator, you are required to report local adverse (unanticipated) events to the Office of Research Administration; Regulatory Services within 24 hours of the occurrence or upon acknowledgement of the occurrence. All investigators and key personnel identified in the protocol must have documented Human Subject Protection (HSP) Training on file with this office. Completion certificates are valid for 3 years from completion date.

The UT Arlington Office of Research Administration; Regulatory Services appreciates your continuing commitment to the protection of human research subjects. Should you have questions or require further assistance, please contact Regulatory Services at regulatoryservices@uta.edu or 817-272-3723.

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