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Exploring the Relationships between Concurrent Types of Interpersonal Child Maltreatments and Severity of Posttraumatic Stress Symptomatology: The Moderated Mediational Role of a Child's Strengths

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Exploring the Relationships between Concurrent Types of Interpersonal

Child Maltreatments and Severity of Posttraumatic Stress Symptomatology:

The Moderated Mediational Role of a Child's Strengths

by

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Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

December, 2014

Dedication

"…the disciples came unto Jesus, saying, Who is the greatest in the kingdom of heaven?

And Jesus called a little child unto him, and set him in the midst of them,

And said, Verily I say unto you, Except ye be converted, and become as little children,

ye shall not enter into the kingdom of heaven…Take heed that ye despise not one of these little ones;

for I say unto you, That in heaven their angels do always behold the face of my Father which is in heaven."

Matthew 18:1-3, 10

I dedicate this work to all the children who endure or have endured interpersonal violence exposure and multiple interpersonal violence maltreatments, you are not alone….

Special dedication and in loving memory of my mother, Lula Mae Walker McCoy, who in spite of grueling physical, financial, and emotional circumstances, raised and inspired 10 children in the deep South to become all that we were created to become, by first loving God and then loving others as ourselves.

Acknowledgements

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The University of Texas at Austin, 2014

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Abstract

Most children exposed to interpersonal violence experience multiple forms of
victimizations that are more predictive of trauma symptomatology than single traumatic
incidents. This exploratory study seeks to extend research that suggests a child's intrinsic
strengths may help mitigate the development of serious psychiatric symptoms for
children experiencing multiple interfamilial victimizations. Utilizing a diverse clinical
sample (N= 106) of children 7 to 18 years of age who were exposed to multiple family
traumas or to non-interpersonal traumas, path analysis models (moderation, mediational,
and moderated mediational) were employed across potential explanatory or attenuating
demographic factors (age, ethnicity, and gender) to ascertain the associations between
multiple interpersonal maltreatment types experienced, childs' behavioral and emotional
strengths, and their posttraumatic stress symptomatology and/or behavioral and emotional
difficulty symptoms.

Key study findings suggest (1) participants' posttraumatic stress symptomatology, behavioral and emotional difficulty symptoms, and strengths were significantly predicted by their age and ethnicity (Hispanic), but not gender, (2) study participants who experienced three different interpersonal maltreatment types had significantly higher PTSD and difficulty symptoms than children who experienced no interpersonal abuse and a child's gender and ethnicity appear to moderate this association, (3) a child's age significantly moderate the relationship between the number of maltreatment types experienced and their strengths, and (4) participants' strengths did not significantly predict their PTSD symptomatology, but did predict their behavioral and emotional difficulty symptoms.

Further, mediational analyses indicate that a child's strengths only partially mediate the relationship between the number of maltreatments types experienced and a child's difficulty symptoms. Moderated mediation analysis however demonstrated that a child's strengths significantly mediated the effect of the traumas experienced on a child's difficulty symptoms when the child's age ($\geq$14) was assessed as a moderator of the mediated relationship.

These findings are consistent with extrapolations from attachment theory (i.e., school aged children assessed with more internalizing and externalizing symptoms), developmental psychopathology theory (i.e., violence exposed children experiences are moderated or mediated by factors that facilitate or refract normal development) and the strength's perspective which emphasize that children and youth with mental health difficulties also possess strengths.

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CHAPTER I

Mitigating Violence Exposure in Multiply Victimized Children

Empirical evidence has grown that supports the seemingly common co-occurrence of intimate partner violence (IPV) exposure and child maltreatment and suggests that both together are more detrimental to victims than IPV exposure or child maltreatment alone (Appel & Holden, 1998; Bedi & Goddard, 2007; Grych, Jouriles, McDonald, Norwood, & Swank, 2000; Herrenkohl, Sousa, Tajima, Herrenkohl & Moylan; Jouriles, McDonald, Smith-Slep, Heyman, & Garrido, 2008; Kitzmann, Gaylord, Holt, & Kenny, 2003a). Emerging literature also critiques previous research that suggests a single traumatic incident increases a victimized child's trauma or psychopathology risk (e.g., Edwards, Holden, Felitti & Anda, 2003; Finkelhor, Orrarod & Turner, 2007; Hamby et al., 2010).

These researchers instead posit that most children exposed to interpersonal violence experience multiple forms of interpersonal victimizations and that recent multiple maltreatments are more predictive of trauma symptomatology. Evidence also indicate that as many as 60 percent of neglected children and over 70 percent of sexually abused children have also been exposed to IPV (Hamby et al., 2010). Similarly, Edwards and colleagues (2003) report that nearly half (43%) of the adult they studied (N= 8,667) indicated experiencing at least one interpersonal maltreatment type during childhood (IPV exposure, physical abuse, and or sexual abuse), and approximately 35% of the respondents reported experiencing two or more victimizations.

Multiply victimized children (a population that has been understudied; Hamby et al., 2010) also appear to be at particular risk for long-term mental health problems (Cohen, Perel, DeBellis, Friedman, & Putnam, 2002; Edwards, Holden, Felitti, & Anda, 2003; Finkelhor et al., 2007; Vranceanu et al., 2007). Given such evidence, there is a call for research on the experiences of children who are victims of multiple types of interpersonal maltreatments (IPV exposure, physical abuse, sexual abuse, etc.) and an urgent need for improved integrated primary and mental health services for these children (Hamby et al., 2010).

Stronger empirically supported research has also emerged underscoring previous findings that suggest that not all child witnesses of IPV or abused witnesses suffer serious detrimental effects (Eldeson, 1999; Fowler & Chanmugam, 2007; Kitzmann et al., 2003a; Margolin & Gordis, 2000). In fact, evidence from resilience, strengths, and coping research (e.g., Grych, Jouriles, Swank, McDonald & Norwood, 2000; Jaffee et al., 2007) indicates that from 31% to 65% of children appear impervious or have adequate functioning and psychosocial outcomes in spite of adversity, abuse, or family violence exposure problems. Hypothesized resiliency and resiliency blocks (i.e., protective factors) or positive influences include the child's self-esteem, secure attachment to a caring adult, and ability to make sense of the violence in their life (Margolin & Gordis, 2000).

In contrast to risk or vulnerability factors, protective factors, such as emotional and behavioral strengths, a supportive adult, involvement in extracurricular activities, or peer support are environmental or intrinsic assets that may lessen the impact of violence

exposure (Luthar & Zigler, 1991; Lyons, Uziel-Miller, Reyes, & Sokol, 2000; Masten & Reed, 2002; Oswald et al., 2001). Weems and Overstreet (2008), for instance, found that the likelihood of violence exposed children developing posttraumatic stress disorder decreased when protective factors in their lives increased. Investigators such as Herrenkohl et al. (2008) also define protective factors as individuals' intrinsic qualities and experiences that enhance resilience in light of earlier risks. For example, Oswald et al.,(2001) found a negative correlation between a child's strengths level(e.g., higher levels of strengths and less psychiatric impairments) and negative mental health symptomatology as well as note clinicians and researchers propensity to investigate whether protective factors such as child strengths mitigate (i.e., moderate) the development of serious psychiatric symptoms.

Lastly, strength-based theoretical approaches suggests that children and individuals, even those assessed with severe negative psychosocial symptoms possess strengths (Barksdale et al., 2010; Cox, 2006; Epstein et al., 2004; Friedman, et al., 2003; Griffith et al., 2010; Lyons et al., 2000; Oko, 2006; Oswald et al., 2001; Rudolph & Epstein, 2000). Interesting, because research also suggests that a child's strengths level may be influenced by their age, gender, racial, and/or socioeconomic status ((Barksdale et al., 2010; Luthar, Cicchetti, & Becker, 2000; Walrath, Mandell, et al., 2004).

In sum, previous research (e.g., Edwards, Holden, Felitti & Anda, 2003; Hamby et al., 2010) suggests that exposure to multiple maltreatments is detrimental to a child's posttraumatic stress symptomatology level and their behavioral and emotional difficulties symptoms (i.e., internalizing and/or externalizing problems). Empirical observations also

suggest that when a violence exposed child's behavioral and emotional strengths level increased and their negative mental health status decreased (Oswald et al., 2001) and theoretically it has been proposed that regardless of a child's mental health status, all children possess strengths (Lyons et al., 2000; Rawana & Brownlee, 2009). However, the role of a child's behavioral and emotional strengths is unclear in the association between multiple maltreatments experienced and their posttraumatic stress symptomatology level and/or behavioral and emotional difficulty status.

The present study seeks to (1) provide theoretically based, empirical evidence on factors that concurrently influence the development of severe posttraumatic stress symptoms and/or behavioral and emotional difficulties symptoms (internalizing and externalizing symptoms) in children exposed to multiple types of interpersonal maltreatments as well as test whether child's demographic variables (age, ethnicity, and/or gender) acts as a moderator between the number of maltreatments experienced by the child and their psychological and emotional adjustment outcomes, (2) identify how childhood multiple maltreatments experienced and children behavioral and emotional strengths influence each other and the role or impact of strengths, i.e., whether strengths acts as a mediator in the relationship between number of maltreatments types experienced (IPV exposure, physical abuse, and sexual abuse)and a child's severity of posttraumatic stress symptomatology and/or behavioral and emotional difficulties symptoms, and (3) ascertain if demographic factors (age, ethnicity, and/or gender) moderate the potential mediated effect of a child's behavioral and emotional strengths on the relationship between the number of maltreatments types they experienced and their negative

psychosocial symptoms. Whether a child's emotional and behavioral strengths act as a moderated meditator of the relationship between multiple types of childhood interpersonal maltreatments experienced and their severity of posttraumatic stress symptomatology and/or behavioral and emotional difficulties symptoms has not been assessed to date. This research thus seeks to inform understanding of how the presence of strengths is related to psychopathology in order to comprehend the situation of multiple maltreated children and to design better prevention and intervention programs to serve them.

This nascent investigation of factors that concurrently influence the development of severe posttraumatic stress symptoms in children exposed to multiple interpersonal maltreatments and those that possibly provide protection from these symptoms, such as emotional and behavioral strengths is not only relevant, but timely. The findings are expected to support growing evidence suggesting that positive influences mitigating exposure to intimate partner violence and child maltreatments play an important role in addressing or preventing psychopathology of trauma in children victimized by violence (Grych et al., 2000; Tedeschi & Calhoun, 1995, 2004; Weems & Overstreet, 2008).

Childhood Interpersonal Maltreatment Co-occurrence

Research interest in the complex phenomenon of children exposed to intimate partner violence (IPV) and child abuse or maltreatment emerged during the mid-to-late 1990s. Since then, investigations on this topic have proliferated (Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003). Intimate partner violence (IPV) alone is a ubiquitous public health problem with related emergency medical care services and psychological

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services exacting an $8.3 billion toll on the U.S. economy in 2003 (CDC, 2003; Max, Rice, Finkelste, Bardwell & Leadbetter , 2004; Tjaden & Thoennes, 2000) and untold damages to children in the home – the unwilling witnesses to IPV and often victims of it as well.

The co-occurrence of multiple types of maltreatments encapsulate violence exposed children who experience multiple stressors or victimizations, such as the combination of IPV exposure and being the victim of child abuse (Cohen, Perel, DeBellis, Friedman, & Putnam, 2002; Edwards, 2003; Finkelhor et al., 2007; Hamby et al., 2010; McCloskey &Walker, 2000). Perpetrators often use "child abuse" or "child maltreatment" (the terms are used interchangeably here), including physical, emotional, psychological, or sexual abuse as a tool to control and intimidate their partner (Edelson, 1999).

Due in part to the context of the various forms or multiple incidents of IPV in the home, the co-occurrence of children's exposure to IPV and being the victim of child abuse or some other form of maltreatment is more common than once thought (Appel & Holden, 1998; Bedi & Goddard, 2007; Grych et al., 2000; Jouriles, et al., 2008; Kitzmann et al., 2003a). For example, Bedi and Goddard (2007) examined the relationship between the co-occurrence of IPV and child abuse and possible reasons for the intersection, as well as the prevalence of posttraumatic symptomatology in children exposed to IPV. They reported a co-occurrence rate of child abuse and IPV of approximately 55% and described IPV as a potential predictor of paternal and maternal child abuse. They also found that abused witnesses exhibit more social competence issues and behavioral

difficulties (e.g., externalizing or internalizing) than those who witnessed but were not directly abused. Wolfe et al.'s (2003) meta-analytic assessment also found that abused witnesses exhibit more emotional and behavioral problems.

Some research suggests that the combination of being exposed to IPV and being the victim of child abuse appears to increase behavioral or emotional difficulties for children at different stages of development, i.e., such as during adolescence, beyond those associated with exposure alone (Edelson, 1999). This research purports that children exposed to IPV as adolescents are at an increased risk for using violence themselves, whether solely as a result of the exposure or as an abused witness (Edelson, 1999). Holt, Buckley, and Whelan's (2008) literature analysis found evidence that not only is exposure to IPV a risk factor for deleterious outcomes, but consistent with earlier research findings (e.g., Bair-Merritt, Blackstone, & Feudtner, 2006; Bedi & Goddard, 2007; Litrownik et al., 2003; Margolin & Gordis, 2000), there is a significant link between children exposure and an adolescent's increased likelihood of abuse exposure.

Interpersonal childhood maltreatments are clearly associated with poorer mental or psychological health (Cohen, Perel, DeBellis, Friedman, & Putnam, 2002; Edwards, 2003; Finkelhor et al., 2007; Hamby et al., 2010; McCloskey &Walker, 2000). McCloskey and Walker (2000) investigated the dynamics of children exposed to IPV or other traumatic incidents and potential factors associated with their developing posttraumatic stress (PTSD) as well as comorbid forms of psychopathology. They analyzed data from a sample (N=337) of 6 to 12 year old children and their mothers recruited from battered women shelters and the community. Nearly 25% of the children's

sample was diagnosed with a posttraumatic stress disorder (PTSD). In addition to these pertinent findings on psychological trauma in this population, their research showed that nearly 50% of the children reported exposure to physical IPV incidents (e.g., mother's physical abuse by father). Child abuse perpetrated by the father was reported by 12%, and when researchers combined the data for both victims of physical IPV exposure and child abuse, 54% of the children sampled met the criteria for multiple interpersonal victimizations.

In the same vein, Bedi and Goddard (2007) found in their review of the literature that while partial PTSD symptomatology is more common, some children exhibit a full array of posttraumatic stress symptoms including traumatic hyperarousal, pervasive fear, increased hypothalamic-pituitary-adrenal axis function, mood problems, depressive symptoms, loneliness, elevated anxiety, low self-esteem, difficulties in school, aggression, and juvenile delinquency. Recent research also indicates that PTSD significantly affects children's psychological development, social functioning, and school accomplishments (Weems & Overstreet, 2008).

Risk or vulnerability factors (e.g., types or number of IPV exposure or child maltreatments, frequency, co-occurrences, etc.) for childhood violence victimization are well delineated in the literature and often interact with or are indicators for other adverse childhood experiences (e.g. poverty, parental substance abuse, parent's unemployment or psychopathology) that may heighten the impact of negative outcomes from exposure or abuse (Dube, Anda, Felitti, Edwards & Williamson, 2002; Luthar & Zigler, 1991; Margolin, 2000). On the other hand, protective factors that have emerged in the literature

are hypothesized to account in part for more positive psychosocial and psychological outcomes or adaptations of children who are exposed to IPV and are the victims of child abuse (Herrenkohl, et al., 2008; Luthar, Cicchetti, & Becker, 2000; Masten & Obradovic, 2006; Masten & Reed, 2002; Prince-Embury, 2006). Protective factors may also increase the likelihood of a victimized child becoming resilient (e.g., Herrenkohl et al., 2008), which sheds light on previous research and the previously noted broader resilience process.

Deleterious Effects of Interpersonal Violence Victimizations

IPV exposure is more likely to co-occur with other childhood interpersonal maltreatments than to occur alone (Bourassa, 2007; Finkelhor et al., 2007; Hamby et al., 2010). However, little is known about the co-occurrence of IPV exposure with other forms of maltreatment (except physical child abuse). What is known suggests that IPV exposure is significantly associated with other childhood emotional abuse and sexual abuse (Hamby, et al., 2010). For instance, Hamby and associates found that children exposed to IPV are three to nine times more likely to experience other interpersonal violence victimizations than children not exposed to IPV. As a result, it is theorized that many children who suffer multiple childhood traumas as the result of violence in the home experience an increase in symptoms, are assessed with more harmful conditions, and have more difficult to treat negative outcomes (Cohen et al., 2002; Edwards et al., 2003; Finkelhor et al., 2007; Hamby et al., 2010).

Researchers (e.g. Edwards et al., 2003; Finkelhor et al., 2007; Hamby et al., 2010; Vranceanu et al., 2007) also suggests that more knowledge is needed about potential interrelationships, such as cumulative or interactive effects among certain types or combinations of multiple forms of interpersonal childhood victimizations. Finkelhor and colleagues (2007) suggest that the increased deleterious mental health outcomes associated with multiple interpersonal maltreatments may be due to cumulative (i.e., number of adverse traumas) and interactions or interconnections between various maltreatment types. Important questions remain regarding differences related to children's age, ethnicity, or gender that may affect the structural relationship between maltreatment and potential negative psychosocial outcomes.

Moreover, an understanding of the mechanism that contributes to negative psychosocial outcomes facilitated by the development of trauma-related illnesses, such as PTSD in children, is an important consideration that warrants further research. Of particular concern are sometimes contradictory findings about traumatized children's various reactions to violence exposure, and whether these children are at increased risks for severe posttraumatic stress symptomatology (Finkelhor et al., 2007) including psychopathology, such as posttraumatic stress disorders if they have suffered multiple violence victimizations. Research could help close the above noted gaps in the literature, and address the inconsistent findings and enhance the understanding of key factors associated with victims' increased symptomatology (Bair-Merritt et al., 2006; Bedi & Goddard, 2007; Litrownik et al., 2003; Margolin & Gordis, 2000). Further research, such as the present study, is merited given the sparse evidence supporting pathways leading to

negative psychosocial outcomes in multiply maltreated children, which can limit specific targets for prevention and intervention efforts.

Also of interest are studies indicating that large numbers of children exposed to IPV do not show detrimental or negative adjustment outcomes (Eldeson, 1999; Fowler & Chanmugam, 2007; Kitzmann et al., 2003a; Margolin & Gordis, 2000; Masten, 2001). Researcher, Margolin & Gordis (2000) posit that environmental protective factors (e.g., child's secure attachment or relationship to the mother, the presence of other family or social support, adaptability, intelligence, positive self-esteem, coping strategies, etc.) mitigate the impact of exposure resulting in lower levels of problems or problems that do not rise to the level of a diagnosable condition. In particular, a child's level of behavioral and emotional strengths appears to help minimize negative outcomes and moderate the consequences of IPV exposure (Brown, Odom, & McConnell, 2008; Cox, 2006; Griffith, Hurley, Trout, Synhorst, Epstein & Allen, 2010). Thus, in addition to understanding various risk factors and related consequences, it is critical to understand the function of various hypothesized protective factors.

Significance of the Study

Child maltreatment researchers (e.g., Bourassa, 2007; Finkelhor, Ormrod, & Turner, 2007; Gewirtz & Edleson, 2007) suggest that studies should focus on the co-occurrence of IPV exposure and the various possible forms of abuse directed toward children (e.g., physical, emotional, or sexual abuse, neglect, etc.) rather than physical abuse alone. Limited information is available to determine whether cumulative maltreatments are associated with more deleterious mental health outcomes (Edwards,

2003). Researchers are also implored to focus on identifying protective factors (e.g., Grych et al., 2000) that may account for the variation in adaptation of children in violent homes. This study seeks to advance this body of knowledge.

A growing multidisciplinary body of research investigating these issues is beginning to shed light on psychological and neurological development problems in children associated with IPV exposure and child abuse, as well as the extent and nature of trauma symptomology (Bedi & Goddard, 2007; Kracke & Hahn, 2008; Lehmann, 1997). This study will extend the previous literature by examining the association between multiple interpersonal maltreatment types (IPV exposure, physical abuse, sexual abuse) and severity of PTSD symptomology while controlling for factors such as a child's age, ethnicity, and gender which may mitigate or enhance symptomatology. This study also evaluates the moderating or mediating role of child strengths in explaining the impact of certain numbers of maltreatment types experienced and their relationship to severity of PTSD symptomatology and/or behavioral and emotional difficulties, such as internalizing and externalizing psychosocial symptoms.

Such research may provide valuable evidence about the potentially modifiable health, behavioral, or social factors of children exposed to IPV, as well as potential pathways involving reactions to trauma related to factors of risk or resiliency (Lehmann, 1997, 2000; Margolin & Vickerman, 2007). Examining the relationship between multiple categories of interpersonal maltreatment types (e.g., IPV exposure, physical abuse, and sexual abuse) and whether or not certain protective influences mitigate psychological symptomatology is a nascent research area. Understanding the relationship of strengths

and competencies as related to a child's age, ethnicity, and/or gender can aid practitioners in assessing evaluating, and treating children at risk for emotional or behavioral problems (Griffith et al., 2010; Rawana & Brownlee, 2009; Rudolph & Epstein, 2000). According to Epstein (1999), prevention and intervention efforts that focus on emotional and behavioral strengths development contrasts with most deficit models of assessment and treatment because building strengths rather than focusing on deficits may enhance young children competencies and ameliorate psychiatric difficulties (Brown, Odom, & McConnell, 2008; Cox, 2006; Griffith et al., 2010).

In addition, applying a theoretical model such as a strengths perspective framework (Barksdale et al., 2010; Cox, 2006; Epstein et al., 2004; Friedman, et al., 2003; Griffith et al., 2010; Lyons et al., 2000; Oko, 2006; Oswald et al., 2001; Rudolph & Epstein, 2000) that is purported to identify processes through which such an augmentation effect unfolds (i.e., enhancing competencies while ameliorating risk), is anticipated to advance our understanding of how to better help children. Testing a posttraumatic stress symptomatology moderator mediational model wherein high or average emotional and behavioral strengths are projected to be associated with less PTSD symptomatology, and low emotional and behavioral strengths are predicted to be associated with more trauma symptomatology, is another important consideration the study will address. Very few studies have used a trauma moderator mediational model to investigate whether child strengths could be a key mechanism that ameliorates the development of severe PTSD symptomology. Moreover, to the best of the author's knowledge, whether a child's emotional and behavioral strengths act as a moderated

mediator of the relationship between multiple interpersonal childhood maltreatments and severity of posttraumatic stress symptomatology has not been studied to date.

Definitions of Key Concepts

As the knowledge base on IPV has grown, the terms and definitions associated with children exposed to IPV are beginning to be more conceptually and methodologically standardized (Bedi & Goddard, 2007; Carlson, 2000; Fowler & Chanmugam, 2007; Kitzmann et al, 2003a; Mohr et al., 2000). Researchers conceptualize and define child maltreatment as including child abuse such as physical, sexual, neglect and/or psychological abuse (Dubowitz & Bennett, 2007). The term co-occurrence refers to the combination of witnessing IPV and being the victim of child abuse, whereas child multi-type maltreatment (CMM) is defined as concurrent exposure to multiple forms of victimizations (Finkelhor et al., 2007; Hamby, et al., 2010). Multi-type child maltreatment includes physical, emotional, psychological, or sexual abuse, etc., often in combinations of two, three, four or more abuse types (Finkelhor et al., 2007; Hamby, et al., 2010).

Risk or vulnerability factors denote various environmental deficits that increase the probability of children's exposure to IPV or child maltreatments and in theory may help explain unique outcomes for different children (Carpenter & Stacks, 2009; Evans et al., 2008; Luthar & Zigler, 1991; Wolf et al., 2003). These factors often interact with or are indicators of other adverse childhood experiences (e.g., poverty, child abuse, substance abuse, mental illness, and parent's unemployment or psychopathology) that

may heighten the impact of negative outcomes from exposure (Dube, Anda, Felitti, Edwards & Williamson, 2002; Margolin, 2000).

In contrast to risk or vulnerability factors, protective factors, such as a supportive adult, extracurricular activities, older sibling, or peer support, are environmental assets that may lessen the impact of violence exposure (Masten & Reed, 2002). The term resiliency also denotes a type of adaptation or protection that helps children cope with a major adversity (Luthar, Cicchetti, & Becker, 2000; Masten & Obradovic, 2006). Conceptually resiliency refers to internal mechanisms or personal attributes such as intelligence, high self-esteem, or amicable temperament (Prince-Embury, 2006), while broader understandings of resiliency also consider environmental and interpersonal factors. For example, according to Greene and associates (2002), a variety of theories of human behavior relevant to social work practice delineated in the research literature indicate that resiliency often consists of a balance or interplay between a combination of risk and protective factors that individuals experience and their broader environment. Moreover, these authors note that a synthesis of various resiliency theories indicates that protective factors in particular aids one's resiliency development and at the same time ameliorate the impact of risk factors.

Internalizing and externalizing symptoms are terms frequently used to denote a wide variety of behavioral, social, and emotional difficulties that may result from IPV exposure (Achenbach & Edelbrock, 1983; Achenbach, 1991; Carlson, 2000; Evans, 2008; Fantuzzo et al., 1991; Fowler & Chanmugan, 2007; Kitzmann et al., 2003; O' Keefe, 1992; 1996). Children exposed to IPV whose difficulties include inhibited, withdrawn,

depressed, anxious, and fearful behaviors exhibit patterns of internalizing behaviors, while children's aggressive, angry, disobedient, defiant, argumentative, hostile, and antisocial behaviors are classified as externalizing behaviors.

Moderating and mediating variables are also important to understanding how IPV exposure may impact internalizing and externalizing outcomes. Researchers have investigated the effects of potential mediator or moderator variables on internalizing and externalizing behaviors, but they have not consistently defined or used moderators and mediators in studies. The simplest and most consistent definition discovered in the literature suggests that mediating factors help clarify or explain the relationship between IPV exposure and its harmful effect on children (Carlson, 2000; Margolin, 2000). For example, when considering the relationship between IPV exposure and internalizing behaviors a child may exhibit, disrupted parenting (e.g., having a depressed caregiver) might be a mediating variable. Studies indicate, for example, that this often studied mediator variable can explain the association between IPV exposure and internalizing behaviors (Carlson, 2000; Kitzmann et al., 2003). This means that once the effect of disrupted parenting is removed or controlled, the relationship between IPV exposure and internalizing behaviors is lessened or no longer exists.

Moderators include hypothesized factors that researchers (e.g., Kitzmann et al., 2003a; Luthar & Zigler, 1991) believe influence the direction or strength (e.g., buffering effect or amplifying/ vulnerability effect) of the association between violence exposure (i.e., independent variable) and a child's response to the exposure (i.e., dependent variable). Age is a frequently investigated moderator variable suggesting that a stronger

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association exists between IPV exposure and negative psychosocial outcomes for younger children than that for older children (Kitzmann et al., 2003). Age is also a characteristic that appears to moderate children's responses to IPV, thereby affecting study results (e.g., effect size) due to its buffering effect or interaction between the two other variables (e.g., IPV and interpersonal maltreatment exposure and negative psychosocial outcomes). Further, researcher's (e.g., Rose, Holmbeck, Coakley, & Franks, 2004) posit that depending upon a study's research aim the same variable can function as a mediator (i.e., a variable is influenced by a predictor variable and then it influences the outcome variable) or function as a moderator (i.e., predicator variable significantly effects the outcome variable at certain levels of the moderator variable) or both. Important moderators, mediators, and potential moderated mediators (e.g., mediator effect that is sequentially moderated by another variable) of IPV exposure are further defined and discussed in subsequent sections of this paper.

Study Variables and Research Questions

The variables for the study are: 1) number of child's interpersonal violence maltreatment types experienced (0, 1, 2, and 3) status as a predictor variable; 2) child's age, ethnicity, and/or gender status are potential moderator variables; 3) child's behavioral and emotional strengths status is a mediator variable child's severity of posttraumatic stress symptomatology status, total behavioral and emotional difficulty symptom scores, and child's behavioral and emotional strengths are dependent variables assessed. A moderated mediational model (i.e., path analysis without latent variables model) will also be tested utilizing number of maltreatments types experienced as the

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predictor variables, child's strengths variable the mediator, child's demographic characteristics the potential moderator variables, and child's severity of posttraumatic stress symptomatology or behavioral and emotional difficulty status as the outcome variables of interest.

Thus, to investigate factors that concurrently influence the development of severe posttraumatic stress symptoms in children exposed to multiple interpersonal maltreatments, this study will examine the relationship between the number of types of interpersonal child maltreatments experienced (0, 1, 2, and 3), child's strengths and severity of PTSD symptomatology and behavioral and emotional difficulty status across age, ethnicity, and gender groups to determine the following research aims:

Research Question 1: Does the type or combination of interpersonal violence maltreatments types (None, IPV exposure, physical abuse, and/or, sexual abuse) children experience increase their posttraumatic stress symptomatology and/or behavioral and emotional difficulty symptoms?

Research Question 2: Does the total number of interpersonal violence maltreatments types (0, 1, 2, and 3) children experience affect their posttraumatic stress symptomatology and/or behavioral and emotional difficulty symptoms?

Research Question 3: Does a child's age, gender, and/or ethnicity affect their posttraumatic stress symptom and/or behavioral and emotional difficulty symptoms?

Research Question 4: Does a child's age, gender, or ethnicity affect their behavioral and emotional strength scores and are posttraumatic stress and/or behavioral and emotional difficulty symptoms significantly different for children with different behavioral and emotional strength levels?

Research Question 5: Is there a relationship between the study participants' demographic characteristic (age, ethnicity and/or gender) and the dependent variables of child's posttraumatic stress, behavioral and emotional difficulty symptoms, and behavioral and emotional strengths?

Research Question 6: Do study participants who experienced a certain number (0, 1, 2, and 3) of maltreatments types demonstrate more severe posttraumatic stress and/or behavioral and emotional difficulties symptoms and does age, gender, and/or ethnicity moderate the relationship?

Research Question 7: Is there an association between the number of maltreatments types experienced (0, 1, 2, and 3) and the children level of behavioral and emotional strengths and do age, gender, and/or ethnicity moderate the relationship?

Research Question 8: Is there a relationship between the study participants' behavioral and emotional strengths and the dependent variables of child's posttraumatic stress and

behavioral and emotional difficulty symptoms and does age, gender, and/or ethnicity moderate the relationship?

Research Question 9: Do children's emotional and behavioral strengths mediate the relationship between the number of maltreatments types they experienced (0, 1, 2, and 3) and the severity of their posttraumatic stress and/or behavioral and emotional difficulty symptoms?

Research Question 10: Do children's demographic characteristics (age, gender, and/or ethnicity) moderate the proposed mediated relationship between the number of maltreatments types they experienced and their behavioral and emotional strengths?

Study Purpose

The study is an exploratory and theoretically based analysis that examines the relationships between the number of interpersonal maltreatments violence exposed children experienced (0, 1, 2, and 3), their behavioral and emotional strengths, and the severity of posttraumatic symptomatology and/or or behavioral and emotional difficulty symptoms they exhibit. The study's overarching purpose is to investigate factors that concurrently influence the development of severe posttraumatic stress symptoms in children exposed to multiple interpersonal maltreatments. The study was also designed to investigate the extent to which the numbers of interpersonal maltreatments types are associated with posttraumatic stress disorder development (e.g. Edwards, 2003) by

exploring the interrelationships among correlates hypothesized to impact the severity of posttraumatic symptomatology (Finkelhor et al., 2007).

In fact, no previous study to the author's knowledge exists which addresses possible interrelationships among victimization types and the often resulting severe childhood traumas, and their impact on a victimized child's mental health. There is also an insufficiency of theory underpinning potential risk and protective factors associated with the interpersonal multi-maltreatment phenomenon. As a result, this study also assesses whether a child's behavioral and emotional strengths function as a mediator in the relationship between the number of interpersonal traumas experienced (i.e., in comparison to non-interpersonal traumas) and overall trauma symptoms.

A child's strengths is analyzed here as a mediator because (1) prior research suggest that a significant negative association exist (i.e., strengths increase and clinical or functional impairments decrease) between a child's strengths and their negative mental health status (e.g., Barksdale et al., 2010; Oswald et al., 2001; Walrath et al., 2004) signifying that a child's strengths level directly impacts the outcome criterion and therefore could possibly account for the relationship between the stressor predictor and negative symptomatology dependent variable, (2) based on the current data the proposed analytic model, i.e., path analysis model and the hypothesized directly and indirectly influence between variables makes clinical and theoretical sense, and (3) the different trauma exposure experiences is hypothesized to impact a study participants strengths (i.e., acquire more strengths). Such as purported by researchers (e.g., Barksdale et al., 2010; Lambert, et al., 2005) who suggest that cultural values, beliefs, and/or cohesive ethnic

identity may help explain why some ethnic minority youths have higher strengths and less functional impairment in comparison to Caucasian youth studied as well as findings that suggest even the most severely emotionally impaired children have strengths (Barksdale et al., 2010; Oswald et al., 2001; Walrath, Mandell, et al., 2004).

Thus, this study's goal is to expand on the above findings and earlier research (e.g., Kitzmann et al., 2003) on resiliency or protective factors (e.g., childhood emotional and behavioral strengths) theorized to exist in children who do not exhibit negative outcomes associated with childhood violence victimization. Researchers such as Kitzman et al.(2003) report that nearly 40% of their sample of children exposed to IPV exhibited more positive outcomes that non-exposed sample of children. It is important that strong, empirically supportable conclusions about such protective factors and processes be established further.

As the research in this area is sparse, this study also seek to expand upon an emerging body of literature by examining the important moderational and/or mediational pathways of protective factors that promote resiliency and are hypothesized to impede the development of severe PTSD symptomatology (Brown, Odom, & McConnell, 2008; Cox, 2006; Griffith et al., 2010). The lack of empirical and theoretical work in this area has limited the understanding needed to develop prevention and intervention efforts that will reduce the development of PTSD and related psychological distress in children victimized by co-occurring IPV exposure and child maltreatment or abuse. Since the study is exploratory, findings presented are a beginning intended to suggest additional hypotheses for testing in future studies.

Utilizing Baron and Kenny's (1986) moderator and mediational models path analysis diagrams, the relationship among the numbers of maltreatment types experienced, child's behavioral and emotional strengths and severity of posttraumatic stress symptomatology or behavioral and emotional difficulties as proposed in this study are depicted in Figures 1, 2, 3, and 4 below. The overarching moderated mediation model path analysis diagram (Preacher, Rucker & Hayes, 2007) depicted in Figure 5 identifies how the potential mediating effects of emotional and behavioral strengths and potential moderating effect of a child's gender, age, or ethnicity status affect the relationship between exposure to child multiple interpersonal maltreatments (IPV exposure, physical, or sexual abuse) and posttraumatic stress symptom severity or behavioral and emotional difficulty scores. This model is further informed by the attachment and developmental psychopathology frameworks in explaining the impact of the co-occurrence of IPV exposure and multiple maltreatment types on victimized children.

In that, an insecure or disorganized attachment is associated with maltreatment and subsequent psychiatric disorders (e.g., Kearney, 2010), and a combination of IPV exposure and multiple maltreatment types increases a child's vulnerability of risk to psychological and behavioral development issues (Gewirtz & Edleson, 2007; Margolin & Gordis, 2000; Pervanidou & Chrousos, 2007; Wolf & Jaffe, 1991). The hypothesized moderated mediational model relationship between the co-occurrence of IPV exposure and the number of maltreatment types and emotional and behavioral strengths is also informed by the strengths perspective framework which indicates that strengths are understudied protective factors that may reduce negative outcomes (e.g., internalizing

and externalizing behaviors) and could be a key mechanism that ameliorates the development of severe PTSD symptomology (Epstein & Sharma, 1998; Herrenkohl, et al., 2008; Oswald et al., 2001).

It bears mentioning that the path analysis models depicted below are the hypothesized models (based on theory and past research) and that various statistical analyses utilizing multiple dependent variables (1) posttraumatic stress symptoms, (2) total behavioral and emotional difficulty symptoms, and (3) behavioral and emotional strengths of the data will be assessed to see if the models were supported. The models depicted in the results section are the final models supported by the data.

Figure 1: Hypothesized path analysis Moderator Model of age, ethnicity, and/or gender on the relationship between number of maltreatment types experienced by the child (Baron & Kenny, 1986)
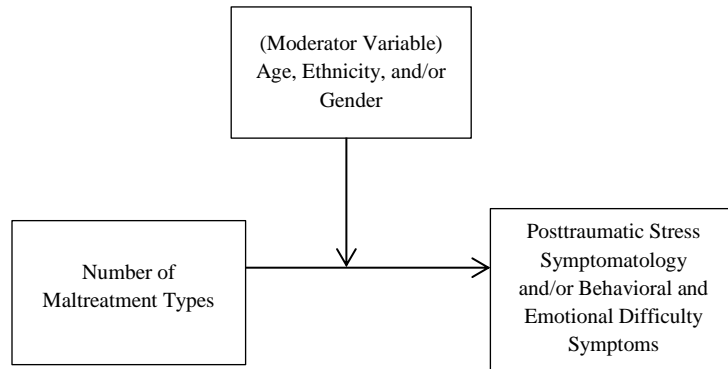
Figure 2: Hypothesized path analysis Moderator Model (Baron & Kenny, 1986) of age, ethnicity, and/or gender on the relationship number of maltreatment types experienced and children behavioral and emotional strengths**.**
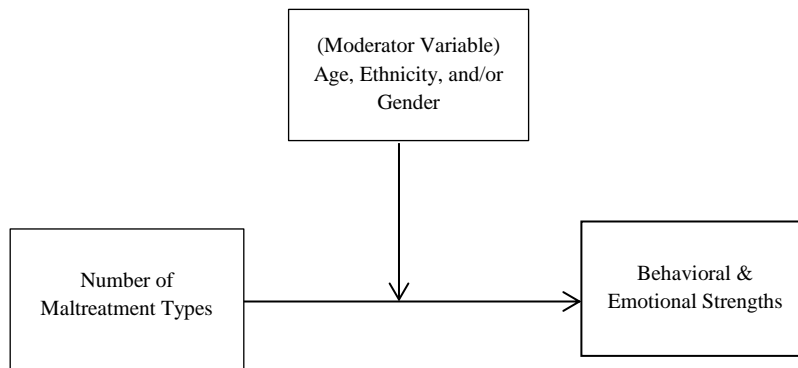
Figure 3: Path analysis moderator model between study participant's strengths, posttraumatic stress and/or behavioral and emotional difficulties and potential demographic characteristics as moderators (N = 91)
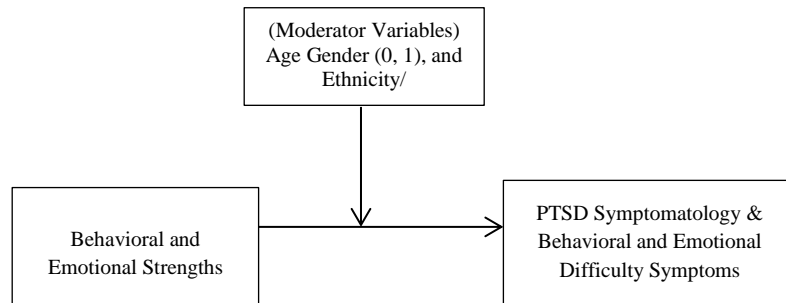
Figure 4: Hypothesized path analysis Mediator Model (Baron & Kenny, 1986) of the associations among number of maltreatments, child's strengths, and severity of psychosocial outcome.
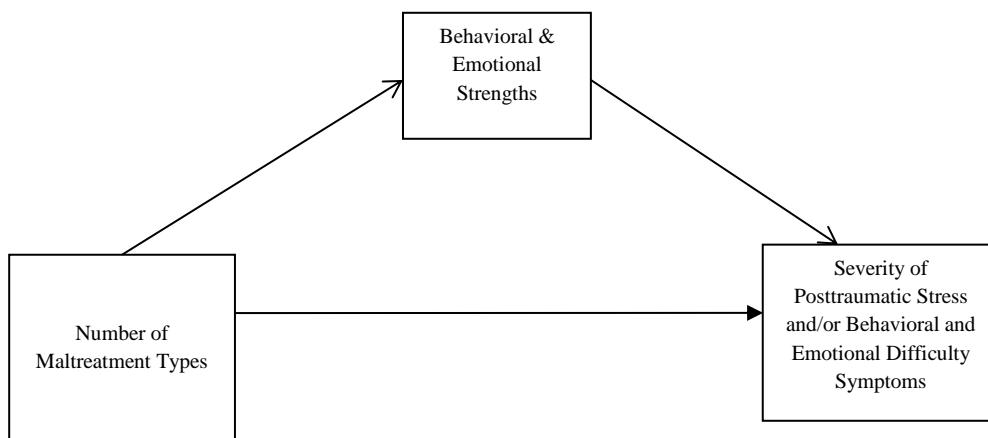
Figure 5: Hypothesized path analysis Moderated Mediation Model (Preacher, Rucker & Hayes, 2007) for assessing the presence, strength, and significance of conditional indirect effects. Behavioral and emotional strengths mediational effects are hypothesized to be moderated by child's age, ethnicity and/or gender.
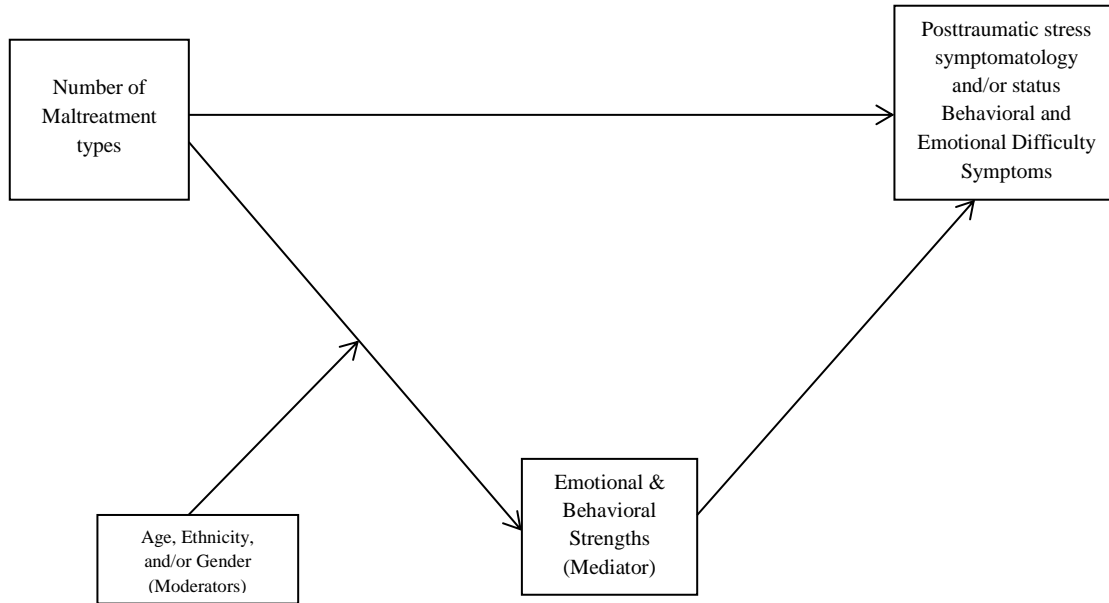
CHAPTER II: Literature Review

Intimate Partner Violence

The intimate partner violence (IPV) literature can be traced to Gelles's (1974) pioneering examination of the origins of wife abuse. IPV is also referred to as spousal battering, domestic violence, spousal abuse, marital violence, interpersonal violence, and, more recently, mother assault, partner violence, or relationship abuse (Lehmann, 1997, 2000; Moretti, 2006). The term "intimate partners" generally denotes domestic unions including parents, stepparents, and cohabitating couples, as well as current or previously dating partners. While researchers recognize that women may also perpetrate intimate partner violence (e.g., female-to-male, wife-to-husband, or mother-to-father violence), and that partners may be abusive to each other, most prior research has focused on violence perpetrated by males to females (Carney, Buttell & Dutton, 2007; Jouriles, McDonald, Norwood & Ezell, 2001; Straus & Gelles, 1986, 1990).

The present study focuses on the effects of IPV on children and defines IPV as those acts of violence that occur between heterosexual partners, including those in a current relationship as well as those who were previously intimate. IPV includes a range of physical, psychological, sexual, and emotional maltreatment (including threats, stalking, or intimidation) of one partner against the other (Kellermann, Fuqua-Whitley, Rivara, & Mercy, 1998; Acosta, Albus, Reynolds, Spriggs, & Weist, 2001; APA, 2006; CDC, 2006).

Developed countries report IPV prevalence rates of around 25% (Bedi, 2007). In the United States an estimated 30% of women are victimized by IPV over their lifetime

with past years incidence rates placed at 0.8% to 1.8% (Bachmann & Saltzman, 1995; Gelles & Straus, 1988; Pagelow, 1984; Tjaden & Thoennes, 1998, 2000; Zolotor, 2009). Annually, approximately 4.8 million women in the Unites States experience serious assault by an intimate partner, and females aged 20 to 34 were at the greatest risk of nonfatal intimate partner violence (U.S. Department of Justice, 2004). IPV is the leading cause of homicides during pregnancy (Frye, 2001; Tjaden & Thoennes, 2006). Since IPV prevalence estimates vary depending on the source, the exact number of children exposed to violence has been difficult to ascertain (Blair-Merritt, Holmes et al., 2008; Carlson, 2000; Fantuzzo, Boruch, Beriana, Atkins, & Marcus, 1997;Fantuzzo & Fusco, Mohr & Perry, 2007; Fantuzzo, Mohr, & Noone, 2000; Grych et al., 2000; Jouriles et al., 2001; Wolfe et al., 2003). In the general U.S. population, Bair-Merritt and colleagues (2008) posited that prior to 2000, IPV prevalence estimates differed on a magnitude ranging from under 1% to over 10%.

Children Exposed to IPV

Nearly 25 years of research suggests that a substantial number of children (e.g., 3.3 million to 17.8 million annually) in the United States are exposed to violence between intimate partners each year (Carlson, 1984; 2000; Fantuzzo & Mohr, 1999; Holt, Buckley & Whelan, 2008; Jouriles et al., 2001; Margolin & Gordis, 2004; Osofsky, 2003; Silvern, 1998). In the quest to name and define the phenomena of the experiences of children living in violence ridden homes the term "witness," came to refer to a child who was a direct eyewitness of adult domestic violence in the home. (Barnnett et al.1997; Edleson, 1999; Jaffe, Wolfe, & Wilson, 1990; Wolfe, Jaffe, Wilson, & Zak, 1985).

Over time, the term "witnessing" also came to include a broad range of ways children may witness violence including seeing incidents of slapping, shoving, pushing, hitting, kicking, etc. (Henning et al., 1996; O'Keefe, 1994). Though it appeared that some clarity or agreement was established on terminology denoting children witnessing violence in the home, Holden (1998) and others argued that "exposed" to violence rather than "witnessing" violence was the most correct term because it captured a wider range of children's experiences. Researchers such as Ganley and Schechter (1996), Edleson (1999), Holden (1998), and Bancroft and Silverman (2002) argued that, in addition to seeing a violent exchange between parents, children may be exposed by (1) overhearing the violent episode occurring, (2) seeing physical signs that violence has taken place, 3) experiencing the emotionally charged aftermath, 4) being used, threatened, or physically hurt by the perpetrator, and (5) hearing innuendos or lies from the perpetrator that threaten the mother-child relationship.

More broadly, exposure may be defined as a child intervening in the altercation, being aware of the aftermath, and being abused, as well as directly witnessing physically violent incidents against the mother (Carlson, 2000; Edleson, 1999; Evans, Davies, & Dilillo, 2008; Holt, Buckley, & Whelan, 2008; Kitzmann et al., 2003a; Litrownik et al., 2003). Such a definition would invariably include observations and data that may indicate that perpetrators often control and intimidate their partner by perpetrating violence against them in front of their children, and by abusing their child physically, emotionally, psychologically, and/or sexually (Edelson, 1999).

A more inclusive definition would also illuminate emerging evidence suggesting that children exposed to violence and who are physical abused themselves have more negative outcomes, particularly externalizing behaviors, than those who experience only exposure (Baldry, 2007). Although some progress has been made in delineating terms and definitions associated with children exposed to IPV, the process continue to evolve due to limited conceptual and methodological standardizations (Fantuzzo & Lindquist, 1989; Carlson, 2000; Mohr, Lutz, Fantuzzo, & Perry, 2000; Kitzmann et al., 2003a; Fowler & Chanmugam, 2007; Bedi & Goddard, 2007).

Drawing on emerging conceptualizations and definitions of children who have been exposed or witnessed violence, this study delineates violence in the home impact across two complex, but interrelated domains: (1) IPV exposure or child witnesses, and (2) IPV exposure and abused witnesses (i.e., children exposed to parental abuse who are also victims of child abuse or maltreatment).

Prevalence of Children's Exposure to IPV

Researchers are just beginning to conduct systematic research on children exposed to IPV. They suggest that children are exposed to approximately 50% to 80% of the violence in households between intimate partners (Carlson, 2000; Crooks, Lee, McIntyre-Smith, & Jaffe, 2003; Edelson, 1999; Fantuzzo et al., 1997; Fantuzzo & Fusco, 2007; Fantuzzo et al., 2007; Fantuzzo, Mohr, & Noone, 2000; Grych et al., 2000; Wolfe, Hutchinson & Hirschel, 1998). The public policy agenda and reforms responsible for the Violence Against Women Act (VAWA) of 1994 and the Child Abuse Prevention and Treatment Act (CAPTA) of 1974 (including related amendments) are attributable to a

sound research base focused on populations considered "direct victims" of family violence and abuse (DHHS, 2009; Jaffe, Crooks, & Wolfe, 2003; Rossman, 1994).

In the absence of scientifically derived prevalence data on children exposed to IPV, early prevalence figures consist mainly of estimates extrapolated from census data and family violence databases available at the time (Fantuzzo, Boruch et al., 1997; Fantuzzo, 1999; Fantuzzo et al., 2007; Jouriles et al., 2001; Osofsky, 2003). **Table 1** highlights in chronological order and by category data on IPV prevalence rates and the number of children exposed to familial violence. Although not exhaustive of all studies a review of the research suggests that many of the prevalence estimates of children exposed to IPV are derived from four variant categories of studies: (1) estimates extrapolated from studies investigating violence between couples, (Bair-Merritt et al., 2008; Greenfield et al., 1998; McDonald et al., 2006; Moore et al., 2007; Straus & Gelles, 1990; Straus, Gelles, & Steinmetz, 1980; Tjaden & Thoennes, 1998); (2) estimates obtained from youth and adults' retrospective accounts of violence between their caregivers (Felitti et al., 1998; Feerick & Haugaard, 1999; Henning et al., 1996; Straus, 1974; Silvern et al., 1995); (3) estimates obtained from data based on families reported to child protection, police, or domestic violence shelters (Fantuzzo et al., 1997; Fantuzzo et al., 2007; Fantuzzo & Fusco, 2007; Gjelsvik et al., 2003; Hazen et al., 2004; Lehmann, 1997) ; and (4) estimates reported by researchers investigating children exposure to multiple violent events or children sampled who are endemic to IPV exposure (Finkelhor et al., 2009; Kilpatrick, Saunders, & Smith, 2003; McCloskey, Figueredo, & Koss, 1995; O'Brien, John, Finkelhor, Omrod, Turner, & Hamby, 2005; Zinzow et al., 2009).

Table 1. Categorized Prevalence Data Estimates of Children Exposed to IPV

Category of Estimates

Author/Year	Sample	Method	Results
Studies investigating violence between couples			
Straus, Gelles, & Steinmetz, (1980)	2,143, currently married or cohabiting persons and children 3-17 years of age	The 1975 National Family Violence Survey (NFVS) (Telephone survey)	3.3 million children each year witness incidence of violence between intimates.
Straus & Gelles, (1990)	3,520, two adult household, married, or cohabiting, divorced; 1,428 households with child 3-17 years of age	The 1985 National Family Violence Re-survey (Telephone survey)	10 million children a year witness mild to severe violence between male and female household partners.
Greenfield et al., (1998)	40,000 households, current or former intimate partners, 12 years and older	The National Crime Victimization Survey (NCVS) (Telephone survey)	19.3 per 1,000 women (1993) and 7.5 per 1000 women (1996). 50% of the households of battered females included children younger than 12 years of age.
Tjaden & Thoennes, (1998)	8,000 females and 8,005 males, 18 years and older	The National Violence Against Women (NVAW) Survey (Telephone survey)	1.5 million females and 834,700 males experience intimate violent incidences annually. Female, lifetime prevalence rate 25.5%. Retrospective accounts of child abuse reported by 52% of female sample.
McDonald & Jouriles, (2006)	1,615 married or cohabiting couples	Face-to-face interviews	21.45% of sample report partner violence, 8.64% report severe partner violence; 15.5 million U.S. children exposed to IPV and 7 million exposed to severe partner violence.
Moore et al., (2007)	99,660 observations , children 0 to 17 years of age	The 2003 National Survey of Children's Health (Telephone survey)	Prevalent rates reported 41.8% total violence exposure; 31.5% heated disagreements and 10.3% report violent disagreements. 15.1% Black households, 12.1% Hispanic, 8.6 % White.
Bair-Merritt et al., (2008)	6,836 predominately married women	Telephone survey	1 in 63 children live in violent homes; IPV annual prevalence rate general population 1.2%

Table 1, cont.

Category of Estimates Author/Year	Sample	Method	Results
Studies reporting youth and adult retrospective accounts			
Straus, (1974)	385 first year college students	Anonymous questionnaires	16% of the sample exposed to violent incidences between their parents during last year in high school.
Silvern et al., (1995)	550 college students	Survey	37% sample report accounts of childhood exposure to IPV; Females reported 41.1 % and males reported 32.3%; Data represent 17.8 million children exposed.
Henning et al., (1996)	617 women only	Interview	32% of the sample report retrospective accounts of IPV exposure; 40% report male-to-female and 28% report female-to-male.
Feerick & Haugaard (1999)	313 women only	Questionnaire	9 % of sample report exposure to violence between parents
Felitti et al., (1998)	9,508 patients registered with large HMO	Adverse Childhood Effects (ACE) study (Questionnaire)	52% sample exposed to violence in general; 12.5% report exposure to IPV; 6.6% report repeated incidences; 3.0% report severe violence.
Estimates from child protection, police, or domestic violence shelters data			
Fantuzzo et al., (1997)	2402 female (17 to 90 years old) victims of IPV in five major cities (Atlanta, Charlotte, Miami, Milwaukee, and Omaha)	The Spouse Assault Replication Program (SARP) database containing police substantiated reports on IPV crimes	Children exposed to IPV nearly 50% of the time; Children sampled occupy twice the number of homes where IPV occur compared to general population; Children less than 5 years of age exposed to more severe violence; Children sampled at heightened risk for child abuse.
Lehmann, (1997)	84 children (9 to 15 years of age) under CPS or residing in a battered shelter	Interview	Sample exposed to 59 or more incidences of IPV towards their mother annually; 68% exposed for a period of 4 years.

Table 1, cont.

Category of Estimates Author/Year	Sample	Method	Results
Gjelsvik et al., (2003)	10,766 incidents full sample; 2751 children (1998 data) included in age analysis	The Rhode Island Department of Health Violence Against Women Public Health Surveillance System containing police officers substantiated surveillance reports	47% of the children exposed to IPV less than 6 years of age; 44% of the violent encounters included one child present on average; minority children exposed to violent episodes of IPV more often than non-minority children.
Hazen et al., (2004)	3,612 female caregivers, child protective services sample	The National Survey of Child and Adolescent Well-Being (NSCAW) (Interview)	44.8% of sample report lifetime rate of IPV; 29.0% previous year
Fantuzzo et al., (2007) and Fantuzzo & Fusco, (2007)	5,295 substantiated incidences of IPV	The Domestic Violence Event Protocol (DVEP) database containing police substantiated reports on IPV crimes	Children exposed to 50% on IPV responded to by police (80% of these children directly exposed); disproportion of households with IPV included a low-income, single, minority female; 58% of children younger than 6 years d directly exposed to IPV incidents

Studies directly sampling children exposed to multiple violent events

O'Brien et al., (1994)	181 children from 8 to 11 years old	Interview	25% (1 in 4) of the children sample report exposure to the violence directed towards the mother or father
McCloskey, Figueredo, & Koss, (1995)	365 children from 6 to 12 years of age and parents living in community or battered women's shelter	Interview	50% of adult females sample report severe IV; 50% of children sampled report exposure to severe IPV
McCloskey & Walker, (2000)	337 children from 6 to 12 years old and parents recruited from community or shelter	Interview	24.6% of sampled diagnosed with PTSD; 50% of children report physical IPV exposure; 12% report child abuse by male caregiver; 54% of sample victims of both exposure and child abuse combined

Table 1, cont.

Category of Estimates Author/Year	Sample	Method	Results
Hurt et al., (2001)	199 African American children 7 years of age	Longitudinal study data (Interview)	28% of the sample report physical IPV between adults in their household; 10% report severe IPV
Finkelhor et al., (2005)	2,030 children from 2 to 17 years old	The Developmental Victimization Survey (Interview)	71% of the sample experienced at least one of the violent events categorized
Finkelhor et al., (2009)	4, 549 children from infant to 17 years old	The National Survey of Children Exposure to Violence (NatSCEV) (Interview)	60.6% of the children report violence exposure (multiple types) in the past year; 10.2 % report child maltreatment by a caregiver; 10% of sampled children exposed to IPV; children 10 to 13 years old most likely to be exposed to IPV; children of both genders were exposed to IPV by an equal percentage; 16.3 % is average childhood lifetime exposure to IPV percentage rates for entire sample; 34.6% lifetime rate for the children 14 to 17 years of age.
Zinzow et al., (2009)	3, 614 children from 12 to 17 years old	Interview	9.8% of the sample exposed to IPV in contrast to 37% of adolescents exposed to community violence; data represents 9.6 million adolescents in US exposed to community violent incidents and 2.3 million exposed to IPV incidents

Etiology of IPV Exposure on Children

A majority of the evidence that suggests exposure to violence in the home contributes to a myriad of negative symptomatology in children is attributed to 'first' and 'second'generation empirical investigations conducted in the 1980s and 1990s respectively (Graham-Bermann, 1998). Increased research on this issue in the past 20 years has advanced this body of knowledge beyond mere descriptive or narrative dichotomization to the use of an array of sophisticated research techniques capable of discerning contextual factors, such as indirect effects on children resulting from parental stress or depression (Bedi & Goddard, 2007; Margolin & Gordis, 2000).

Today the proliferation of research on children exposed to IPV shows that while no simple cause and effect relationship has been confirmed (Jouriles, Vincent, & Mahoney, 1996), exposure is associated with negative physical , biological, behavioral, emotional, cognitive and social adjustment problems (Bair-Merritt, Blackstone, & Feudtner, 2006; Bedi & Goddard, 2007; Carlson, 1984; Carlson, 2000; Edelson, 1999; Clements et al., 2008; Rhoades, 2008; Fowler & Chanmugam, 2007; Graham-Bermann & Seng, 2005; Grych, 2000; Kitzmann, Gaylord, Holt, & Kenny, 2003a; Margolin & Gordis, 2000; Porter & O'Leary, 1980; Straus, Gelles, & Steinmetz, 1980; Wolfe, 1991; Wolfe et al., 2003; Ybarra & Wilkens, 2007; Zolotor, 2009). Various studies comparing child witnesses and non-witnesses show that partner violence negatively affects children, and the evidence linking adverse health outcomes and IPV exposure is mounting. To better understand the complexities of IPV exposure on child witnesses, including possible causal mechanisms, researchers are employing systematic techniques, such as literature

reviews and meta-analyses that are helping to guide future research design, aid in the

refinement of theories, and discern previously unknown complexities about the issue

(Bedi & Goddard, 2007; Carlson, 2000; Chan & Young, 2009; Davies, 2005; Edelson,

1999; Evans et al., 2008; Fowler & Chanmugam, 2007; Holt, Buckley & Whelan, 2008;

Kitzmann et al., 2003a; Kracke & Hahn, 2008; Margolin & Gordis, 2000; Rhoades,

2008). **Tables 2** and **3** provide syntheses of the key selective findings of quantitative

analyses published of six literature reviews and six meta-analyses from 1999 to 2009 on

the psychosocial outcomes of children and adolescents exposed to IPV, risk or protective

factors that mediate or moderate the effects of that exposure, and evidence of PTSD

symptomatology.

Effects of IPV Exposure on Children

Research evidence that IPV exposure is a risk factor for deleterious psychosocial

outcomes is conclusive. **Tables 2** and **3** show that children exposed to IPV exhibit a

variety of behavioral problems (e.g., aggressive, antisocial, inhibited behaviors),

emotional problems (e.g., depression, trauma symptoms, temperament problems), and

cognitive functioning problems (e.g., attitude, academic abilities, etc.) compared to

children not exposed (Bair-Merrit, Blackstone, & Feudtner , 2006; Carlson, 2000;

Edelson, 1999; Fowler & Chanmugam , 2007; Holt, Buckley, &Whelan, 2008; Kitzmann

et al., 2003a; Wolfe et al.,2003). Carlson (2000) reports that immediate reactions

(emotional distress, anger, fear, anxiety, and desire to intervene), short-term reactions

(aggression, disobedience, noncompliance, hostility and oppositional behavior, fearful,

inhibited or over controlled behavior, academic performance, and social problems), and

Table 2. Reviews of the Literature: 1999-2009

Author/Year	Total # of studies	Outcomes Assessed/ Potential Mediators or Moderators	Selective Results
Edelson (1999)	N = 31	Behavioral and emotional functioning Cognitive functioning and attitudes Long-term development problems/ Co-occurrence, Age, Gender, Race, Time elapse, parental stress factors, resiliency factors	An association exists between children's IPV exposure and a variety of behavioral problems. Also, childhood exposure to IPV can result in long term problems (e.g., criminal behaviors, substance abuse, partner violence, etc.). Age, child's use of positive coping strategies, and relationship with mother appear to moderate exposure to IPV.
Carlson (2000)	N = NR*	Immediate, short-term and long term effects of IPV exposure, internalizing and externalizing behavioral problems, Cognitive effects, PTSD effects.	Age, gender, co-occurrence and nature of discord moderate child's response to IPV exposure and PTSD development, disruptive parenting and the lack of positive coping strategies mediates exposure. Also, adult long-term adjustment problems are common.
Margolin & Gordis (2000)	N = NR*	Internalizing and externalizing problems, peer problems, negative cognitive, PTSD and developmental psychobiological effects.	Anxiety, depression, or PTSD symptoms common initial reactions to IPV exposure. Co-occurrence of various violence exposure incidents common.
Bair-Merrit, Blackstone, & Feudtner (2006)	N = 22	Negative physical health outcomes related to childhood IPV exposure.	Children exposed to IPV more likely to be under immunized and exhibit increased risks for adolescent risk-taking behaviors.
Bedi & Goddard (2007)	N = NR*	Social competence, behavioral problems, co-occurrence of IPV and child abuse, posttraumatic symptomatology (e.g., fear, mood problems, etc.)	Partial PTSD symptomatology common in population of children exposed to IPV. Abused witnesses exhibit more social competence and behavioral difficulties. Parent's emotional and mental state and child's depression or empathy level potentially mediate IPV exposure.
Holt, Buckley, & Whelan (2008)	N = NR*	Emotional and behavioral problems, Co-occurrence (e.g., IPV and physical or sexual abuse), potential mediators (e.g., relationship with mother)	Children's reactions to IPV exposure are diverse and long-term difficulties associated with exposure are common. Parental factors (e.g., stress, substance abuse) and child's self-esteem mediate IPV exposure effects on children.

*NR=not reported

Table 3: Meta-analytic studies results in average effect sizes* and significant mediators/ moderators

Author/Year	Total # of studies	Average effect sizes (internalizing /externalizing behaviors)	Mediators/Moderators
Wolfe et al., (2003)	N = 41	d =.42/d = .43	ns***
Kitzmann et al., (2003a)	N = 118	d = .29/ d = .35 (group and correlation studies); d = .40/ d = .14 (group-comparison and correlational studies)	Family violence assessment tool (CTS vs. Non-CTS); Reporter of child adjustment problems (mothers vs. children vs. others); Study design variables (Group comparison studies vs. correlation studies); Aggression vs. externalizing problems; PTSD vs. internalizing problems; PTSD vs. aggression
Fowler & Chanmugam (2007)	N = 5 (meta-analyses)	d = .29 to .48/d = .35 to .46	Reporter status (mother versus child or child's teacher)
Evans, Davies, & Dilillo (2008)	N = 60	d = .48/ d =.47	IPV exposure and boys externalizing symptoms
Rhoades (2008)	N = 71	r =.12, p < .001**	Age (younger children)
Chan & Yeung (2009)	N = 37	Zr=.201 (overall); internalizing problems Zr=.22), externalizing problems (Zr=.21), perceptions/ cognitions (Zr=.16), interpersonal relationships and competence (Zr=.14), and PTSD symptomatology (Zr=.35).	Internalizing and externalizing problems, perception/cognition of exposure to family violence, interpersonal relationships and competence, and post-traumatic stress disorder. Reporter of child adjustment problems (mothers vs. children vs. others) and Single-informants vs. multiple-informants

*Average effect sizes should not be compared directly and should be used as reference only due to methodological variations; ** r = .18, p < .001, internalizing and externalizing behavior problems and self-esteem problems; r = .14, p < .001 and r = .19, p < .001, behavioral responses and internalizing behavior problems; ***ns = non-significant

long-term adjustment problems (depression, reduced self-esteem, and violence from or toward dating partners) are common. Bair-Merrit, Blackstone, and Feudtner (2006) utilized an epidemiological database consisting of 22 studies to investigate and summarize the specific association between IPV exposure and physical health outcomes. IPV-exposed children dwelling in a shelter were significantly more likely than non-IPV-exposed children to see a doctor, be under-immunized, receive a medical referral to see a speech pathologist, be sent home more frequently after a school nursing visit, and have received a physical examination showing abnormalities (i.e. low weight, vision difficulties, etc.).

Fowler and Chanmugam (2007) review of the meta-analytic and mega-analytic research in the field (published 2003 or later) substantiated research findings that, compared to children not exposed to IPV, exposed children were more likely to suffer negative behavior and emotional symptomatology. Kitzmann et al.'s (2003a) meta-analytic review examined 118 studies and found that witnessing IPV is associated with significant negative effects exceeding the witnessing of other types of violence, while Wolfe et al. (2003) concluded that IPV exposure increased emotional and behavioral problems in children. However, in contrast to Wolfe et al. (2003), Katzmann et al. (2003a) found that abused witnesses' outcomes were similar to witnessing alone. Their data also show that psychosocial outcomes effect sizes were similar for physically abused children (d= 0.15) and physically abused witnesses (d=0.13).

Research also indicates that long-term adjustment problems (depression, reduced self-esteem, and violence from or toward dating partners) are common among children

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exposed to IPV and that associations exist between violence exposure during childhood

and subsequent violent behavior as an adult. (Carlson, 2000; Edelson,1999; Holt,

Buckley, & Whelan, 2008). For instance, adolescents exposed to IPV are at an increased

risk for using violence themselves, whether solely as a result of the exposure or as an

abused witness and are more likely to exhibit anti-social behaviors, abuse substances, and

to commit violent crimes as an adult (Edelson, 1999; Holt, Buckley, & Whelan, 2008).

Bair-Merrit, Blackstone, and Feudtner (2006) findings also confirmed an association

between childhood IPV exposure and adolescent and adult-risk taking behaviors, such as

sexually risky behaviors and alcohol abuse.

Risk Factors Influencing the Effects of IPV Exposure

Age, Gender, Race, and SES

IPV exposure is associated with significant negative effects exceeding the

witnessing of other types of violence (Kitzmann et al., 2003a). Chan and Yeung's (2009)

meta-analysis examining 37 studies published between 1995 and 2006 identified a small

(Zr=.201) overall effect size significantly different from zero (p <.001) for the

relationship between children's IPV exposure and their psychosocial outcomes. Chan and

Yeung also reported a small to moderate association between exposure to IPV and

children's internalizing problems (Zr=.22) and externalizing problems (Zr=.21). This

average effect size was slightly lower than previous research.

Wolfe et al. (2003) utilized a developmental psychopathology framework in their

examination of 41 published, empirical studies on the effects of children's exposure to

IPV. They concluded that IPV exposure increased emotional and behavioral problems in

children with an overall small effect size (Zr =.28) and average effect sizes of d =.42/d = .43 for IPV exposure on internalizing and externalizing behaviors, respectively. Evans, Davies, and Dilillo (2008) detailed analysis of 60 empirical studies examined the link between IPV exposure and PTSD symptomatology, as well as negative psychosocial outcomes and potential mediators or moderators. They report a significantly stronger relationship between IPV exposure and boys externalizing symptoms in comparison to girls.

Fowler and Chanmugam's (2007) critical review of the meta-analytic and mega-analytic research in the field published 2003 or later confirms that compared to children not exposed to IPV, exposed children were more likely to suffer negative behavior and emotional symptomatology. They report a small to medium effect size for internalizing (d = .29 to .48) and externalizing (d = .35 to .46) behaviors across the reviewed analyses. Rhoades (2008) found that effect size was larger for internalizing behaviors, such as fear, helplessness, self-blame, sadness, or shame adjustment problems, than externalizing behaviors, such as depression, low self-worth, anxiety, and hostility adjustment problems.

Moreover, younger children (e.g., school age) exhibited more psychosocial difficulties than older children (Edelson, 1999). Wolfe et al. (2003) indicated evidence of heightened risk for negative outcomes for preschoolers and that school-age children demonstrated the largest average effect size, followed by preschoolers and adolescents. Evans, Davies, and Dilillo (2008), also reported that effect sizes were moderated for preschoolers (e.g., younger children), while Rhoades (2008) similarly suggest that age was a significant moderator with the effect size being smaller for younger children.

Some researchers (e.g., Carlson, 2000; Edelson, 1999) found that girls experience more difficulties with internalizing symptoms, such as depression, while males exhibited more aggressive or negative externalizing behaviors, such as conducted-related problems. In contrast, Chan and Yeung (2009) found small non-significant association between IPV exposure and child's characteristics such as age (5 years old or younger was 0.18, 6 to 11 years of age was 0.22, 12 to 19 years of age was 0.20) and gender (girls was 0.20, boys was 0.22). Fowler and Chanmugam (2007) also found no significant moderating influence for gender or age across a majority of their reviewed analyses. Rhoades (2008) also reported no significant moderated effects for the majority of effect sizes, and Evans, Davies, and Dilillo (2008) and Wolfe et al. (2003) failed to find a significant relationship between potential moderator variables of age by gender and reported that effect sizes were not moderated by gender. Wolfe et al. (2003) suggest that the lack of statistically significant findings with moderators such as gender and type of outcome (e.g., internalizing and externalizing problems) is attributable to the lack of stability between data sets rather than a real lack of differences.

In sum, the preponderance of empirical evidence suggests that age mediates the association between a child's exposure to IPV and negative psychosocial outcomes, but gender does not. Researchers further posit that to date no significant association between the effects of IPV exposure and the child's race have been found (Edelson, 1999).

Co-occurrence of IPV Exposure and Child Maltreatment

Evidence suggests that in the U.S. child abuse and maltreatment is widely underreported, however, in 2005, the U.S. Department of Health and Human Services

(DHHS, 2004) documented over 3 million reports of child maltreatments, of which nearly 40% were substantiated. IPV is closely associated with child maltreatment and may facilitate the violent familial conditions that exacerbate child abuse, given that, in 50% of families with IPV, both spouses engage in violence and one or both use severe aggression toward the child (Fantuzzo et al., 1997; Hamby, et al., 2010; Jouriles et al., 2008; Moffitt & Caspi, 2003). The risk for child abuse according to this research also increases based on the severity and frequency of IPV episodes.

Consistent with these studies, Appel and Holden (1998) found a moderate to strong correlation (r =.28 to .56) between IPV exposure and child abuse. Early studies investigating the co-occurrence of IPV exposure and other forms of family violence largely operationalized maltreatment as physical child abuse (Jouriles et al., 2008). In the past, incidences of victimizations (e.g., physical abuse, sexual abuse, neglect, and other abuse) were studied as separate risk factors; thus, knowledge is limited about their co-occurring or interacting effects on outcomes (Herrenkohl, et al., 2008; Litrownik et al., 2003).

Termed "doubly victimized" (e.g., Hamby, et al., 2010) or a "double whammy" effect (e.g., Hughes et al., 1989), empirical investigations indicate co-occurrence rates of IPV exposure and child maltreatment of 30% to 60% (Bedi & Goddard, 2007; Dong et al., 2004; Edleson 2001; McKay 1994). The average rate of co-occurrence, however, can vary considerably based on the study's participants. For example, studies with samples drawn from child protection agencies report co-occurrence rates of IPV exposure and physical child abuse from 26% to 50%, while battered women's shelter samples and

community samples suggest rates of 4% to 100% and 6% to 21%, respectively (Appel & Holden, 1998; Edleson, 1999; Jouriles et al., 2008).

In addition to IPV exposure and physical abuse type of co-occurrence, the sparser number of studies on forms of victimizations (e.g., Edwards et al., 2003; Felitti et al., 1998; Finkelhor et al., 2007; Higgins & McCabe, 2001b) found that childhood exposure to multiple forms of victimization, such as IPV exposure and physical, sexual or emotional abuse, is more common than single types of child abuse cases. Researchers investigating this topic (Edwards et al., 2003; Felitti et al., 1998; Finkelhor et al., 2007; Higgins & McCabe, 2001b) term overlapping abuse types, multiple forms of childhood maltreatment, multiple victimizations, child multi-type maltreatment (CMM), or "poly-victimization." Generally, children exposed to multiple childhood maltreatments are operationally defined as experiencing two or more individual victimization types in a 12-month period.

In their analysis of the relationship between experiences of multiple forms of childhood victimization and adult mental health, Edwards et al. (2003) reported retrospective data indicating that 34.6% of the participants of a large HMO (N=8,667) were victims of multiple, overlapping abuse types. Finkelhor et al., (2007) reported that approximately, 22% of their child and youth sample (N=2,030) within a twelve-month period, experienced multiple forms of maltreatment (e.g., 4 or more). Consistent with these findings, research analyses of National Survey of Children's Exposure to Violence (NatSCEV) data (e.g. Hamby, et al., 2010) suggest past year and lifetime statistics of 33.9% and 56.8%, respectively, of participants exposed to IPV *and* experienced multiple

forms of childhood maltreatment. While this is relatively strong evidence, few empirical

investigations have fully elucidated an understanding on this topic (a goal of the current

study).

Severity of Posttraumatic Stress Symptomatology and Development of PTSD

Posttraumatic Stress Disorder

Severe posttraumatic stress coupled with the influence of a child's psychological

vulnerabilities and persistent interpersonal threat to their physical integrity or that of

other family members is a catalyst for the development of psychopathology (Pervanidou

& Chrousos, 2007; Ruchkin et al., 2007). A large body of research posits that

posttraumatic stress disorder (PTSD) may develop in an individual following a traumatic

event or extreme stressor, because experiencing these events can conjure up reactions of

intense fear, pain, and helplessness (Caffo, Forresi, & Lievers, 2005; Davis & Siegel,

2000; De Bellis, 2001; Kearney, 2010; Margolin & Vickerman, 2007; Pervanidou &

Chrousos, 2007; Ruchkin et al., 2007; Silva et al., 2000; Suliman et al. 2009; Thompson

& Massat, 2005; Wechsler-Zimring & Kearney, 2011). Pervanidou and Chrousos (2007)

define PTSD as an anxiety disorder, chronic stress syndrome, or psychiatric disorder

accompanied by significant psychosocial, psychological, and emotional impairments in

the child's or individual's functioning. Much of the current knowledge about PTSD in

children supports the potential connections between a child's responses to tragedies, such

as during war or after natural disasters, school shootings, and child maltreatments (e.g.,

neglect, physical abuse or sexual abuse) with the development of a diagnosable

psychiatric disorder (Caffo, Forresi, & Lievers, 2005; Davis & Siegel, 2000).

An emerging body of literature also suggests a linkage between a child's exposure to IPV, physical child abuse, and the development of PTSD (Appel & Holden, 1998; Cook et al., 2003; Hughes, Parkinson, & Vargo, 1989; McCloskey & Walker, 2000; Pelcovitz et al., 2000). Few studies have systematically investigated the association between PTSD development and risk factors, effects, or outcomes linked with IPV exposure and multiple childhood maltreatments. The current study was designed to address such an etiological void on this topic. Despite this gap a preponderance of research evidence does establish and explain the general development of PTSD in traumatized children. The sparse empirical work on IPV exposure, multiple childhood maltreatments, and the development of PTSD, as well as conclusions from data on prevalence, risk factors, patterns of symptom expressions and diagnosis regarding the overall development of PTSD in traumatized children and the significance of severe posttraumatic stress is described below (Kilpatrick, Litt, & Williams, 1997; Spilsbury et al., 2007; Suliman et al. 2009; Thompson & Massat, 2005).

Prevalence of PTSD in Children and Adolescents

PTSD is a commonly diagnosed psychiatric disorder in children and adolescents (e.g., Costello et al., 2003; Davis & Siegel, 2000; De Bellis, 2001; Pervanidou & Chrousos, 2007), yet research on rates of PTSD in children or PTSD resulting from childhood IPV exposure and multiple childhood maltreatments is virtually non-existent. Due to the lack of an actual epidemiological study as noted by Davis & Siegel (2000), known PTSD childhood or adolescent occurrence figures are at best extrapolated empirically based estimations. A synthesis of clinical and research data do suggest that a

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large number of children (e.g., 1 out of 5) are severely traumatized and will have a psychiatric disorder that results from exposure or experiencing community violence, assault, rape, interpersonal abuse and maltreatment. For example, incidence rates of PTSD up to 90% (Dubner & Motta, 1999; Pervanidou & Chrousos, 2007), 40 to 50% (Dubner & Motta, 1999; Fletcher, 2003; McNally, 1996; Pervanidou & Chrousos, 2007), and 100% (Pynoos & Nader, 1989) respectively, were found in clinical samples of individuals sexually abused, physically abused, exposed to IPV, or otherwise experienced trauma during their childhood. De Bellis (2001) report prospective data that suggests childhood sexual abuse, physical abuse, or neglect are predictors of lifetime PTSD incidence's rates ranging from 30% to nearly 50% percent.

PTSD Risk Factors

According to research (e.g., Davis & Siegel, 2000; De Bellis, 2001; Finkelhor, Omrod, Turner, & Hamby, 2005; McCloskey &Walker, 2000; Pynoos & Nader, 1993; Silva et al., 2000), multiple categories of risk factors increase the probability that an individual will develop PTSD after a trauma. Categories include factors in the child environment, i.e., socioeconomic problems, substance abuse, mental and physical health factors that are present before the severe stressors occur (Silva et al., 2000). Such factors are hypothesized to exacerbate familial stress and threaten family integrity. Gender, personality, and age also appear to impact PTSD development (Davis & Siegel, 2000; Hensley & Varela, 2008; Norris et al., 2002; Davidson, 1993). For example, females report or exhibit more psychological distress symptoms than do males, children with anxious and avoidant personalities exhibit more psychological distress symptoms, and

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younger children are at a higher risk for developing PTSD symptomatologies. After traumatic experience factors such as the availability of immediate assessment, treatment and social support are associated with the child's revictimization, lifetime or chronic risk, and potential recovery quality (Davis & Siegel, 2000; De Bellis, 200; Margolin & Vickerman, 2007). Most importantly, traumatic experiences also interact with factors directly related to the actual occurrence of the stressful event such as proximity to the event (e.g., Caffo, Forresi, & Lievers, 2005), severity of violence exposure or previous psychiatric symptom severity (e.g., Hawke et al., 2009; Margolin & Vickerman, 2007; Silva et al., 2000; Thompson & Massat, 2005).

Exposure to a combination of traumas, particularly, sexual or physical abuse as well as exposure to IPV events increases the severity of the violence experienced and severity of negative symptomology. For instance, co-occurrence of IPV exposure and child abuse is associated with more severe or clinically significant symptoms in comparison to symptoms exhibited by children or adolescents exposed to IPV but not abused (Bourassa, 2007; Carlson 1991; Cook et al., 2003; Hughes et al. 1989; O'Keefe 1996; Pelcovitz et al., 2000; Silva et al., 2000; Spilsbury et al., 2007). Bourassa (2007) reports that a greater percentage (36.6%) of adolescents exposed to IPV who were also victims of physical child abuse exhibited internalizing and/or externalizing symptoms that required clinical intervention, compared to 21.6% of participants exposed to IPV only. Research (e.g., Bourassa, 2007; Fortin et al., 2000) also suggests that IPV exposed and abused children younger than 12 years of age exhibit clinically significant rates, i.e., 74.8% for internalizing symptoms and 73.7% externalizing symptoms that are higher

than those reported for adolescents i.e., 36.6% exhibited internalizing and externalizing symptoms.

Severity of Posttraumatic Stress Symptomatology

According to limited empirical research severe posttraumatic stress symptomology, such as symptoms associated with exposure to multiple stressors or traumas (e.g., Hawke et al., 2009; Margolin & Vickerman, 2007; Suliman et al., 2009; Thompson & Massat, 2005) are most predictive of PTSD development. These investigations indicate that implications of exposure to multiple forms of victimization and risk for abuse is stark (in comparison to single form of victimization), as suggested by the following: 1). Symptoms exhibited by children with multiple forms of maltreatment experiences appear accumulative. Meaning, research suggest that more victimization experiences or multiple traumas, in comparison to a single continuous abuse experience, can lead to more adjustment difficulties, such as an increase in internalizing or externalizing emotional and behavioral issues (Appleyard, Egeland, van Dulman, and Sroufe. 2005; Felitti, Anda, & Nordenberg, 1998; Finkelhor et al., 2007; Jouriles et al., 2001; Wolfe et al., 2003); 2) Children who are exposed to IPV and have been victimized by multiple forms of maltreatments exhibit conditions or psychosocial outcomes that are more difficult to ameliorate or reverse (Cohen, Perel, DeBellis, Felitti, Anda, & Nordenberg, 1998; Friedman, & Putnam, 2002); 3) Finkelhor et al.(2007) and Hamby, et al.(2010) also found that youth experiencing multiple forms of victimization are at an increased risk for experiencing re-victimization or increased exposure to various maltreatments; 4) Increased number of childhood or adolescent multiple forms of

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victimization experiences are highly predictive and conversely related to adverse adult mental health scores.

For instance, Edwards and colleagues (2003) found that adult lower means (indicative of poor mental health) on psychological and mental health scores were associated with higher numbers of abuse categories (mean of 69.9 for 3 or more types of abuse experiences contrasted with a mean of 75.5 for 1 abuse type). In other words, according to researchers a dose-response relation or graded relationship exist between the number of multiple types of maltreatment and deficits in adult mental health, i.e., extensive exposure equates with the most serious or persistent PTSD symptoms (Edwards et al., 2003; Felitti et al.,1998 ; Finkelhor et al., 2007; Mohay & Forbes , 2009; and 5) Vulnerability to severe posttraumatic stress symptomologies, including depression, anxiety, suicidality, disruptive behaviors, and other psychosomatic type conditions, is amplified in children exposed to IPV who also experience multiple maltreatments (Finkelhor et al., 2007).

PTSD Manifestations in Children

An individual's reaction to excessive and severe stressors can immediately trigger a cognitive, emotional, and psychological interplay between the biological stress systems and other neurobiological processes producing distressing psychiatric symptoms (De Bellis 2001; De Bellis & Van Dillen, 2005; Heim et al., 2009; Kearney, 2010; Pervanidou & Chrousos, 2007). This type of activation is in contrast to normal stress systems activation which is designed to aid quick reactions during rare human crises of survival. Pervanidou and Chrousos (2007) found that traumatized individuals like maltreated

children risks for psychopathology increases due to biological stress system extreme activations and potential subsequent neurological malfunctioning and related adverse brain development.

De Bellis (2001) and Kearney (2010) also found that serious psychological effects associated with alterations of biological stress systems influence the functioning of the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic nervous system networks. In that, cortisol and adrenocorticotropic hormone (ACTH) glucocorticoids essential for adequate stress management is regulated by the HPA axis and psychopathology is influenced when the biological stress systems and related neurobiological system is overwhelmed (De Bellis, 2001; Pervanidou & Chrousos, 2007).

Chronic stress due to abuse/maltreatment can alter neurological developments such as emotional, behavioral, and cognitive skills or cause structural brain changes that negatively affect a child's developments, ability to self-regulate, and/or ability to cope with normal life stressors (De Bellis 2001; Kearney, 2010; Pervanidou & Chrousos, 2007).

Interestingly, children experience trauma in a similar yet distinct way compared to adolescents or adults. First, partial PTSD symptomatology are more commonly diagnosed in children (Caffo, Forresi, & Lievers, 2005; De Bellis, 2001; Kearney, 2010; Levendosky et al., 2002a; Pervanidou & Chrousos, 2007). Levendosky et al. (2002a) suggest that traumatized children in comparison to adults comprehend the total gravity of a traumatic event differently due to their more limited cognitive and emotional capacities. However, because trauma experienced in childhood appears more deleterious in

comparison to that experienced as an adult, partial PTSD conditions can still be detrimental and lead to maladaptive outcomes (De Bellis, 2001; Kearney, 2010; Pervanidou & Chrousos, 2007).

Second, researchers (e.g., Pervanidou & Chrousos, 2007) report that high cortisol levels in urine or saliva of abused or maltreated children are indicative of the biological stress response systems frequent activation and related sympathetic nervous system (SNS) activity. These unique neurobiological factors are not as readily assessable in adults.

Third, the development of PTSD in children is associated with psychological and physiological self-regulation deficits and neurodevelopment setbacks (Caffo, Forresi, , & Lievers, 2005; De Bellis, 2001; Pervanidou & Chrousos, 2007). In other words, child abuse and maltreatment may facilitate serious emotional and behavioral dysregulation in victims, as well as serious developmental milestone deficits.

Children in comparison to adults may also express PTSD symptoms differently. For example, severely maltreated children may exhibit irritability or agitation instead of intense fear or horror, themed reenacted or repetitive play, and recurrent distressing dreams instead of exhibiting helplessness or avoidance (American Psychiatric Association, 2004; Mohay & Forbes, 2009).

Diagnostic Criteria for PTSD in Children

Research indicates that approximately 5% to 10% of traumatized children (e.g., Costello et al., 2003; Roberts, Roberts, & Xing, 2007) have a Diagnostic and Statistical Manual for Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2004)

diagnosis indicative of a psychiatric illness. As noted in the DSM-IV-TR, PTSD is an "anxiety disorder resulting from experiencing an event that evokes intense fear, horror or helplessness and proposes actual or threatened death or serious injury to the persons involved" (American Psychiatric Association, 2004, p. 463). The manual also denotes specific diagnosis criteria that pertain to an individual's reaction to the occurrence of a traumatic event. For example, the potential development of three types of symptom clusters may occur that cause significant functioning deficits and are present for at least 30 days.

The first symptom level, Cluster B, refers to persistent re-experiencing of the trauma, i.e., flashbacks, avoidance, and intrusive thoughts or dreams. Cluster C is a symptom category that includes persistent avoidance of circumstances or events associated with the traumatic event while exhibiting emotional numbing responsiveness symptoms. Cluster D symptomatology includes experiencing obstinate symptoms of increased physiological arousal or hyper vigilance behaviors.

Such posttraumatic stress symptomatologies that are diagnosed in children appear resolute for a period of time (Saltzman, Weems, & Carrion, 2006; Scheeringa 2007). However, traumatized children, according to Levendosky et al. (2002a) often do not meet the full DSM-IV PTSD diagnostic criteria. Investigators, as a result, have begun proposing that the criteria for PTSD for young children be modified, such as requiring that only one symptom level out of each cluster of symptoms be required to diagnose a traumatized child (Caffo, Forresi, , & Lievers, 2005; Scheeringa et al., 2007).

Reasons for the researcher's DSM-IV-TR critiques on this topic include: 1) the difficulty of measuring Cluster C and Cluster D symptoms in preschool-age children (e.g., Levendosky et al., 2002a); 2) lack of sensitivity to detect preexisting conditions (e.g., Scheeringa et al., 2007); 3) inability to discern parallel adult trauma-specific symptomatology in children (e.g., Davis & Siegel, 2000); and 4) failure to distinguish between adult versus child behavioral pathology symptoms (e.g., Davis & Siegel, 2000; Levendosky et al.,2002a). Davis & Siegel (2000) and others (e.g. Levendosky et al.2002a) posit that not only do children's accounts of symptoms differ considerably at times from that of adults, but children's reactions to violent events are often more generalized and symptoms commonly last longer than 30 days.

Theories of Causality

Empirical evidence has existed since the early 1990s to support the construction and testing of theories applicable to IPV exposed and abused children. However, only recently are more studies being conducted that are grounded in a theoretical model with explanatory power to aid in conceptualizing the etiology of maltreated children. The lack of a sound theoretical base is a major critique of research on maltreated children exposed to intimate partner violence (Fowler & Chanmugam, 2007; Hughes & Graham-Bermann, 1998; Margolin, 2005; Margolin & Gordis, 2000; Mohr, Lutz, Fantuzzo, & Perry, 2000; Osofsky, 2003; Wolfe, Crooks, Lee & McIntyre-Smith, 2003).

Mohr, Lutz, Fantuzzo and Perry (2000) investigation of research focused on children exposed to family violence, found that approximately 67% of the studies reviewed did not specify what, if any, conceptual framework informed the hypotheses.

This dearth of a substantiated and comprehensive explanation of childhood IPV exposure and abuse is noted to have (a) delayed understanding possible factors influencing the effects of maltreatment on children well-being, (b) limited understanding of the mechanisms that account for the association between exposure and psychosocial outcomes, and (c) minimized knowledge about risk and protective factors that may be effective in reducing negative outcomes (Gewirtz & Edelson, 2007; Guille, 2004; Holt, Buckley & Whelan, 2008; Levendosky et al., 2002; Margolin, 2005; Margolin & Gordis, 2000 ; Osofsky, 2003; Prinz & Feerick, 2003).

To that end, it is important to note researchers such as Gewirtz & Edelson, (2007) who recognized that when risk factors are minimized and protective processes enhanced, the healthy development of maltreated children is encouraged. Intriguing evidence also indicates that some maltreated children are intrinsically resilient, i.e., they sustained positive adaptation characteristics, such as an easy temperament, good peer relationships, and educational achievements. Studies indicate that even among high-risk children approximately 31% to 65% percent are resilient or have some resiliency characteristics (Grych et al., 2000; Hughes & Luke, 1998).

In addition, some researchers (e.g., Werner & Smith, 1992; Garmezy & Masten, 1994) found that resiliency or protective factors such as a positive role model, positive temperament, good self-esteem, social support, and elevated cognitive abilities improve adaptation and psychosocial outcomes in children victimized by family violence. However, the specific role, mechanisms, or processes of such factors are still not known (Gewirtz & Edelson, 2007; Garmezy & Masten, 1994; Levendosky et al., 2002). The

above findings and others like it suggest that this study's aim to theoretically delineate and clarify risk and resiliency processes associated with childhood IPV exposure and maltreatment is greatly needed.

Theoretical work in Attachment and Developmental Psychopathology

To increase the understanding of the etiology of traumatized children's symptomatology related to IPV exposure and maltreatment this study applies views from the frameworks of attachment, developmental psychopathology, and the strengths perspective framework. The association of IPV exposure and child abuse with posttraumatic stress symptomatology and child adjustments indicates relevant theoretical work utilizing these tenets (Cicchetti & Toth, 1995; Egeland & Sroufe, 1981; Gewirtz & Edleson, 2007; Margolin, 2005; Osofsky & Scheeringa, 1997; Rutter & Sroufe, 2000). Clinical and epidemiologic evidence support several key mechanisms of how childhood IPV exposure and maltreatment affects psychosocial outcomes.   Namely, that the relationship between IPV exposure, child maltreatment or abuse, and negative child adjustments has been shown to be accounted for by the development of severe posttraumatic stress symptomatology (Wolfe, Sas, & Werkle, 1994). Therefore, this dissertation study is grounded in and conceptualizes the etiology of children exposure to IPV and child abuse or maltreatment in the theories of developmental psychopathology and attachment. Given this study's additional exploratory investigation of a child's strengths and hypothesized protective factors, it will also be viewed through the theoretical lens of the strengths perspective framework (Epstein & Sharma, 1998; Oswald et al., 2001).

Lastly, the overarching theoretical aims of this study is to clarify tenets within the Attachment Theory and Developmental Psychopathology Model, by advancing understanding of possible factors that influence the effects of IPV and child abuse on children well-being as well as improve the knowledge base of the mechanisms that account for the association between such deleterious violence exposure and psychosocial outcomes. The current study also seeks to theoretically build on and increase knowledge about protective factors that may be effective in reducing negative outcomes posited by the Strength's Perspective approach. The research questions were designed to test these theoretical assumptions.

Attachment Impairments in Children Exposed to IPV and Maltreated

The domestic violence literature initially conceptualized and continues to expound upon the important link between marital violence and a child's primary attachment relationship (Cook et al., 2003; Lieberman et al., 2000; Osofsky, 1997; Van der Kolk, 2003). Attachment theory posits that infants are born with the biological propensity to make intimate lifetime bonding relationships, i.e., attachments with a primary caregiver (Bowlby, 1969, 1973, 1980, 1988). Hence, children are inherently or instinctively capable of becoming emotionally or psychologically attached to a caregiver to maintain safety and to survive. However, children exposed to violence in the home often form early dysfunctional attachment patterns that result from their attachment system's inability to organize effectively. Disorganized attachment patterns can occur because of emotional inconsistencies and unpredictability of the parent as a secure base or protector.

On the one hand, due to initial developed trust, children raised in a safe and secure environment are more likely to explore their surroundings, attempt new things, and interact confidently with individuals in their environment, thereby, learning to adapt and cope. Thus an infant or small child's initial bonding relationships affects their self-concept, interaction with the environment around them, and how they understand or establish relationship with others (Ainsworth et al., 1978; Bowlby, 1988; Carlson & Sroufe, 1995; Cassidy & Shaver, 1999; Cook et al., 2003, 2005; Lieberman, 2004; Sroufe, 1988;). Longitudinal research (e.g., Egeland, Carlson, & Sroufe, 1993; Egeland & Sroufe, 1981), indicates that initial bonding patterns, if not disrupted or aborted, are internalized within the first year of a child's life.

Such critical and interrelated patterns can also exist throughout a lifetime, yet at certain times, internal bonding models are changeable due to various experiences, such as stressors, trauma, or intervention. Research suggests securely attached school-aged children demonstrate positive self-concept, high self-esteem, and good conflict resolution skills (Goldberg, 1991). Likewise, securely attached children are more likely to develop positive and healthy relationships with their peers. This is important because early healthy relationship patterns appear to negate the vulnerability of risk towards the acquisition of negative pathological behaviors (Carlson & Sroufe, 1995; Cassidy &Shaver, 1999; Egeland & Erickson, 1993; Goldberg, 1991; Holden et al., 1998; Wolfe, Zak, Wilson, & Jaffe, 1986).

On the other hand, the reverse, i.e., unhealthy relationship patterns is probable if an early mother/caregiver-infant attachment pattern is characterized by poor, unstable, or

unsafe initial relationship experiences, such as in the case of extreme poverty, violence, or abuse. Ainsworth, Blehar, Waters and Wall (1978) report that such disruptions to attachment relationships cause the children to develop insecure attachments such as anxious-avoidant, anxious-resistant or disorganized patterns. School-aged children assessed with an insecure type attachment exhibit a range of negative externalizing behaviors such as aggression and often experience learning difficulties in the classroom (Egeland & Erickson, 1993). Additionally, studies (e.g., Ainsworth et al., 1978; Bowlby, 1988; Egeland & Erickson, 1993; Goldberg, 1999) show that insecure type attachments contribute to a negative self-concept and negative relationships views with others and increase children's risks for developing later emotional psychopathology.

Researchers found that maltreated children commonly exhibit insecure attachment patterns resulting in emotional, cognitive, and behavioral problems (Campos et al., 1983; Cicchetti & Tucker, 1994; Egeland & Sroufe, 1981). For example, Campos and colleagues (1983) indicated that approximately 50% and 70%, respectively, of two groups of non-maltreated children sampled, ages one year to a year and a half, were securely attached to their caregivers. In another study with samples of maltreated children, only approximately 20% to 40% were assessed with a secure attachment relationship (Egeland & Sroufe, 1981; Cicchetti & Tucker, 1994). Similarly, Sim et al. (2005) investigated infant attachment relationship patterns to their physically abused mothers and reported that a majority of the infants sampled (N = 100) exhibited an insecure attachment.

Most empirical investigations specifically examining the effects of children IPV exposure and maltreatment on the development of infant-mother attachment relationships are inconclusive (Zeanah et al., 1999). Thus, it is difficult to say how well the attachment theory explains the attachment phenomena in this context. What is known, (e.g., Lieberman, 2004; Zeanah et al., 1999) suggest that very young children exposed to IPV often exhibit an insecure-disorganized-disoriented attachment pattern, given both their close proximity to and their often emotionally chaotic relationship with their battered mothers. HPA axis development and dysregulation resulting from abuse by a parent and an insecure or disorganized attachment is associated with maltreatment and subsequent psychiatric disorders (Kearney, 2010). Cook et al. (2003) report that over three-quarters of the children assessed in their study exhibited a combination of insecure-disorganized attachment patterns.

The lack of a secure attachment appears to facilitate an abrupt disruption to a child's internal psychological and emotional development processes associated with a healthy self-concept and competent self-regulation. Overtime, the disruption, if not improved, can contribute to profound and long-lasting patterns of negative behaviors, such as low social and emotional competence associated with a dysfunctional internal working model incorporated by the child as a result of recurrent negative attachment experiences (Cook et al., 2003; Lieberman & Pawl, 1990).

Although limited, the IPV exposure and maltreatment research suggests that attachment theory's relevance for intervention efforts includes ameliorating the disruptions of healthy attachment relationships between an infant or small child and the

mother/caregiver. Evidently, preventing this interference is essential to decrease the child's vulnerability of risk to psychological and emotional development issues and to increase later healthy relationship functioning (Carlson & Sroufe, 1995; Egeland, Carlson, & Sroufe, 1993; Egeland & Erickson, 1993; Egeland & Sroufe, 1981; Wolfe, Zak, Wilson, & Jaffe, 1986; Holden et al., 1998; Zeanah et al., 1999).

Developmental Consequences Associated with PTSD Symptomatology

An underlining tenet of the developmental psychopathology theory posit that exposure to family violence impacts the changes children undergo as they progress through normal developmental stages overtime and posttraumatic stress symptoms may manifest differently based on the child's developmental stage (Pervanidou & Chrousos, 2007). Impact effects occur from within a context of complex moderators and intervening factors (Margolin & Gordis, 2000; Rutter & Sroufe, 2000; Wolfe et al., 2003; Wolfe & Jaffe, 1991). The theory identifies these complex factors as various, dynamic, and interactive processes across multiple levels of a child's environment.

Research elucidating this multidimensional framework has demonstrated how IPV exposure and child maltreatment influences these interacting processes, thereby shaping early childhood developmental behavior and emotional adjustments. According to Gewirtz and Edleson (2007), exposure to family violence impedes a child's ability to successfully adapt or adjust to normal developmental challenges, such as secure attachment development, relationships with peers, and other emotional or cognitive competencies including possessing empathy and emotional control.

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Developmental impairments that result from maltreatment disrupt a child's typical abilities and functioning. Cicchetti and Lynch (1995) and Wolfe and Jaffe (1991) have shown that exhibited behaviors such as anxiety, aggression, and impaired interpersonal relationships associated with stress-related adjustment disorders are often children's reactions and attempts to adapt to family violence and abuse in their environment. Pfefferbaum (1997) found that developmental milestones can be chronically delayed that results from experiencing severe posttraumatic stress symptomatology. Importantly, Ireland and Smith (2009) and others (e.g., Nader et al., 1990; Pfefferbaum, 1997) have also shown that the adaptive or maladaptive developmental impact of childhood family violence exposure influences adolescent and early adulthood subsequent development of social skills, self-esteem, and impulse control.

Viewing childhood IPV exposure and maltreatment through the developmental psychopathology lens, suggests that a child exposed to family violence dwells in an interactive environment with experiences mediated or moderated by various factors that facilitate or refract normal development (Bedi & Goddard, 2007; Boney- McCoy & Finkelhor 1995; Carlson, 2000; Finkelhor & Kendall-Tackett 1997; Holt, Buckley & Whelan, 2008; Margolin & Gordis, 2000; Sternberg, Lamb, Guterman, & Abbott, 2006; Wolfe et al., 2003). Fundamental to development theory is the principle that no single causal variable resulting as a consequence of violence exposure necessarily causes or leads to normal or abnormal developmental outcomes (Holt, Buckley & Whelan, 2008; Rutter & Sroufe, 2000; Wolfe et al., 2003; Wolfe & Jaffe, 1991). Wolf and Jaffe (1991) suggest, "One should expect to find a number of influencing factors that can account for

the differences seen among samples of maltreated children, rather than a direct, linear relationship between a form of maltreatment and clinical symptoms" (p. 295). Indeed, several multiple level environmental factors, i.e., categories of variables are likely relevant to children's reaction to IPV exposure and the influences affecting developmental processes, as well as developmental outcomes.

For example, in addition to environmental factors, the interaction among multidimensional processes may also mediate or moderate the relationship between IPV exposure and maltreatment and the negative effect on the child's development (Cicchetti & Toth, 1995; Finkelhor & Kendall-Tackett 1997; Margolin, 2000; Margolin & Gordis, 2000; Mash & Dozois, 1996). Potential moderators of psychosocial outcomes and effect size are an individual's demographic characteristic such as age, gender, and/or race (Kitzmann et al., 2003a), while mediators (expanded upon in the next subsection of this paper) such as children coping strategies, and protective factors may affect the extent of problems children exposed to interpersonal violence and maltreatment face and help explain why such exposure is harmful to children (Bedi & Goddard, 2007; Carlson, 2000; Margolin & Gordis, 2000).

Across the lifespan, childhood entails key developmental milestones or tasks specific to different ages. Studies indicate that exposure to family violence affects or compromises normal developmental outcomes differently depending on age or developmental stage at which the child experiences the violence (Bauer, Herrenkohl, Lozano, Rivara, Hill, & Hawkins, 2006; Bedi & Goddard, 2007; Carlson, 2000; Edleson, 1999; Gewirtz & Edleson, 2007; Holt, Buckley & Whelan, 2008; Kitzmann et al., 2003a;

Margolin & Gordis, 2000; Rhoades, 2008).Researchers found that IPV exposed or maltreated school aged children demonstrated increased externalizing and internalizing symptoms compared to pre-school children (Hughes et al.,1989; McFarlene et al., 2003; Wolf et al., 2003). Holden and Ritchie (1991) found that among violence exposed children, those of school-age were assessed with more behavioral problems than children preschool age.

According to Boney-McCoy and Finkelhor (1995), children are also vulnerable to alternation of their typical developmental trajectories at different developmental stages based on the intensity and form of violence exposure experienced. Acute chronic adversity is hypothesized to be particularly disruptive of school-aged children developmental competencies such as emotional regulation, trust development and relationship with peers (Cicchetti & Toth, 1995). However, other researchers report more prominent externalizing and internalizing symptoms among younger children, including infants who may be more vulnerable or at greater risk for physical and psychological distress due to their general close proximity to the female caregiver (Fantuzzo et al., 1997; Okeefe, 1994; Osofsky & Scheeringa 1997; Rhoades, 2008; Sternberg et al., 2006; Wolf, et al., 2003; Zeanah & Scheeringa 1997).

Contradictory findings within this literature also exist with regard to the moderating effects of gender or race on psychological and /or psychosocial outcomes of victimized children. A considerable body of research supports the view that girls exhibit more internalizing and externalizing behavior problems, especially related to later depressive symptoms, conduct problems, and delinquency than boys (Becker &

McCloskey, 2002; Carlson, 2000; Holt et al., 2008; Sternberg et al., 2006). However,

Evans, Davies, and Dilillo (2008) and others find that the association between childhood

violence exposure and problematic behaviors is stronger for boys than girls. They also

found that boys evidenced negative externalizing behaviors irrespective of race. Edelson

(1999) similarly report no significant association between IPV exposure and symptoms

by children's race. Conversely, Stagg, Wills, and Howell (1989) study investigating the

behavioral status of preschool children from violent homes, found that African American

children exposed to IPV exhibited less externalizing behaviors than white children with a

similar history.

Impact of Protective Factors on Severe Posttraumatic Stress Symptomatology

Behavioral and Emotional Strengths

Child behavioral and emotional strengths may mediate the impact of serious

posttraumatic stress symptomatology, thus decreasing the risk of developing a psychiatric

disorder (Oswald et al., 2001; Mohay & Forbes, 2009; Weems & Overstreet, 2008).

Weems and Overstreet (2008) provided evidence that traumatized children are less likely

to develop severe posttraumatic stress symptomatology if a balance exists between

factors associated with the development of severe psychiatric symptoms and factors that

facilitate coping and resilience. Such protective factors or strengths also appear to modify

the effects of vulnerabilities associated with other adverse life conditions such as poverty

and parental psychiatric conditions (Luthar, 2000).

The increased research and clinical focus on the critical role individual child

strengths play in mollifying or mediating the negative effects of traumatizing events is a

recent advent (Oswald et al., 2001). Gaps in the literature exist that would help explain more thoroughly the processes, mechanisms, and extent to which children's behavioral and emotional strengths foster healthy psychosocial functioning while mediating or ameliorating psychopathology. However, in the last ten years consensus on some factors and practices have been well documented including; (1) research substantiations on how strengths are conceptualized, (2) important differences between constructs of strengths and resilience, (3) type of youth strengths, (4) the relationship between strengths and impairment, (5) factors that influences strengths, and (6) how behavioral and emotional strengths are developed.

Theoretically, strengths are quantifiably two separate yet intertwined methodologies and are conceptualized in this literature as, (1) a child's intrinsic capacities or abilities (Borduin, 1994; Luthar and Zigler, 1991; Saleebey, 2002) and, (2) a non-conventional social work practice model (Epstein, 1999; Epstein & Sharma, 1998; Oswald et al., 2001; Saleebey, 2002). Child strengths denote intrinsic yet concrete, personal, amendable and healthy *attributes* or *traits*. The term is often used interchangeably with the resiliency construct, even though resilience implies *processes* or *mechanisms* that minimize an individual's vulnerability to risk conditions and contribute to positive psychosocial outcomes (Luthar & Cicchetti, 2000; Lyons et al., 2000; McQuaide & Ehrenreich, 1997).

Interpersonal strengths (i.e., trust of others, ability to expresses emotions adequately, and react to disappointment appropriately), intrapersonal/peer/affective strengths (i.e., a sense of humor and liked by peers) and family/school/extracurricular

strengths (i.e., strong relation with a caregiving adult, participates in sports, has a hobby, enjoys school and is competent in a subject or two) are just a few integral behavioral and emotional strengths emphasized by research that may buffer or explain negative psychosocial outcomes of children exposed to IPV and victims of multiple childhood traumas (Epstein, 2004; Lyons, Kisicl & West, 1997c; Lyons et al., 2000; Oswald et al., 2001).

Empirical research suggests that a negative correlation exist between strengths and emotional or behavioral impairments as follows; 1) children assessed with greater or more severe functional impairments are more likely to have below average strengths; 2) youths with high are above average strengths exhibit lower behavioral deficits and problems; and 3) strengths and impairment are separate constructs and are not opposite ends of a continuum as once hypothesized (Barksdale et al., 2010; Lyons et al., 2000; Masten, 2001; Oswald et al., 2001; Ronnau & Poertner, 1993; Walrath et al., 2004). In other words, children and youth with mental health problems, which usually composes only a part of their psychological and emotional identity, also possess strengths.

Protective factors, such as strengths, are influenced by the child's age, gender, racial, socioeconomic, cultural beliefs and clinical risk history, such as, abuse, maltreatment, and family violence exposure status (Barksdale et al., 2010; Luthar, Cicchetti, & Becker, 2000; Walrath, Mandell, et al., 2004). Walrath et al. (2004) found that varying levels of strengths were assessed in youth of various ages, genders, and socioeconomic levels and backgrounds. For example, older, male, Caucasian youth, not living in poverty, who have positive family and community relationships and moderate

clinical levels of functional impairments were assessed with higher levels of strengths (Walrath et al., 2004). Though this differentiation is an important research distinction more knowledge is needed about the relationship of strengths and mental health disorders across ethnic groups (such as the current investigation).

There is growing research recognition (e.g., Lyons et al., 2000; Rawana & Brownlee, 2009) that a child's behavioral and emotional strengths can be harnessed from their natural environment or developed. This belief lies at the core of the strength-based practitioners approach connoting the following tenets: 1) recognizing that all children irrespective of behavioral deficits, mental health or functional impairment possess strengths; 2) identifying and minimizing risk factors; and 3) building strengths and boosting protective factors already in the individual's environment. Towards effectively accomplishing the latter, i.e., building strengths an integrated social work model that entails strengths based assessment, practice, treatment and intervention is recommended and expounded upon below (Lyons et al., 2000; Mohay & Forbes, 2009; Oswald et al., 2001; Rawana & Brownlee, 2009; Walrath, et al., 2004).

Strengths Perspective Framework

The strength's perspective practitioner approach is a multifaceted method and is rooted in the belief that all children and individuals, even those assessed with clinical symptoms possess strengths (Barksdale et al., 2010; Cox, 2006; Epstein et al., 2004; Friedman, et al., 2003; Griffith et al., 2010; Lyons et al., 2000; Oko, 2006; Oswald et al., 2001; Rudolph & Epstein, 2000). Systematic investigations on the relationship between strength-based approaches and clinical outcomes have only recently increased, even

though earlier research (e.g., Clark, 1997; Epstein, 1999; Rosenblatt, 1996; Saleebey, 1997; Weise et al., 1996) suggests that alternative community-based approaches designed from a client's perspective is more effective than standard service planning modalities. In light of growing evidence (e.g., Brown, Odom, & McConnell, 2008; Cox, 2006; Griffith et al., 2010; Oswald et al., 2001) that building families and children's strengths can help ameliorate psychiatric disorders, enhancing ways to facilitate or booster such protective factors through strengths-based practice models is an important step.

The strength's perspective practitioners' framework includes an emphasis on strength-based assessment, measurement, practice, treatment and intervention efforts viewed as an opportunity to address functional impairments by focusing on the client's positive attributes instead of their deficits (Barksdale et al., 2010; Cox, 2006; Epstein, 1999; Epstein et al., 2004; Friedman, et al., 2003; Griffith et al., 2010; Lyons et al., 2000; Oswald et al., 2001; Postmus, 2000; Rudolph & Epstein, 2000). A strengths-oriented assessment and treatment model that emphasizes a collaborative relationship between practitioners and client and culturally sensitive treatment goals contrasts with the less effective deficit-oriented model (Epstein, 1999).

For example, allowing clients a voice in the assessment process (e.g., self-report measures) and advocating a professional clinical relationship where the client is presumed to be the expert instead of the social worker is both critiqued and supported in the literature. Staudt, Howard, and Drake (2001) suggest that the strength approach differed only slightly from other similar models and lacked empirical evidence of its effectiveness on outcomes. In contrast, Oko (2006) and others (e.g., Barksdale et al.,

2010; Cox, 2006; Epstein et al., 2004; Friedman, et al., 2003; Griffith et al., 2010; Lyons et al., 2000; Oswald et al., 2001; Rudolph & Epstein, 2000) suggest that focusing on strengths mitigates potentially stigmatizing clinical encounters while empowering the client. They also suggest that boosting protective factors such as strengths could enhance outcomes even though the psychiatric illness may continue to be diagnosable and psychopathology is more likely resolved if the focus on positives encourages the individual to fully engage in the treatment process.

Lastly, given that some children possess competencies that appear to negate the adverse effects of violence victimization it is important to assess additional positive influences. The strength's perspective framework also includes an emphasis on measuring and assessing positive factors that support and facilitate a child's development of strengths irrespective of or in response to family violence exposure and child maltreatment (Davis, 1994; Kennedy-Chapin, 1995; Rudolph & Epstein, 2000).

Additionally, an increased understanding of strengths and competencies can aid practitioner's assessment, evaluation, and treatment of young children at risk for emotional or behavioral problems (Griffith et al., 2010; Rawana & Brownlee, 2009; Rudolph & Epstein, 2000). A strengths perspective approach can also assist social work practitioners in effective assessment and treatment of young children in need of general care (Griffith et al., 2010). According to Epstein (1999), prevention and intervention efforts that focus on emotional and behavioral strengths development, in contrast to most deficit concentrated models, could enhance competencies for young children and

ameliorate psychiatric difficulties. (Brown, Odom, & McConnell, 2008; Cox, 2006;

Griffith et al., 2010)

Summary

The literature establishes consensus that children exposed to family violence, in

comparison to children not exposed, are at increased risk of experiencing psychosocial,

emotional, behavioral, and cognitive adjustment problems. Researchers caution that while

empirical evidence suggests an association between children's interpersonal violence

exposure and a variety of dependent variables (e.g., internalizing and externalizing

behaviors) this association has not been causally established.

The evidence extrapolated from literature reviews and meta-analyses from 1999

to 2009 also indicates that, even though increased empirical examinations in recent years

have moved this field forward, a cause-and-effect relationship between exposure to

family violence and negative adjustment outcomes remains elusive for various reasons.

Most notably, variability in predisposing factors studied, findings across studies, the ways

of assessment of family violence, the context and types of child adjustment outcomes

being measured.

Although a direct causal linkage leading to a particular adjustment outcome is yet

to be determined, a majority of studies have found that violence exposure has a

deleterious impact on children's behaviors, psychosocial well-being, and emotional well-

being. In general, violence exposure initially may result in immediate or short-term

reactions, such as anger, hostility, disobedience, fear, and aggression. Over-time, long

term adjustment problems, such as anxiety, depression, and overt social problems (e.g.,

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antisocial, inhibited behaviors, dating violence, and adult-risk taking behaviors) are common.

Multiple factors that appear to mediate or moderate the association between children's family violence exposure and adjustment outcomes includes: 1) child characteristic variables, such as gender, age, and/or race; 2) developmental issues related to posttraumatic stress symptomatology; and 3) mediator or moderators of the exposure. Meta-analytic results suggest statistically significant variables and moderators of effect size associated with a child's exposure to family violence include the relationship between exposure to interpersonal violence and child's negative psychosocial adjustments, i.e., internalizing, externalizing problems, and age.

IPV increases an abused parent's likelihood of experiencing stress, depression, and illness, thus jeopardizing quality parenting. A decrease in the quality of parenting associated with violence in the home appears to place children at higher risk for maternal or paternal child abuse, as well as a co-occurrence between IPV exposure and child maltreatment. Research has also revealed that within a violent household the intersection between IPV exposure and child maltreatment (e.g. physical abuse, sexual abuse, neglect and assault) is arguably the most deleterious risk factor influencing negative or maladaptive outcomes. Empirical investigations on this topic report a co-occurrence rate of child abuse and IPV in 30 % to 60% of cases.

Also, research shows that children who are exposed to IPV and are physical abused experience an increase in adjustment difficulties, particularly at different stages of development, compared to children exposed but not abused. However, these findings are

far from definitive since some analyses found that exposure to IPV and physical abuse outcome results were additive instead of cumulative (i.e., symptomatology varied by number of conditions versus an increase in symptomatology associated with one condition), while others report neither a cumulative nor additive effect, suggesting instead that other factors are responsible for the noted increase in adjustment problems. Research findings also showed that a child's exposure rarely occurs alone; instead co-occurrence of multiple types of violence with other serious life adversities, i.e., poverty, poor nutrition, parent's psychopathology, or substance abuse is common.

The above compelling facts support the rational for the current study, alone with data that indicate that such a co-occurrence is associated with the development of posttraumatic stress in children. Important questions also remain regarding differences across a child's age, ethnicity or gender that may affect the structural relationship between maltreatment and potential negative psychosocial outcomes. Similarly, researchers' suggestion that future studies should focus on the co-occurrence of IPV exposure, multiple categories of childhood maltreatment and their combined association with severe posttraumatic stress symptomatology served as an additional impetus for this investigation.

Finally, studies indicate that a large numbers of children exposed to family violence do not show detrimental or negative adjustment outcomes. Researchers posit that individual and environmental protective factors (e.g., child's secure attachment or relationship to the mother, the presence of other family or social support, adaptability, intelligence, strengths, positive self-esteem and coping strategies) may mitigate the

impact of exposure resulting in lower levels of problems or problems that do not rise to the level of a diagnosable condition. In particular, children emotional and behavior strengths, i.e., strong coping abilities, adaptable temperament, and other intrinsic abilities appear to help minimize negative outcomes and mediate the consequences of family violence exposure and child maltreatment.

CHAPTER III: Methodology

Description

This exploratory study examined the relationships between IPV exposure and co-occurring interpersonal maltreatments across age, ethnicity and gender groups relative to the severity of the children' posttraumatic symptomology and their behavioral and emotional strengths (BERS). Data are from the 2009 Building Resiliency after Trauma Study (BRAT; Lopez & Ren, 2012). The purpose of the BRAT study was to examine the effects of evidence-based Trauma Focused-Cognitive Behavioral Therapy (TF-CBT) that is provided within a neighborhood's community health agency (i.e., traditional or real world settings) to TF-CBT treatments results indicated in published research studies.

Another purpose of the original study was to examine whether implementation of this evidence-based treatment was more efficacious when implemented with traditional supervision versus intensive consultation (Enhanced Coaching), which was provided to some of the practitioners during treatment implementation. Seventeen agencies, including mental health clinics and domestic violence centers located in two mid -sized cities in north and south central Texas area participated in the study. The University of Texas at Austin Institutional Review Board (IRB) approved the original BRAT study and subsequently approved the present research analyses.

Original Study

Procedures, Criteria, and Data Collection

Child and caretaker dyads receiving counseling services at one of the seventeen participating agencies were recruited, interviewed, and assessed for study eligibility.

Study personnel trained in the interview and data gathering protocol conducted interviews and assessments throughout the study. The selected participants (caregiver and the child) were given written informed consent documents and informed that they could terminate their voluntary involvement with the study at any time.

During sample selection procedures, children were interviewed and screened for pre-existing psychological or emotional conditions, but were not excluded for pre-existing diagnoses (with the exception of psychosis, substance dependence, suicidality risk, pervasive developmental disorder or significant intellectual impairment) medication use, or current mental health services (Lopez & Ren, 2012). In addition, children were eligible to participate if they had experienced one or more significant traumas and were assessed with trauma-related symptoms in the high range. Most children had been exposed to multiple family traumas. The children ranged in age from 7 to 18 years. The final sample size for the original study was 106 child-caregivers dyads. However, because not all youths in the original study experienced family traumas, the sample size for the current analyses varied accordingly.

Data collection consisted of structured interviews for demographic information and self-reports, such as child's mental health/PTSD symptoms, child's emotional and behavioral strengths, and other pertinent child victimization data (e.g., number and various types of interpersonal maltreatments experienced). The caregivers/child dyads were interviewed on three occasions during the original study (at study's beginning, 6 months later and 12 months later). Ethical guidelines were followed throughout the study and the children and caregivers confidential information and records were rendered non-

identifiable (de-identified and coded) by the study personnel. Only the original study's

baseline data was used in the secondary data analyses for the present study.

Current Study

Participants

The 106 children in the BRAT (Lopez & Ren, 2012) clinical sample also

comprise the sample used in the current study. These children had experienced multiple

traumatic experiences, i.e., multiple interpersonal and non-interpersonal childhood

traumas. Multiple childhood maltreatment is a group of traumas resulting from traumatic

experiences of community violence, neglect, natural disaster exposure, and other

interpersonal violent assaults such as physical abuse, sexual abuse, and IPV exposure.

The trauma types used in the current study are the latter, i.e., interpersonal maltreatments

including IPV exposure.

Research Questions

The study seeks to answer the following questions:

Research Question 1: Does the type or combination of interpersonal violence

maltreatments types (None, IPV exposure, physical abuse, and/or, sexual abuse) children

experience increase their posttraumatic stress symptomatology and/or behavioral and

emotional difficulty symptoms?

Research Question 2: Does the total number of interpersonal violence maltreatments

types (0, 1, 2, and 3) children experience affect their posttraumatic stress

symptomatology and/or behavioral and emotional difficulty symptoms?

Research Question 3: Does a child's age, gender, and/or ethnicity affect their posttraumatic stress symptom and/or behavioral and emotional difficulty symptoms?

Research Question 4: Does a child's age, gender, or ethnicity affect their behavioral and emotional strength scores and are posttraumatic stress and/or behavioral and emotional difficulty symptoms significantly different for children with different behavioral and emotional strength levels?

Research Question 5: Is there a relationship between the study participants' demographic characteristic (age, ethnicity and/or gender) and the dependent variables of child's posttraumatic stress, behavioral and emotional difficulty symptoms, and behavioral and emotional strengths?

Research Question 6: Do study participants who experienced a certain number (0, 1, 2, and 3) of maltreatments types demonstrate more severe posttraumatic stress and/or behavioral and emotional difficulties symptoms and does age, gender, and/or ethnicity moderate the relationship?

Research Question 7: Is there an association between the number of maltreatments types experienced (0, 1, 2, and 3) and the children level of behavioral and emotional strengths and do age, gender, and/or ethnicity moderate the relationship?

Research Question 8: Is there a relationship between the study participants' behavioral and emotional strengths and the dependent variables of child's posttraumatic stress and behavioral and emotional difficulty symptoms and does age, gender, and/or ethnicity moderate the relationship?

Research Question 9: Do children's emotional and behavioral strengths mediate the relationship between the number of maltreatments types they experienced (0, 1, 2, and 3) and the severity of their posttraumatic stress and/or behavioral and emotional difficulty symptoms?

Research Question 10: Do children's demographic characteristics (age, gender, and/or ethnicity) moderate the proposed mediated relationship between the number of maltreatments types they experienced and their behavioral and emotional strengths?

Study Variables and Measures

These multi-model examination independent variables, dependent variables, potential moderator and potential mediator variable as well as how each variable was measured during the original study and subsequently utilized in the current study are described below:

Demographic variables and potential moderator variables:

Child's demographic variables - *Baseline NOMS Interview (Parents)*: At intake during the initial study, clinicians collected demographic information on children's family

structure, age, ethnicity, gender and household income. Age, ethnicity, and gender were utilized in the current study. Age was measured in years in the original study and in the current study unless divided into two groups where applicable for descriptive analyses, i.e., children under age 12 and those over age 12. Gender was measured as male or female and dummy coded for analyses in the current study. Children largely fell into three ethnic groups, African American, Caucasian, and Hispanic.

Independent variables

Number of child's different interpersonal violence maltreatment types experienced (0, 1, 2, or 3) *Baseline NOMS Interview (Parents) and UCLA-PTSD-Index for DSM-IV (Parent).* Number of maltreatment types experienced in the current study was measured as none (i.e., trauma type other than interpersonal maltreatment), one, two, or three types of interpersonal maltreatments experienced.

Dependent variables

1) Child's posttraumatic stress symptomatology - *UCLA-PTSD-Index for DSM-IV (Parent, Adolescent, & Child Version)* (PTSDI; Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998) was used in the original study to measure the parent report of child's trauma exposure and their severity of posttraumatic stress symptoms. This instrument is a validated 21-item measure used to assess trauma exposure based on Criterion A and PTSD symptomatology in children found in the fourth edition of the Diagnostics and Statistical Manual of Mental Disorders (American Psychiatric Association, 2004). The

instrument indices are quantified to assess for DSM-IV Criterion A1 and A2 (i.e., specific

traumatic event aspects and victim's subjective experiences) diagnostic data. The PTSDI

has been amended and the 21 items are now correspondingly grouped according to DSM-

IV criteria symptom clusters: B (reexperiencing/ intrusion), C (avoidance/numbing), and

D (arousal). A total scale score greater than 23 indicates moderate posttraumatic stress

symptomatology. Reported psychometric properties suggest that the PTSDI has excellent

internal reliability and test–retest reliability (Steinberg, Brymer, Decker, & Pynoos,

2004). Pynoos et al. (1998) also found a total score and an interrater reliability score in

the excellent range (α = .94–.97) and a moderate convergent reliability score (α = .78).

The UCLA PTSD Reaction Index for DSM-IV Adolescent version (PTSD-I; Pynoos et al.,

1998) was also used in the original study is a 22-item questionnaire very similar to the

parent version and items are also keyed to the DSM-IV criteria to aid in providing PTSD

diagnostic assessments. The Adolescent version was designed for youth 13 years old and

older and is organized in the same format as the adult's version, is self-administered,

requiring a yes or no answer to questions to specific traumatic experiences and subjective

reactions consistent with DSM-IV Criterion A, B, C and D. Similar to the adult version,

the total PTSD score is a summation of DSM-IV Criterion B, C, and D symptoms for a

full PTSD diagnosis, or Criterion A, as well as a combination of B, C, and D (Steinberg

et al., 2004). The adolescent version is also well-validated and reportedly demonstrates

convergent validity internal consistencies and test–retest reliability of the scales in the

high to moderate high range (Pynoos et al., 1998). *The UCLA PTSD Reaction Index for*

DSM-IV Child version (PTSD-I; Pynoos et al., 1998). The child versions (school-age

children 7-12) also rate exposure to traumatic events and PTSD symptoms has 20 items and can be administered manually utilizing a 5 point Likert scale of symptoms ranging from none to most of the time(0-4) in the past month. To assess for DSM-IV PTSD symptoms (B, C, and D) and subscale scores the first 18 questions are answered and the reminder questions assess for Criterion A1 and A2 associated features such as guilt and fear of the event repeating. Similar to the adult and adolescent version, this scale provide preliminary PTSD diagnostic information scaled to the DSM-IV criteria and scores can be summed whereby a greater number of symptoms corresponds to a higher PTSD severity index. Researchers (Roussos et al., 2005) psychometric properties of Chronbach's alpha range = 0.90 for Internal Consistency and a range of good to excellent for test-retest reliability (i.e. 0.84).

2) Child's behavioral and emotional difficulty symptom scores (total difficulty symptoms) – *Child Behavioral Checklist- CBCL (6-18 yrs old) (Parents)*: The Child Behavioral Checklist (CBCL)(Achenbach, 1991) was used in the original study to evaluate the participant's problem behaviors and emotional difficulties. The CBCL is an extensively used and well-standardized parent report assessment of internalizing behaviors, externalizing behaviors, social competence, and total behavioral problems. There are two versions of the scale, one for children 18 months to 5 years and one for children ages 6 to 18 years. This measure is completed by parents who must indicate a response to each statement on a 3-point Likert scale (0 = not true, 1= somewhat or sometimes true, and 2= very true or often true). Two global problem behavior and social

competency (functioning) indices are composed of a broad-band internalizing scale (withdrawal, anxious, depressed, and emotionally sensitive) and an externalizing scale (delinquent/aggressive behaviors and thought/attention problems). Behavioral and Emotional Difficulty Total score and subscale scores (Empirically Based Syndromes Scales including Anxious/Depressed; Withdrawn/Depressed; Somatic Complaints; Social Problem) are based on factor analyses coordinated across the forms and translated into T scores, based on gender and age norms. Cutoffs include borderline clinical range scores assessed at Q60 (i.e., norm score terminology of ≥ 60) and clinical range scores greater than 70. The CBCL's psychometric properties have been well established with reportedly high to moderate internal consistency coefficients (Cronbach's alpha = .78-.97), test-retest reliability at one week interval (r=.86-.94) and low to moderate interrater realiability scores (r=.37-.56) (Achenbach, McConaughy, & Howell, 1987).

Independent variable, Dependent variable, and Mediator variable

Child's behavioral and emotional strengths level - *Behavioral and Emotional Rating Scale -BERSP (Parent rating)*: The Behavioral and Emotional Rating Scale (BERS) (Epstein, 1998) was used in the original study to assess the child's behavioral and emotional strengths. The BERS is a standardized 52-item instrument designed to measure child strengths. The BERS can be completed by any adult (e.g., parent, teacher) knowledgeable about the child's behaviors. The instrument is normed for study participant's ages 5 to 18 years old. Positive behaviors and emotions are rated on a 4-point Likert-type scale with scores of 0 = not at all like the child, 1 = not much like the

child, 2 = like the child, and 3 = very much like the child. The scale contains five separate strength domains subscales: 1) The Interpersonal Strengths (e.g., ability to control feelings and behaviors in public); 2) Intrapersonal Strengths (e.g., expresses humor); 3) School Functioning (e.g., competent in school); 4) Affective Strength (e.g., ability to give and receive affection); and 5) Family Involvement (e.g., participates in family activities). The BERS has demonstrated strong to moderate psychometric properties. The internal consistency reliability for the overall score strength quotient is excellent (e.g., Cronbach's alpha = .97) and constitutes a calculation or standardized summation of the subscales. Each of the five subscales has demonstrated acceptable moderate to high internal consistency reliabilities (Cronbach's alpha = .80-.97) (Epstein, Ryser, & Pearson, 2002). Test-retest and interrater reliability coefficients estimates of moderate to high (Cronbach's alpha =.82-.92) have also been reported across the subscales (Epstein, Harniss, Pearson, & Ryser, 1999). Acceptable criterion-related and convergent validity (r =.66-.74) between parent and teacher ratings subscale scores have also been documented (Epstein, 1999; Harniss, Epstein, Ryser, & Pearson, 1999).

Statistical Analysis Techniques

The Statistical Package for the Social Sciences version 20 (SPSS, 2012) was used to analyze the data and statistical tests were deemed significant if they met the standard social sciences significance levels of $p \leq .001$, $p \leq .01$, $p \leq .05$, or trended significance at $p \leq .10$. Specific data preparation steps taken and analytics techniques conducted are described in further detail below.

Data Preparation

Key data preparation steps included dummy coding dichotomous variables or recoding other categorical variables (age, gender and ethnicity), collapsing variables into categories, and creating interaction product terms. Specifically, gender was recoded from values of 1=male, 2=female to 0=male and 1=female. Ethnicity, a categorical variable, was re-coded into two dummy variables that included African American and Hispanic, with Caucasian as the reference category. The total number of interpersonal maltreatments types experienced were dummy coded (i.e., 0= no interpersonal trauma, 1=physical only, IPV only, or sexual only; 2= IPV plus physical abuse, IPV plus sexual abuse, or physical abuse plus sexual abuse) and 3=IPV plus sexual abuse and physical abuse) for analyses to aid in interpretations, increase power to detect an effect, and to compare groups of the predictor interpersonal maltreatment types experienced to a reference group. The reference category for this variable was 0, which indicated traumas other than interpersonal violence.

As expected when utilizing a hierarchical regression technique to assess an interaction or moderator effect, numerous product variables (i.e., two variables multiplied to create the interaction variable) were created and entered into the model. Dependent variables, including moderator (demographic characteristics) and /or mediator variables (behavioral and emotional strengths) and posttraumatic stress or behavioral and emotional difficulty outcome variables were utilized as initial coding indicated and as described in the measures section of this chapter. Diagnostic analyses to identify non-

normality were also undertaken and missing variables were determined to be missing at random, thus they were treated as missing and not recoded.

Descriptive and Bivariate analyses

Descriptive analysis of the data set was employed to summarize each study variable. Demographic information obtained in the initial caregiver and child interviews and used in the present multivariate analyses, include the child's gender, age (in years), race/ethnicity, the number of lifetime traumatic events, types and number of familial maltreatments experienced as well as psychiatric diagnosis (e.g., if such a diagnosis was available within the clinic). Other demographic information obtained and included in this demographics descriptive analysis, but not used in the current multivariate analyses, include family structure, household income, and previous hospitalizations or treatment(s) received.

Non-parametric statistical analyses were conducted where applicable, because only one or two observations were noted within several levels of some of the dependent variables (i.e., related to small sample size). Simple bivariate correlation analysis was also undertaken to provide a first glance at the relationship between the study variables and to assess whether the independent variables and the dependent variables were correlated. Lastly, given the exploratory nature of these analyses the Bonferroni approach (Holm, 1979) maybe less applicable and too conservative (Holland & Copenhaver, 1988) to utilize towards minimizing the risk of type 1 error across multiple tests (due to loss of

power and possibly increasing the probability of type II errors). Extreme caution is therefore urged when interpreting the generalizability of these findings.

Nonparametric Tests

To address the first research question of whether there is a significant relationship between the means for each type of maltreatment experienced (none, IPV exposure, physical abuse, and/or sexual abuse) and a study participant's symptom scores (severity of posttraumatic symptomatology and/or behavioral and emotional difficulty symptoms), relationships were examined using the non-parametric Kruskal-Wallis test and a recommended follow-up post hoc test the Mann-Whitney U test. This analytic technique allows for evaluation of differences in means (Hollander & Wolfe, 1999) or evaluation of whether the mean rank is different between three or more means without regard for the sample distribution (assumption of normality). A statistically significant statistic would indicate that there is evidence that PTSD scores and/or behavioral and emotional difficulty scores were significantly different for children who had different types of abuse (i.e., different group means that allow for rejecting the null hypothesis).

A Kruskal-Wallis test and follow-up tests were also conducted to evaluate the second research question of whether a study participant's symptom scores (severity of posttraumatic symptomatology and/or behavioral and emotional difficulty symptoms) differed significantly by number of interpersonal maltreatment types (0, 1, 2, or 3). If there are statistical significant differences, children's symptoms differ based on the

number of maltreatments experienced, i.e., mean ranks are not equal across the three groups.

To evaluate the third research question whether a statistically significant difference in child's posttraumatic stress symptom scores and/or behavioral and emotional difficulty scores exists based on study participants' age (≤ 12 years of age and ≥ 12 years of age), gender, or ethnicity (African American, Caucasian, Hispanic), a Kruskal-Wallis test and follow-up tests were utilized to examine differences in mean ranks within the three group ethnicity and a Mann-Whitney U test was use to examine differences in mean ranks between the two group variables age and gender.

Similarly, to assess the fourth research question, a Kruskal-Wallis test and follow-up tests were conducted to ascertain whether a statistically significant difference in child's behavioral and emotional strength scores exist based on age (≤ 12 years of age and ≥ 12 years of age), gender, or ethnicity, and whether posttraumatic symptom scores and/or behavioral and emotional difficulty scores were statistically significantly different for children with different levels of behavioral and emotional strength scores.

Regression Analyses

Standard Multiple Regression Analyses and Hierarchical Multiple Regression Analyses

Notably, the relationship(s) among multiple interpersonal maltreatments types or numbers of types experienced, child's behavioral and emotional strengths and severity of posttraumatic stress symptomatology or behavioral and emotional difficulties as proposed in this study are analytical assessed utilizing path analysis models. As previously

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mentioned, the path analysis models depicted on pages 27-29 are the hypothesized models (based on theory and past research) and that various statistical analyses (that include multiple DV's (1) posttraumatic stress symptoms, (2) behavioral and emotional difficulty symptoms [internalizing and externalizing symptoms], and (3) behavioral and emotional strengths) of the data will be assessed to see if the models were supported. The models depicted in the results section are the final models supported by the data. Given also the exploratory nature of these multivariate analyses and the massive amount of information that results from computing the multiple analyses and in the interest of space and clarity, significant analyses are described in the chapter text and non-significant analyses are reported in correspondingly titled appendices.

To address research question 5, multiple regression and hierarchical multiple regression procedures were employed to investigate whether a statistically significant relationship exists between the study's predictor variables and child outcome variables, and to identify which independent variable (within the collective relationship among multiple indicators) is the strongest predicator of variance in the dependent variables of interest. More specifically, standard multiple regression analyses were conducted first to ascertain whether key child demographic characteristics (age, ethnicity, and gender) account for a significant proportion of the variance in the study's dependent variables.

The assumptions of normality, linearity and homoscedasticity were evaluated prior to employing the analyses. Moreover, the R^2 (adjusted coefficient of determination) that ascertains how well the linear prediction fits the data, the standardized (beta, ß) coefficient (to show the unique contribution and relationships between variables) along

with the t-test and the corresponding significance level (individual predictor variables relationship with the dependent variable) as well as the Multiple R values (R), Regression degrees of freedom, Significance F change value, and corresponding significance level (overall model significance) will be reported where applicable. These analytic models were chosen due in part to their recommended use and the fact that no previous literature appears available to guide the theoretical rationalization for the inclusion of the study's variables and or their hypothesized relationship. Given also the large number of variables assessed in these exploratory analyses, discovering key predicators and their relationship to various posttraumatic stress child outcome variables, can extend previous research and facilitate future hypotheses.

Moderated Hierarchical Multiple Regression Analyses

A hierarchal multiple regression analytic technique allows the researcher to assess the association between a categorical independent variable and a continuous dependent variable and to specify the order that the IVs are entered into the analyses (Tabachnick & Fidell, 2007). A theoretical and a logistical basis governed the hierarchy of which variables were entered into the model. Thus, to examine research question 6, standard regression and a hierarchical multiple regression design was used to assess the predictive influence of number of maltreatment type(s) experienced on the outcome variables severity of posttraumatic symptomatology and behavioral and emotional difficulty symptoms and moderation effects of a study participants' age, ethnicity and/or gender.

A significant relationship between the number of maltreatment types experienced and the outcome variables would indicate that PTSD scores and/or CBCL total scores are

predicted by the total number of maltreatments types experienced. Statistically significant interactions would indicate a positive or negative moderation effect. The standardized (beta, ß) coefficient along with the t-test and the corresponding significance level and the Multiple R values (R), R^2 values, Regression degrees of freedom, Significance F change value, and corresponding significance level and/or overall model significance will be reported.

To address research question 7, a standard regression and a moderated hierarchal regression multivariate data analysis technique was also used to examine whether the number of maltreatments types experienced affect a study participant's level of behavioral and emotional strengths and whether these relationships differed based on the child's age, ethnicity, or gender. If the main model is significant, the child's level of behavioral and emotional strengths is predicted by the type of maltreatments, combination of maltreatments types and/or number of maltreatment types. Similarly, if the overall relationship between the predicator variables and the outcome variable differ based on the child characteristics, then the child's age, ethnicity, or gender is significantly related to the child's level of behavioral and emotional strengths based on the type of interpersonal maltreatment types and/or a certain number of maltreatment types. Interactions found to be statically significant would indicate a positive or negative moderation effect. Similar to research question 6, the standardized (beta, ß) coefficient along with the t-test and the corresponding significance level and the Multiple R values (R), R^2 values, Regression degrees of freedom, Significance F change value, and corresponding significance level will be reported.

Further, to examine research question 8 (i.e., the association between strengths and clinical impairment), standard regression and a hierarchical multiple regression design was used to assess whether a study participants' behavior and emotional strengths are significantly associated with the child's outcome criterions of posttraumatic stress symptomatology and/or their behavioral and emotional difficulty symptoms as well as whether a child's age, ethnicity, and/or gender significantly moderated this relationship. A significant interaction would indicate that the overall relationship between strengths and clinical impairment varied by a child's demographic characteristic.

Mediated Hierarchical Regression analysis

Research question 9 asks whether a child's emotional and behavioral strengths mediate or explain why particular independent variables are associated with various dependent variables. To determine whether significant mediated associations exist, recommended mediation analysis tests were conducted to test for indirect effects through which the independent variable affects the outcome variable. A meditational analysis procedure developed by Preacher and Hayes (2008) that includes a SPSS macro application to test the significance of the direct and indirect effects of path coefficients through an individual or multiple mediator variables was employed.

This advanced mediation model was chosen for the following reasons: 1) the strategy includes a form of the Baron & Kenny's (1986) 4-casual steps of mediation analyses while also advancing that model by incorporating statistical significance tests of indirect effects (Sobel, 1982); 2) the advanced technique also includes the size and

strength testing of indirect effects and various levels (bias-corrected, bias- accelerated, etc.) of confidence intervals assessments via bootstrapping, a non-parametric re-sampling approach for making statistical inferences without a loss of power due to the lack of a sample's normality or collinearity issues; and, 3) the advanced analysis method has the ability to assess multiple mediators or include control variables in the model (Preacher & Hayes, 2008). Prior to running the procedure, child's demographic characteristic control variables were entered into the model and bootstrap confidence intervals were set to generate at the 99% confidence level (p<.001), which automatically include interval adjustment for bias and contrasts, as well as 1,000 re-samples.

Testing for Moderated Mediating Variables

To investigate the final research question, question 10, that a moderated mediation association (Baron & Kenny, 1986) exists between key predictor variables, a potential mediator variable, potential moderator variable, and the outcome variables, a formal test of conditional indirect effects or "the magnitude of an indirect effect (mediation) at a particular value of more than one moderator variable," (Preacher, Rucker & Hayes, 2007, p. 186) was undertaken. Preacher et al. (2007) specifies this analytic technique as model 2. Specifically, the total effect of IV on DV (i.e., $c = c' + ab$) or the indirect effect of IV on DV through the mediator (behavioral and emotional strengths) product of a and b (ab) may depends on a moderator, i.e., conditional indirect effect. In other words, to determine the conditional indirect and direct effects using this approach an analysis will be undertaken to assess whether the indirect effect of the number of maltreatment types experienced by the child on their total behavioral and emotional

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difficulty symptoms through their behavioral and emotional strengths level is

significantly moderated by study participants' demographic characteristics (age,

ethnicity, and/or gender).

CHAPTER IV: Results

Descriptive Statistics

This chapter presents the study's findings of the secondary multimodal data analyses that examined multidimensional relationship between several key predictor variables and multiple outcome variables. The results on the data are categorized into descriptive and inferential statistics subsections.

First, given this study's overarching purpose to examine whether significant difference in variables of interest exists based on a child's age, ethnicity or gender; basic demographic statistics for the full sample are displayed in Table 4. Primary demographic descriptive analyses shows that of the total sample of children (N=106) studied, 37.7% were male (n=40), and 62.3% were female (n=66). In terms of ethnicity, participants described themselves as Caucasian (n=38; 39.6%), African American (n=26; 24.5%), and Hispanic/Latino (n=42; 35.9%). Participants' ages ranged from 7 to18 years, with a mean age of 12.8 (SD=2.9) years. The children's caregivers were parents (82.1%), adoptive/foster parents (4.7%), and other relatives (10.4%). Approximately 50 % of the children's families were low income (under $20,000 a year) or living below the poverty line. One fourth of the sample had been hospitalized in a mental health facility, while nearly 80% had received previous counseling before the initial study. As denoted in Table 5, nearly 41% of the sample experienced multiple interpersonal maltreatments. The most common single type of abuse experienced was sexual abuse, and the most common combination was physical abuse and IPV exposure.

Table 4: Basic Demographic Characteristics of Sample (N=106)

Variables	N	Percent/Mean/SD
Gender		
Female	66	62.3%
Male	40	37.7%
Age		
<12	44	46.6%/9.90 (1.11)
≥12	62	65.7%/14.85(1.71)
Overall	106	100.0%/12.79 (2.87)
Ethnicity		
African American	26	24.5%
Caucasian	42	39.6%
Hispanic	38	35.8%
Caregivers		
Parents		82.1%
Adoptive/foster		4.7%
Relative		10.4%
Income		
< $20,000 yr.		50.0%
Previous		
Hospitalization		25.0%
Counseling		80.0%

Table 5: Categories of Interpersonal Maltreatments Types Experienced (N = 105)

Maltreatment Type(s)Experienced	Frequency	Percent
None (Traumas other than interpersonal violence)	21	19.8%
Physical Abuse only	8	7.5%
Sexual Abuse only	18	17.0%
IPV Exposure only	15	14.2%
Physical & Sexual Abuse	9	8.5%
Physical abuse & IPV Exposure	17	16.0%
Sexual abuse & IPV Exposure	6	5.7%
Physical abuse, Sexual Abuse & IPV Exposure	11	10.3%
Multiple maltreatments/abuse types reported	43	40.6%

Note: IPV = Intimate Partner Violence

Table 6: Clinical Characteristics of the Sample by Ethnicity (N= 106)

Sample	Total Problem Behavioral and Emotional Difficulty Indices (CBCL_Total)		
	Below Clinical Range <60	**Borderline Clinical Range 60-70**	**Clinical Range >70**
Ethnicity			
African American	33.3%	22.0%	24.5%
Caucasian	33.5%	26.8%	44.9%
Hispanic	33.2%	51.2%	30.6%
Overall Sample Total	14.3%	39.0%	46.7%
Borderline and Clinical Impairment		85.7%	

Second, approximately 85.7% of the children were assessed within borderline or clinical impairment based on total scores on the Child Behavior Checklist (see Table 6). Of those in the below clinical range, African Americans, Caucasians, Hispanics each comprised about one-third. Hispanics were half of those in the borderline range, while African Americans and Caucasians were each about one-fourth of the group. Caucasians comprised the largest percentages (44.9%) of children in the clinical range, followed by Hispanics, (30.6%), and African Americans (24.5%). Fifty percent of the sample also received a post-traumatic stress disorder diagnosis at intake for the original study based on Diagnostic and Statistical Manual of Mental Disorders, 4th ed. DSM-IV-TR (American Psychiatric Association, 2000). Characteristics including the means and standard deviations for posttraumatic stress symptomatology and emotional and behavioral difficulty measures by age, ethnicity and gender are displayed in Table 7. The mean scores for each measure (list each) show a great deal of similarity across theses demographic characteristics.

Table 7: Characteristics of post-traumatic stress or behavioral problem outcome measures by age, ethnicity and gender (N =106)

Measures	UCLAK_SX[b]			CBCL_TOT[c]		
Variables	N	Mean	SD	N	Mean	SD
Age						
<12	33	36.67	11.74	44	63.36	10.58
≥12	47	35.37	13.75	61	67.43	10.12
Ethnicity						
African American	20	34.75	16.09	26	65.69	11.29
Caucasian	31	35.39	11.96	38	68.39	12.14
Hispanic	29	38.90	8.61	41	63.27	8.15
Gender						
Female	49	36.14	12.06	66	65.08	10.41
Male	31	37.06	12.32	39	66.82	11.12

Note: a. UCLA-PTSD-Index for DSM-IV – Adolescent version
b. Child Behavioral Checklist- CBCL Total –Parents version

Lastly, behavioral and emotional strengths scores based on the Behavioral and Emotional Strengths measure and assessed at the original study's intake are displayed in Table 8. As noted, 74.7% of this sample was assessed with below average strengths, while approximately 23% were assesses with average strengths, and only 2.2% were assessed with above average strength scores, respectively. Each ethnic group is about equally represented in the below average strengths group. However, Caucasians make up the highest percent (57.1%) in the average strengths group. Based on recent research

Table 8: Behavioral and Emotional Strengths Scores by Ethnicity (N = 106)

	Behavioral and Emotional Strengths Scores (BERSP_SI)[*]		
	Below Average Strengths	Average Strengths	Above Average Strengths
Sample	≤ 89	90-110	≥111
Ethnicity			
African American	33.4%	19.0%	----
Caucasian	36.8%	57.1%	6.1%
Hispanic	30.9%	23.8%	----
Overall	74.7%	23.1%	2.2%

[*]Behavioral and Emotional Rating Scale –BERSP –Parent's rating

(e.g., Barksdale et al., 2010), this sample has high percentages of children with below average strengths scores in all three ethnic groups with Caucasian youths having the highest percentage (36.8%). A possible explanation for the lower strengths scores will be explored and in-depth analyses will be undertaken that ascertain whether the samples descriptive differences in post-traumatic stress scores and behavioral and emotional strengths scores are statistically significantly different based on a study participant's age, ethnicity or gender.

Inferential Statistics

Bivariate Correlation Analysis

Given this study's nascent and exploratory nature statistical analyses procedures were undertaken utilizing multiple independent variables and several dependent variables. Descriptive statistics for each of the study's independent and dependent variables are displayed for the total sample in Table 9. Specifically, the Spearman's rho non-parametric correlation test was used to assess bivariate relationships between the key

Table 9: Study's Independent and Dependent Variables (N =106)

Variables	Percentage, Mean, Standard Error, and Standard Deviation					
	N	Minimum	Maximum	Mean	Std. Error	SD
Independent						
Age	106	7.64	18.04	12.79	.28	2.88

Gender (0,1)
   Male
   Female
	106	0	1	---	---	---

Ethnicity
   African American
   Caucasian
   Hispanic
	106	1	5	---	---	---

Number of maltreatments types (child's report; 0,1,2,3)	106	0	3.00	1.13	.09	.99
Maltreatment types experienced None(traumas other than interpersonal violence) One type only Physical and Sexual abuse Physical abuse and IPV exposure Sexual Abuse and IPV exposure Physical, Sexual abuse, and IPV Exposure	106	1.00	6.00	4.08	.22	2.29
Dependent						
UCLA-K_PTSD-Index for DSM-IV	106	4.00	64.00	33.90	1.38	14.17
Child Behavioral Checklist_ TOTAL	105	42.00	85.00	67.82	.88	9.06
Behavioral and Emotional Rating Scale –BERSP	91	38.00	130.00	78.33	1.77	16.89

Note: Child Behavioral Checklist Externalizing scale=EXT; Internalizing Scale =INT; Total behavioral problem score =Total

demographic variables (age, ethnicity, and gender), posttraumatic stress symptom scores,

psychosocial impairment scores (e.g., internalizing, externalizing, total problem

behavioral and emotional difficulty symptoms) and child's behavioral and emotional

strength scores.

    Correlation summaries are displayed in Table 10 between study participant's

demographic variables (age, gender, and ethnicity), their report of the number of

Table 10: Spearman's Rank Order Non-Parametric Correlations amongst key study variables

Variables	UCLA_SX	CBCL_TOT	BERSP	SOTK1	SOTK2	SOTK3	SOTK
Age	.21*	.11	-.19†	-.07	.05	.45**	.42**
Gender	.21*	-.10	.11	.18*	-.18*	.09	.02
Hispanic	.07	-.22*	.09	.03	.02	.02	.05
AA	.02	-.01	-.11	-.09	-.05	.01	-.09
Caucasian	-.09	.23*	.01	.05	.02	-.02	.03
Abuse_0	-.08	-.14	.04	-.11	-.05	-.18*	-.28**
SOTK1	-.07	.05	-.02	----	----	----	----
SOTK2	-.08	-.04	-.04	----	---	----	----
SOTK3	.30**	.18†	-.10	----	----	----	----
SOTK	.16	.16	-.14	----	----	----	----
BERSP	-.17	-.51**	---	-.02	-.04	-.10	-.14

Note: Significant at; ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; AA=African American; SOTK=Sum of types_ K; Abuse 0= No interpersonal maltreatment

maltreatment types experienced (i.e., sum of types 0, 1, 2, and 3) and each of the dependent variables (posttraumatic stress, behavioral and emotional problem symptoms and strength scores). A child's age (r=.21, p<.05) and reported posttraumatic stress symptoms were positively and significantly correlated. In other words, older children were more likely to report higher PTSD symptom scores than younger children. A child's age was also positively significantly correlated with the overall number of maltreatments experienced (r =.42, p<.01), the number of maltreatments three types experienced (r =.45, p<.01) and approached negative significance with their behavioral and emotional strengths scores (r =.20, p=.06). These findings indicate that as a child's

age increase, the number of interpersonal maltreatment types experienced also increased, while their strengths scores decreased. A significant positive correlation was also found between a study participant's gender and their posttraumatic stress symptom scores (r =.21, p<.05) and number of maltreatment types experienced (i.e., one (r =.18, p=.05) and two (r =-.18, p =.06) respectively) suggesting that in comparison to males, females had higher posttraumatic stress symptomatology scores and they significantly experienced one type of maltreatment while males significantly experienced two different types. Further, a child's ethnicity (i.e., Hispanic) was significantly negatively correlated their total behavioral and emotional difficulty scores (r=-.22, p<.05), while Caucasian participants total behavioral and emotional difficulty scores (r=.23, p<.05) appear more positive robustly associated. Experiencing three different interpersonal maltreatments types were significantly positively associated with a child's posttraumatic stress symptomatology scores (r=.30, p<.01) and also approached positively statistical significance with their total behavioral and emotional difficulty symptom scores (r =.18, p=.06). Additionally, a study participant's behavioral and emotional strengths scores are significantly negatively associated with their total behavioral and emotional difficulty scores (r=-.51, p<.01), suggesting that as a child's strengths increased correspondingly their difficulty symptoms (internalizing and externalizing behaviors) decreased.

The Kruskal-Wallis Tests

Research Question 1

The first research question was whether the type or combination of maltreatment types the child experienced, i.e. no interpersonal violence, physical abuse, sexual abuse, sexual abuse and IPV, etc., affected their posttraumatic symptoms scores and/or behavior and emotional difficulty scores. This was examined using the Kruskal-Wallis non-parametric test. Key assumptions underlining the use of this statistical technique were met prior to running the analysis. Namely, the variables of interest violate the ANOVA normality assumption, samples are independent of each other, the symmetrical distribution has identical form, and the data are in rank order (Green & Salkind, 2008). The relationship between the type(s) of interpersonal maltreatment experienced and behavior and emotional difficulty scores approached significance (χ^2 [7, N=104] =13.08, p=.07). This means that, 12.7% of the variance was accounted for, and behavior and emotional difficulty symptoms scores trended toward significance for children with different types of interpersonal maltreatments. In contrast, posttraumatic stress symptoms scores did not significantly vary across the types of interpersonal maltreatments the child experienced.

A Mann-Whitney U post hoc test and a SPSS median scores assessment were conducted to evaluate differences among the groups that experienced different types/combinations of maltreatments types (see Table 11). Results indicate a statistically significant difference between the following groups: 1.) 1 (no interpersonal maltreatment)

Table 11: Mann-Whitney U test of differences in study participant's total behavior and emotional difficulty symptoms among maltreatment types experienced groups (N = 104)

CBCL_TOT_T	Mann-Whitney U Post Hoc Test			
Abuse type (grouping var.)	N	U	r	P
Locations				
1(no interpersonal abuse) to 2(physical)	29	42.00	.38	.04[*]
1(no interpersonal abuse) to 5(physical + sexual abuse)	30	45.00	.41	.03[*]
2(physical abuse) to 3(sexual abuse)	26	37.00	.38	.05[*]
5(physical + sexual abuse) to 6(IPV + physical)	26	31.00	.48	.01[*]

Note: Significant at; ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10

and 2(physical abuse) (z=-2.05, p=.04); 2.) 1(no interpersonal maltreatment) and 5(physical abuse+ sexual abuse) (z=-2.22, p=.03); 3.) 2 (physical abuse) and 3(sexual abuse) (z=-1.95, p=.05); and, 4.) 5 (physical abuse+ sexual abuse) and 6(IPV + physical abuse) (z=-2.46, p=.01). Effect size indexes for the Mann-Whitney U post hoc test further indicate that the proportion of variability in the ranked dependent variable, i.e., child's total behavior and emotional difficulty symptom scores accounted for by different types/combinations of maltreatments was moderate to high (i.e., .4 to .5) based on Cohen (1988) effect size criteria to assess *r* values sizes.

Additional recommended follow-up tests after a statistically significant difference has been found between the groups indicate that behavior and emotional difficulty symptom scores were greater for children who experienced a certain combination of maltreatment types, i.e., sexual abuse and IPV exposure, etc. SPSS median pairwise differences assessments indicate that median behavior and emotional difficulty symptom scores for children who experienced certain interpersonal violence maltreatment types,

i.e., None, IPV and sexual, all three abuse types, physical and sexual, and physical only)

were 68.00, 71.00, 73.00, 74.00, and 76.00, respectively. In other words, study

participants who experienced a combination of abuse types (with the exception of

physical abuse only) had significantly higher behavior and emotional difficulty symptoms

than participants who experienced no interpersonal maltreatment types. Notably, the

symptom scores fall within the total behavior and emotional difficulty clinical range

indices. In summary this evidence supports the research supposition that experiencing

specific combinations of interpersonal maltreatment types results in greater problem

behavior and emotional symptomatology.

Research Question 2

The second research question was whether the total number of interpersonal

violence maltreatment types (IPV exposure, physical abuse, sexual abuse, etc.)

experienced affects the child's posttraumatic stress symptomatology and/or behavior and

emotional difficulty symptoms. A Kruskal-Wallis test was also utilized to explore this

relationship. Key assumptions that underlie the use of this statistical technique were also

met prior to running the analysis. The relationship between the total number of

interpersonal violence maltreatments types experienced, i.e., 0, 1, 2, or 3, and severity of

posttraumatic stress symptom scores was significant ($\chi2$ [3, N = 106] = 9.76, p = .02). In

other words, PTSD scores were statistically significantly different for children who

experienced a different number of interpersonal maltreatments types and the percentage

of variability in ranked posttraumatic stress symptom scores accounted for was 9.3%.

This percentage represents a small overall effect size in the social/behavioral sciences. In

contrast, a study participant's behavior and emotional difficulty symptom scores did not

significantly vary across the types of interpersonal maltreatments experienced.

To further determine whether the ranked locations, i.e., groups that have

experienced 0, 1, 2, or 3 types of interpersonal maltreatment (s), differ statistically from

each other on posttraumatic symptomology, and to ascertain median post-traumatic

scores for each group, the Mann-Whitney U test (Post Hoc test for a statistically

significant Kruskal Wallis finding) and an additional SPSS median score location test

was conducted. The Mann-Whitney U follow-up test (see Table 12) and the pairwise

differences follow-up test indicated a statistical significantly difference between groups 0

and 3, which experienced no interpersonal maltreatment and three types of

maltreatments (z=-2.48, p=.01), and groups 1 and 3, which experienced one and three

types of maltreatments (z=-3.01, p=.00), and groups 2 and 3, which experienced two and

three types of maltreatments (z=-2.92, p=.00). Meaning, posttraumatic stress symptom

scores were greater for study participants who experienced three maltreatment types

compared to those who experienced none, one, or two types, respectively. Effect size

indexes for the Mann-Whitney U further indicate that group membership accounted for

moderate to high variability in the ranked dependent symptom scores. In addition, follow-

up median assessments indicate that median posttraumatic stress symptom scores based

on study participants who experienced 0,1, 2, or 3 interpersonal violence maltreatment

types was 34.50, 32.50, 31.00, and 47.00, respectively. A score greater than 38 indicates

that a post-traumatic stress disorder is likely (Pynoos et al., 1998). In summary, results

Table 12: Mann-Whitney U test of differences in youth reports of posttraumatic stress symptoms among number of maltreatment type groups (N=106).

UCLAK_SX	Mann-Whitney U Post Hoc Test			
Sum of type (grouping var.)	N	U	r	p
Locations				
0 to 3	46	105.00	.37	.01[*]
1 to 3	48	89.50	.43	.00[**]
2 to 3	36	57.00	.49	.00[**]

Note: Significant at; ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10

supports the second research assumption that study participants who experienced three

types of maltreatments will likely exhibit greater posttraumatic stress symptomatology.

Research Question 3

Question three was whether child's posttraumatic stress symptom scores and/or

behavioral and emotional difficulty symptoms differ based on the child's age, gender, and

ethnicity. Mann-Whitney U tests were conducted to examine differences between females

and males and between study participants under age 12 and those 12 years of age and

older. A Kruskal-Wallis test and post-hoc follow-up median tests were utilized to

examine differences in mean ranks among African Americans, Caucasians, and

Hispanics.

Of the posttraumatic stress symptom measure and the behavioral and emotional

difficulty measure, a Mann-Whitney U test also revealed statistically significant

differences (z=-2.106, p= .04) between females and males' posttraumatic stress symptom

scores (UCLA-K SX), i.e., females were more likely to have higher PTSD symptom

scores than males (see Table 13). Follow-up median assessments indicate that median

PTSD scores for females and males were 37.50 and 29.50, respectively. A score greater

than 38 on the child's report is clinically indicative that a post-traumatic stress disorder is likely (Pynoos et al., 1998). Notably, the scores for the child's behavioral and emotional difficulty symptoms were non-significant (Table 13).

Table 13: Mann-Whitney test of differences in behavioral and emotional difficulty symptoms and posttraumatic stress symptoms among age and gender groups (N = 106).

UCLAK_SX	Mann-Whitney U Test		
Gender (grouping var.)	U = 997. 00, z = -2.11, p <.05		
Locations	**N**	**Mean Rank**	**Median PTSD Scores*****
Females	66	58.39	37.50
Males	40	45.43	29.50
	Mann-Whitney U Test		
CBCL_TOT	U = 1076. 00, z = -1.73, p =.11n.s.		
Age (grouping var.)	**N**	**Mean Rank**	**Median PTSD Scores****
Locations			
<12	44	46.95	64.00
≥12	61	57.36	68.00

Note: n.s. = non-significant; **CBCL score borderline clinical range; ***PTSD symptoms score >38 = post-traumatic stress disorder clinical range

The Kruskal Wallis test indicated that the relationship between child's ethnicity (African American, Caucasian and/or Hispanic) and their total problem behavioral scores was statistically significant, (CBCL_TOT) (χ^2 [2, N = 105] = 6.90, p = .03. The measure accounted for 6.15% of the variability in rank scores. The Mann-Whitney U follow-up pairwise differences test results for each scale indicate that groups 1 and 5, which represent Hispanic and Caucasian participants, respectively (z=-2.59, p=.01) were statistically significantly different for the total score measures (see Table 14). Thus, behavioral and emotional difficulty symptom scores were significantly different for

Caucasian and Hispanic study participants. Effect size indices for the Mann-Whitney U

further indicate that this variability in the posttraumatic stress symptom scores between

the two ethnic groups was small (r = .29). Additional median assessment follow-up

analyses indicate that median total behavioral and emotional difficulty scores

Table 14: Mann-Whitney U test of differences in child's total behavioral and emotional difficulty
symptoms by ethnicity (N = 106)

CBCL_TOT_T	Mann-Whitney U Post Hoc Test			
Ethnicity (grouping var.)	N	U	r	p
Locations				
1 to 5	79	515.50	.29	.01[**]

Note: Ethnicity (1=Hispanic, 2=African American, 5=Caucasian); Significant at; ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10

for Hispanic, African American, and Caucasian children were 67.00, 68.00, and 72.50,

respectively. These clinical indices show that Hispanic and African American study

participant's behavioral and emotional difficulty symptoms scores fell within the

borderline clinical range, while Caucasian study participants fell within the clinical range.

In sum, the data reveal that study participants who are female showed higher

posttraumatic stress symptoms and Caucasian children presented more severe behavioral

and emotional difficulty symptoms.

Research Question 4

Research question four was whether a statistically significant difference in child's

behavioral and emotional strength scores exists across a participant's age, gender, or

ethnicity and whether posttraumatic symptom scores and/or behavioral and emotional

difficulty symptoms differed for children with different behavioral and emotional

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strength scores (see Table 15). These relationships were assessed with the Kruskal-Wallis

and follow-up tests. Specifically, a Mann-Whitney U test was used to examine

differences in mean ranks or medians between children younger than age 12 and those 12

years or older as well as rank differences between females and males. A Kruskal-Wallis

test with post hoc follow-up analyses was also conducted to identify any differences in

mean ranks among the three category ethnicity groups.

Table 15: Characteristics of Behavioral and Emotional Strength scores by Age, Ethnicity and Gender (N =106)

Variables	**Behavioral and Emotional Strength Indices (BERS)**				
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age					
<12	35	52	114	84.71	16.77
≥12	56	38	107	74.34	15.84
Gender					
Female	58	38	109	79.12	15.88
Male	33	49	114	76.94	18.72
Ethnicity					
African American	26	38	101	74.50	15.08
Caucasian	38	49	130	79.39	18.63
Hispanic	27	56	113	80.52	15.94

Note: BERS scale: <89=below average strengths; 90-110=average strengths; >111 above average strengths

Age was the only demographic characteristics found to be statistically significant

different, i.e., in that, symptom scores for younger children exposed to multiple

interpersonal maltreatments was significantly related to a study participant's behavioral

and emotional strength level (z = -2.76, p = .01) (see Table 16). Children younger than

age 12 had a higher average mean rank (55.67) than older children (39.96). Based on median score assessment follow-up analyses, these younger children's median behavioral and emotional strength scores (81.00) were also higher than children 12 years age and older (73.00). Notably, both younger and older children's behavioral and emotional strength median scores fall within the below average strengths range, which arguably is decisively lower than similarly assessed clinical samples (Barksdale et al., 2010).

Further, Kruskal-Wallis tests reveal that behavioral and emotional difficulty symptom scores differed significantly for participants with different levels of behavioral and emotional strength scores based on the child's externalizing (χ^2 [2, N=91]=22.37, p= .00) and total (χ^2 [2, N=91]=11.73, p=.00) behavioral and emotional difficulty scores. Results also indicate that 13.0% and 24.9% of the variability in behavioral and emotional externalizing symptoms and total behavioral and emotional difficulty symptom scores, respectively, was accounted for and that behavioral and emotional difficulty symptoms were significantly different for children with different levels of behavioral and emotional strengths.

The Mann-Whitney U follow-up pairwise differences test (see Table 16) was used to examine the relationship of child's strengths to their total behavior and difficulty scores. Behavior and emotional difficulty scores differed significantly by level of the child's behavioral and emotional strengths. Group 1, which had below average strengths, differed from group 2, which had average strengths (z=-2.56, p=.01; group, 2 differed from group 3, which had above average strengths (z = -2.13, p =.03), and group 1differed

from group 3(z=-2.35, p=.02). In other words, behavioral and emotional difficulty

symptoms were higher for sample participants who also had lower behavioral and

Table 16: Mann-Whitney test of differences in child's behavioral and emotional strength median scores by age and behavioral and emotional difficulty scores (N = 106)

	Mann-Whitney U Test		
BERSP_SX	**U = 641.50, z = -2.76, p =.01**		
Age (grouping var.)	**N**	**Mean Rank**	**Median BERS Scores**
Locations			
<12	85	55.67	81.00
≥12	56	39.96	73.00
CBCL_TOT	**Mann-Whitney U Post Hoc Test**		
BERS (category)	**N**	**U**	**r**	**p**
Locations				
1(below average strengths) to 2(average strengths)	89	445.50	.27	.01*
2 (average strengths)to 3(above average strengths)	23	1.50	.44	.03*
1(below average strengths) to 3(above average strengths)	70	1.50	.28	.02*

Note: Significant at; ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;BERSP_cat scale:1(<89) =below average strengths; 2(90-110) =average strengths; 3(>111)=above average strengths; CBCL_TOT= Behavioral and emotional difficulty symptom

emotional strength scores. Effect size indexes for the Mann-Whitney U further indicate

that differences in child's strengths accounted for low to moderate variability in

externalizing and total behavioral and emotional difficulty symptoms.

Median SPSS assessment follow-up tests for the child's total behavioral and

emotional difficulty scores indicate median symptom scores of 71.00, 65.00, and 44.50

for below average, average, and above average strengths groups BERS measure,

respectively. In other words, as the child's behavioral and emotional strength scores

increase, their behavioral and emotional difficulty scores decrease (see Figure 6). For the measure of the child's behavioral and emotional difficulty scores, clinical indices scores of 60 to 70 on this measure are considered borderline clinical range, whereas scores less than 60 are below clinical range.

In summary, these results lend support to the suggestions that: 1) a significant difference in a maltreated child's strength scores may exist across a participant's age, but not gender nor ethnicity; 2) younger maltreated children have higher strength scores than older children; 3) Behavioral and emotional difficulty symptoms are significantly different for children with different levels of strengths in contrast to their posttraumatic stress symptom scores; and, 4) Behavioral and emotional difficulty symptoms appear to decrease as a child's behavioral and emotional strength scores increase.

Figure 6: Median behavioral and emotional difficulty scores by child's behavioral and emotional strength scores (N=91).
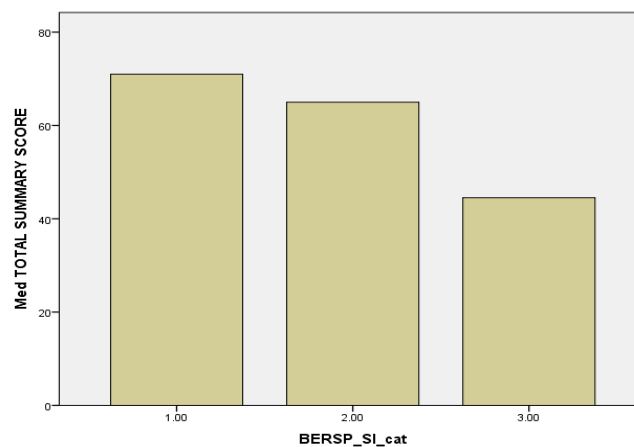
Note: BERSP_SI_cat scale:1(<89) =below average strengths; 2(90-110) =average strengths; 3(>111)=above average strengths; CBCL_total : <60=below clinical range; 60-70=borderline clinical range; >70=clinical range

Regression Analyses

Research Question 5

Research question five was whether there is a significant relationship between the study participants' demographic characteristics (age, ethnicity and gender) and their posttraumatic stress symptomatology, behavioral and emotional difficulty symptoms, and child's strengths. Standard multiple regression analyses were conducted based on previous research which suggests that child demographic characteristics (age, ethnicity and gender) account for a significant proportion of the variance in this study's problem and strengths outcome variables (Rossman & Ho, 2000). The major assumptions (e.g. normality, linearity, multicollinearity and homoscedasticity) for conducting these types of regression analyses were met. To assess the relationship between demographic characteristics (age, ethnicity and gender) and the study's dependent variables, five multiple standard multiple regression analyses were employed.

Demographic variables were entered into each individual regression equation at the same time. Table 17 contains the multiple regression analyses which approached statistically significant overall regression models and identifies which demographic variable(s) were significant predictors.

First, the posttraumatic stress symptoms overall model explained approximately 8% of the total variance in symptomatology outcome and trended toward significance ($R = .28$, $R^2 = .08$, $F [4, 101] = 2.11$, $p = .08$). Study participants' age ($b=.85$, $t [106] =1.72$, $p=.08$) was the only demographic characteristic that approached statistical significance, indicating that as age increased, children's posttraumatic stress symptoms, also tended to

Table17: Multiple Regression Analyses summary of relationships between study demographic predicator variables and study dependent variables (N = 106)

UCLAK_SX	UCLA-K_PTSD-Index for DSM-IV				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
Age	.85	.49	.17	1.72	.08[†]
Gender(0/1)	4.36	2.95	.15	1.49	.14
Ethnicity					
Hispanic	3.02	3.11	.11	.97	.33
African American	1.73	3.55	.05	.49	.63
Model Summary	$R = .28$, $R^2 = .08$, $F_{(4, 101)} = 2.11$, $p = .08$[†]				
CBCL_TOT	**Child Behavioral Checklist_ TOTAL Scale**				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
Age	.62	.32	.20	1.97	.05[*]
Gender (0/1)	-1.66	1.88	-.09	-.89	.38
Ethnicity					
Hispanic	-4.14	-2.08	2.00	-.22	.04[*]
African American	-3.53	2.26	-.17	-1.56	.12
Model Summary	$R = .29$, $R^2 = .08$, $F_{(4, 100)} = 2.26$, $p = .07$[†]				
BERSP_SI	**Behavioral and Emotional Strengths**				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
Age	-1.63	.65	-.27	-2.52	.01[**]
Gender (0/1)	5.63	3.82	.16	1.47	.14
Ethnicity					
Hispanic	1.51	4.16	.04	.36	.72
African American	-5.03	4.21	-.14	-1.20	.24
Model Summary	$R = .31$, $R^2 = .09$, $F_{(4, 86)} = 2.21$, $p = .07$[†]				

Note: Significant at; ***$p \leq .001$ ** $p \leq .01$* $p \leq .05$ † $p \leq .10$

increase. Second, the child's behavioral and emotional difficulty scores overall model approached statistical significance (R=.29, R^2=.08, F [4, 100] =2.26, p=.07). Total variance in the dependent variable explained by the model was approximately 8 %. A child's age (b=.62, t (106) =1.97, p≤.05) and ethnicity, Hispanic ethnicity, (b= -4.14, t (106) = - 2.08, p=<.05), were statistically significant predictors of variability in the dependent variable. These results suggest that as the child's age increased, corresponding behavioral and emotional difficulty scores also increased. Moreover, Hispanic study participants' behavioral and emotional difficulty scores were 4.14 units lower than

Caucasian participants' symptom scores. Third, the child's behavioral and emotional strength scores overall model approached statistical significance (R=.31, R^2=.09, F [4, 86] =2.21, p=.07). The model explained approximately 9% of the total variance in the child's strengths. A child's age (b= - 1.63, t (106)=-2.52, p <.05) was the only demographic variable that significantly predicted variance in child's strengths, suggesting that as the study's participant age increased, their behavioral and emotional strength scores decreased.

To summarize, age is the most consistent predictor of the study's outcome variables, with younger children generally having lower negative symptomatology and greater strengths. Also, Hispanic children tend to have significantly lower (less negative) behavioral and emotional symptomology.

Research Question 6

Research question six was whether study participants who experienced a certain number (0, 1, 2, and/or 3) of maltreatments types demonstrate more severe post-traumatic stress symptoms and/or behavioral and emotional difficulties and whether age, gender, and/or ethnicity moderate the relationship. First, standard multiple regression analyses were employed whereby the categorical independent variable of interest (sum of maltreatment types experienced) was recoded before entrance into the analysis in order to compare groups of the predicator variable with one specific group, i.e., study participants who experienced no interpersonal/familial maltreatment(s). Second, Hierarchical multiple regression (HMR) was used to assess whether age, gender, and/or ethnicity moderated the

relationship between the predicator variables (sum of types of maltreatments experienced) and the outcome variable.

The major assumptions (e.g. normality, linearity, multicollinearity and homoscedasticity) for conducting these types of regression analyses were found adequate. To assess the relationship between study participants who experienced a certain number (0, 1, 2, and 3) of maltreatments types and the study's dependent variables, four multiple standard multiple regression analyses were employed. Table18 contains the multiple regression analyses and identifies which category (s) of the predictor variable (number of maltreatment types experienced) was significantly associated with the outcomes of interest.

This analysis found that the posttraumatic stress symptoms overall model explained approximately 8% of the total variance in symptomatology outcome and was statistically significant ($R = .28$, $R^2 = .08$, $F[3, 102] = 2.9$, $p < .05$). In other words, experiencing all three interpersonal maltreatments types was a significant predictor of higher posttraumatic stress symptomatology ($b = 12.73$, $t[106] = 2.75$, $p < .01$). For example, the expected PTSD symptom scores of children who experienced three types of maltreatments are 12.73 units more than the average study participant who experienced no interpersonal maltreatments.

In addition, the emotional difficulty symptoms overall model ($R = .23$, $R^2 = .06$, $F[3, 101] = 2.9$, $p = .09$) explained approximately 6% of variance in the outcome measure and experiencing all three interpersonal maltreatments types were a significant predictor

Table 18: Multiple Regression Analyses summary of the significant association(s) between the number (0, 1, 2, 3) of maltreatments types children experienced and study dependent variables (N = 106)

DV Variable	UCLA-K_PTSD-Index for DSM-IV				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
SOTK_1	.48	3.30	.02	.15	.88
SOTK_2	-.27	3.68	-.01	-.07	.94
SOTK_3	12.73	4.63	.29	2.75	.01[*]
Model Summary	R = .28, R^2 = .08, F(3, 102) = 2.99, p <.05				
DV Variable	**Child Behavioral Checklist_ TOTAL Scale**				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
SOTK_1	3.38	2.14	.18	1.58	.12
SOTK_2	1.91	2.38	.09	.80	.42
SOTK_3	7.37	3.00	.26	2.46	.02[*]
Model Summary	R = .23, R^2 = .06, F (3, 101) = 2.22, p = .09[†]				

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; SOTK=sum of maltreatment type experienced 1, 2, or 3.

of higher behavioral and emotional symptoms (b= 7.73, t [105] =2.46, p<.05). Hierarchal multiple regression analyses (HMR) were also employed to investigate whether a child's age, gender, or ethnicity moderated the association between the number of maltreatments types experienced and a child's posttraumatic stress or behavioral and emotional difficulty symptoms in comparison to study participants who experienced no interpersonal maltreatments. To assess whether the demographic variables (age, gender, and/or ethnicity) interacted with the predictor variables (sum of maltreatment types, 1, 2, and/or 3) to change the direction or the degree of the relationship between the predictor and the outcome variable, the control variables, age, gender, and ethnicity were entered into each HMR analysis at models 1 and 2, followed by the recoded categorical independent variables of interest (sum of maltreatment types experienced, 1, 2, and 3) in model 3. Composite interaction terms consisting of the demographic characteristic variable (age, gender, or ethnicity) by the number of maltreatment type(s) experienced was entered in the final model (model 4). In the interest of space and clarity, significant

analyses are described in the chapter text below and non-significant HMR analyses are reported in Appendix A. Tables 19-22 contain the hierarchal multiple regression analyses that resulted with statistically significant overall models and identify which interaction terms were significant predictors of variance in the dependent variable.

The child's age (see Appendix A, Table 19A and 19B) did not significantly affect the relationship between the predictor variables and dependent variables (posttraumatic stress symptomatology and difficulty symptoms). However, a study participant's gender moderated the association between study participants who experienced a certain number (0, 1, 2, 3) of maltreatments and their difficulty symptoms. The best fitting HMR model (see Table 19) for predicting whether a child's gender moderate the association between the number of maltreatments types a child experienced and their behavioral and emotional difficulty symptoms overall relationship was statistically significant ($R = .45$, $R^2 = .18$, $F [10, 94] = 2.01$, $p < .05$) and predicted a total of 18% of variance in the dependent variable. Model 1 control variables explained approximately 4% of the variance but was not statistically significant ($p = .13$ n.s.) while controlling for the effects of the additional demographic variables in model 2 approached significance (R^2 change$= .04$, $F = 2.39$, $p = .09$) and explained approximately 4% of the variance. The increase in R^2 associated with adding the variables of interest (i.e., number of maltreatments types experienced) at model 3 was not statistically significant (R^2 change$= .05$, $F = 1.47$, $p = .23$ n.s.). Likewise, the addition of a child's gender

Table 19 Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's gender on the relationship between the number of interpersonal maltreatment types participants' experienced and their negative behavioral and emotional symptomatology (N = 105)

Gender (moderator)	Child Behavioral Checklist_ Total Scale						
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 1					.04		2.09
Age	.36	.36	.12	1.01			
Gender (0,1)	-2.03	1.93	-.11	-1.05			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.08	.04	2.39
Ethnicity							
African American	-3.02	2.31	-.15	-1.31			
Hispanic	-3.53	2.00	-.19[*]	-1.77			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.12	.04	1.47
SOTK_1	5.77	3.68	.30	1.57			
SOTK_2	-2.83	3.37	-.13	-.84			
SOTK_3	9.31	5.87	.33	1.58			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.18	.05	2.02
Gender × SOTK_1	-3.10	4.54	-.15	-.68			
Gender × SOTK_2	8.16	4.74	.28[†]	1.72			
Gender × SOTK_3	-3.84	6.71	-.12	-.57			
Model Summary	R = .42, R^2 = .18, F (10, 94) = 2.01, p <.05						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; SOTK=sum of maltreatment type experienced 1, 2, or 3.

and the number of maltreatment types interaction product terms to the model 4 explained only an additional 5 % of variance but did not significantly improve predicting variance in the dependent variable (R^2 change=.05, F = 2.02, p =.12 n.s.). Importantly, a child's ethnicity (Hispanic) coefficient approached statistical significance (β = -.19, t = 1.77, p =.08) and the interaction combination of a child's gender by two types of maltreatments trended significant (β = .28, t = 1.72, p=.09). The latter result appears to suggest that the relationship between the predictor variable (two types of interpersonal maltreatments experienced) and dependent variable (behavioral and emotional difficulty symptoms) was significantly moderated by a study participant's gender.

The best fitting HMR models (see Tables 20-21) for predicting whether a child's ethnicity (African American) moderate the association between the number of maltreatments types experienced and a study's participant's posttraumatic stress symptomatology and their behavioral and emotional difficulty symptoms overall model explained various percentages of the total variance in the dependent variable, was statistically significant, and produced significant interaction terms as follows:1) Posttraumatic stress model (R =.42, R^2=.17, F [10, 95] = 2.01, p<.05)explained 17% of variance in the dependent variable and the interaction combination of a child's ethnicity (African American) by one type of maltreatments was statistically significant (β = .30, t = 2.23, p<.05); and 2) Child Behavioral Checklist Total model (R =.47, R^2=.22, F [10, 94]=2.66, p<.01) explained 22% of variance in the dependent variable and the interaction combinations of a child's ethnicity (African American) by two types of maltreatments was statistically significant (β = .42, t = 3.28, p<.01), while the interaction combinations of a child's ethnicity (African American) by three types of maltreatments trended significant (β = .22, t = 1.84, p=.07). These results mean that the relationship between the predictor variables, i.e., number of maltreatment types experienced and the child's PTSD symptoms as well as their difficulty symptoms were significantly moderated by their ethnicity (African American) depending upon the number of maltreatment types experienced.

Table 20: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's ethnicity (African American) on the relationship between the number of interpersonal maltreatment types participants' experienced and their negative behavioral and emotional symptomatology (N = 105)

African American (moderator)	UCLA-K_PTSD-Index for DSM-IV						
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 1					.07		3.79[*]
Age	.50	.57	.10	.86			
Gender (0,1)	5.39	3.03	.19[*]	1.78			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 2					.08	.01	.47
Ethnicity							
African American	-7.50	5.35	-.23	-1.40			
Hispanic	2.83	3.04	.10	.93			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 3					.06	.05	.96
SOTK_1	-5.44	3.90	-.18	-1.40			
SOTK_2	-3.51	4.45	-.10	-.79			
SOTK_3	4.20	6.16	.09	.68			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 4					.18	.05	.12
AA × SOTK_1	17.00	7.63	.30[*]	2.23			
AA × SOTK_2	9.78	8.70	.15	1.12			
AA × SOTK_3	17.56	10.60	.21	1.66			
Model Summary	R = .42, R^2 = .17, F (10, 95) = 2.01, p <.05						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; SOTK=sum of maltreatment type experienced 1, 2, or 3.

Table 21: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's ethnicity (African American) on the relationship between the number of interpersonal maltreatment types participants' experienced and their negative behavioral and emotional symptomatology (N = 105)

African American (moderator) Variables entry	Child Behavioral Checklist_ Total Scale						
	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 1					.04		2.09
Age	.65	.36	.21[†]	1.82			
Gender (0,1)	-1.92	1.89	-.10	-1.01			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**$F\Delta$**
Model 2					.08	.04	2.39
Ethnicity							
African American	-9.91	3.33	-.47[**]	-2.98			
Hispanic	-4.21	1.90	-.23[*]	-2.22			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**$F\Delta$**
Model 3					.12	.04	1.47
SOTK_1	1.06	2.43	.06	.44			
SOTK_2	-3.94	2.80	-.18	-1.41			
SOTK_3	1.10	3.83	.04	.29			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**$F\Delta$**
Model 4					.22	.10	3.91[*]
AA × SOTK_1	5.60	4.74	.16	1.18			
AA × SOTK_2	17.78	5.42	.42[**]	3.28			
AA × SOTK_3	12.08	6.58	.22[†]	1.84			
Model Summary	R = .47, R^2 = .22, F (10, 94) = 2.66, p <.01						

Note: Significant at ***$p \leq .001$ ** $p \leq .01$* $p \leq .05$ † $p \leq .10$; SOTK=sum of maltreatment type experienced 1, 2, or 3.

In turn, the best fitting HMR models (see Tables 22) for predicting whether a child's ethnicity (Hispanic) moderate the association between the number of maltreatments types a child experienced and their behavioral and emotional difficulty symptoms overall model explained 20% of variance in the dependent variable, was statistically significant (R =.45, R^2=.20, F [10, 94]=2.35, p<.05) and the interaction combination of a child's ethnicity (Hispanic) by two types of maltreatments was statistically significant (β = -.45, t = -2.95, p<.01). This finding suggests that the relationship between the predictor variables and difficulty symptoms were significantly moderated by a study participant's ethnicity (Hispanic).

Table 22: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's ethnicity (Hispanic) on the relationship between the number of interpersonal maltreatment types participants' experienced and their negative behavioral and emotional symptomatology (N = 105)

Hispanic (moderator) Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
				Child Behavioral Checklist_ Total Scale			
Model 1					.04		2.08
Age	.63	.37	$.20^\dagger$	1.72			
Gender (0,1)	-2.92	1.90	-.16	-1.53			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 2					.08	.04	$2.39^\dagger$
Ethnicity							
African American	-2.73	2.20	-.13	-1.24			
Hispanic	1.52	3.36	.08	.65			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 3					.12	.04	1.47
SOTK_1	4.68	2.63	$.25^\dagger$	1.78			
SOTK_2	6.12	2.93	$.28^*$	2.09			
SOTK_3	7.49	3.91	$.26^\dagger$	1.92			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 4					.20	.08	3.02^*
Hispanic × SOTK_1	-4.22	4.35	-.16	-.97			
Hispanic × SOTK_2	-14.56	4.94	$-.45^{**}$	-2.95			
Hispanic × SOTK_3	-7.00	5.97	-.16	-1.17			
Model Summary	R = .45, R^2 = .20, F (10, 94) = 2.35, p <.05						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; SOTK=sum of maltreatment type experienced 1, 2, or 3.

Figure 7: Path analysis best fit moderator model between number of maltreatment types experienced, study participant's demographic characteristic and child's post-traumatic stress symptoms (N = 105)
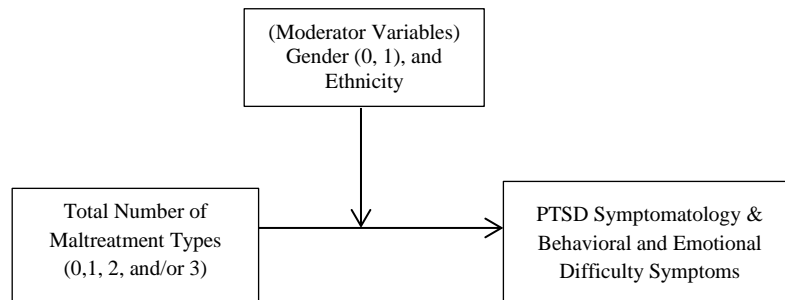
Research Question 7

Research question seven was whether the number of maltreatments types experienced (0, 1, 2, 3) affect the child's behavioral and emotional strengths and whether age, gender, and/or ethnicity moderate the relationship. First, standard multiple regression analyses were employed whereby the categorical independent variable of interest (sum of maltreatment types experienced) was recoded before entrance into the analysis in order to compare groups of the predictor variable with one specific group, i.e., study participants who experienced no interpersonal/familial maltreatment(s). Second, this question was assessed using a moderated hierarchal regression analysis (HMR) model while controlling for child demographic characteristics (age, ethnicity, and gender). Also assessed was whether or not the interaction terms (age, ethnicity and gender by number of maltreatment types experienced) moderated the association between the independent variable of number of maltreatment types experienced and the dependent variable of the child's behavioral and emotional Strengths. The required assumptions regarding normality, linearity, multicollinearity, and homoscedasticity for these types of regression analyses were deemed adequate.

As Table 23 shows, results indicate that the overall model explained approximately 3% of the total variance in outcome variable and was not statistically significant (R = .17, R^2 = .03, F [3, 87] = .81, p =.49 n.s.). In other words, study participants who experienced any of the number of interpersonal maltreatments were not a significant predictor of their strengths. Conversely, findings from the related HMR

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Table 23: Multiple Regression Analyses summary of the significant association(s) between the number (0, 1, 2, 3) of maltreatments types children experienced and their emotional and behavior strengths (N = 90)

Sum of maltreatment types	Behavioral and Emotional Strengths				
Predictors	b	Std. Error	β	t	P
SOTK_1	-4.82	4.38	-.14	-1.10	.27
SOTK_2	-5.13	4.88	-.13	-1.05	.30
SOTK_3	-8.29	6.15	-.16	-1.35	.18
Model Summary	$R = .17$, $R^2 = .03$, $F(3, 87) = .81$, p=.49n.s.				

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; n.s.=non-significant

model suggest that a third variable significantly interacted with the predictor variable to change the degree or direction of the association between the independent variable and the outcome variable. For instance, as part of the HMR analysis (see Table 24), demographic characteristics (age, gender, and ethnicity) was entered in model 1 and model 2. The number of type of maltreatments variables were added at model 3, while composite interaction terms (age, gender and ethnicity, respectively, by the number of maltreatment types experienced) were entered at model 4. The overall model for predicting the relationship between the number of maltreatments experienced by the child and their behavioral and emotional strength level, including Age interaction terms, trended significant (R=.42, R^2=.18, F [10, 80] =1.71, p=.09) and explained approximately 18 % of the variance. Controlling for the demographic variables explained 7 % of the variance in child's strength scores in model 1 and was statistically significant (p<.05). In contrast, controlling for the effects of the additional demographic variables in model 2 was not significance (R^2 change =.02, F = 1.16, p =.32n.s.) as well as adding the variables of interest (i.e., number of maltreatments types experienced) at model 3 (R^2 change =.03, F =.88, p =.46 n.s.). Likewise, the addition of a child's age by the number of

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Table 24: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's age on the relationship between the number of interpersonal maltreatment types participants' experienced and their behavioral and emotional strengths (N = 105)

Age (moderator) Variables entry	Behavioral and Emotional Strengths						
	b	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 1					.07		3.26[*]
Age	-3.10	1.33	-.52[*]	-2.33			
Gender (0,1)	6.94	3.93	.20[†]	1.77			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.09	.02	1.16
Ethnicity							
African American	-5.65	4.28	-.15	-1.32			
Hispanic	.06	4.23	.00	.01			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.12	.03	.88
SOTK_1	-36.54	21.04	-1.05[†]	-1.74			
SOTK_2	-15.00	23.82	-.38	-.63			
SOTK_3	-180.14	90.78	-3.35[†]	-1.98			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.18	.06	1.78
Age × SOTK_1	2.42	1.68	.91	1.44			
Age × SOTK_2	.88	1.87	.30	.47			
Age × SOTK_3	11.16	5.61	3.42[*]	2.00			
Model Summary	R = .42, R^2 = .18, F (10, 80) = 1.71, p=.09[†]						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; SOTK=sum of maltreatment type experienced 1, 2, or 3.

maltreatment type(s) interaction product terms to the model 4 was not statistically significant (R^2 change =.06, F = 1.78, p =.16 n.s.). Statistically significant coefficients include a child's age (β = -.52, t = -2.33, p<.05), gender (β = .20, t = 1.77, p =.08), one type maltreatment (β = -1.05, t = -1.74, p =.09), and, experiencing three types of maltreatments (β = -3.35, t = -1.98, p<.05), while the combination of a child's age by three types of maltreatments was also statistically significant (β = -3.42, t = 2.00, p<.05). Thus, the relationship between the predictor variable and strengths was significantly moderated by a study participant's age.

Figure 8: Path analysis best fit moderator model between number of maltreatment types experienced, a study participant's demographic characteristic Age and their Behavioral and Emotional Strengths (N=91).
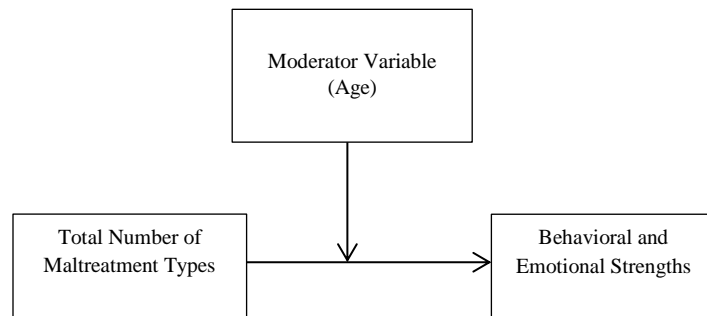
Research Question 8

Research question 8 was whether a study participants' behavior and emotional strengths are significantly associated with the child's outcome criterions of posttraumatic stress symptomatology and/or their behavioral and emotional difficulty symptoms as well as whether a child's age, ethnicity, and/or gender significantly moderated this relationship. A significant interaction would indicate that the overall relationship between strengths and clinical impairment varied by a child's demographic characteristic.

First, standard multiple regression analyses were employed followed by a moderated hierarchal regression analysis (HMR) model while controlling for child demographic characteristics (age, ethnicity, and gender). Also assessed was whether or not the interaction terms (age, ethnicity and gender by a child's strengths) moderated the association between the independent and the dependent variable. The required assumptions regarding normality, linearity, multicollinearity, and homoscedasticity for these types of regression analyses were deemed adequate.

Results indicate (see Table 25) that the posttraumatic stress overall model

explained only 2% total variance in outcome variable and was not statistically significant

(R = .15, R^2 = .02, F [1, 89] = 2.02, p =.16 n.s.) an indication that study participants'

strengths do not assist in predicting their posttraumatic stress symptoms. Conversely,

findings (see Table 25) from the behavioral and emotional difficulty symptoms overall

model was highly statistically significant (R = .49, R^2 = .24, F [1, 89] = 28.72, p<.001)

and explained approximately 24 % of the DV's variance thereby suggesting that a child's

strengths significantly predicted their clinical impairment symptoms (i.e., behavioral and

emotional difficulty symptomatology). Surprisingly however, according to the HMR

analytic model a child's strengths and their negative symptomatology did not vary across

study participants age, ethnicity, or gender. In that, based on the HMR results (see

Appendix A, Table 25A and 25B) even though the overall model behavioral and

emotional difficulty symptoms model was significant (R = .58, R^2 = .34, F [9, 81] = 4.06,

p=<.001) and predicted 34% of the dependent variable variance, no significant interaction

was found in either the PTSD nor the Difficulty symptoms model (see Figure 9).

Table 25: Multiple Regression Analyses summary of the significant association(s) between the study participants' strengths and their clinical and psychosocial outcomes (N = 91)

BERSP (strengths)	UCLA-K_PTSD-Index for DSM-IV				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
BERSP	-.13	.09	-.15	.16	.16
Model Summary	R = .15, R^2 = .02, F(1, 89) = 2.02, p=.16n.s.				
	Child Behavioral Checklist_ TOTAL Scale				
Predictors	**b**	**Std. Error**	**β**	**t**	**P**
BERSP	-.27	.05	-.49	-5.36	.00[**]
Model Summary	R = .49, R^2 = .24, F (1, 89) = 28.74, p<.001				

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; n.s.= non-significant.

Figure 9: Path analysis moderator model <u>not supported</u> by the data between study participant's strengths, posttraumatic stress and/or behavioral and emotional difficulties and potential demographic characteristics as moderators (N = 91)

```
                              ┌─────────────────────────┐
                              │   (Moderator Variables)  │
                              │   Age Gender (0, 1), and  │
                              │        Ethnicity/         │
                              └─────────────────────────┘
                                          │
                                          │
                                          ▼
┌─────────────────────┐          ┌─────────────────────────┐
│                     │          │  PTSD Symptomatology &    │
│   Behavioral and     ├─────────▶│  Behavioral and Emotional │
│  Emotional Strengths │          │    Difficulty Symptoms    │
│                     │          │                          │
└─────────────────────┘          └─────────────────────────┘
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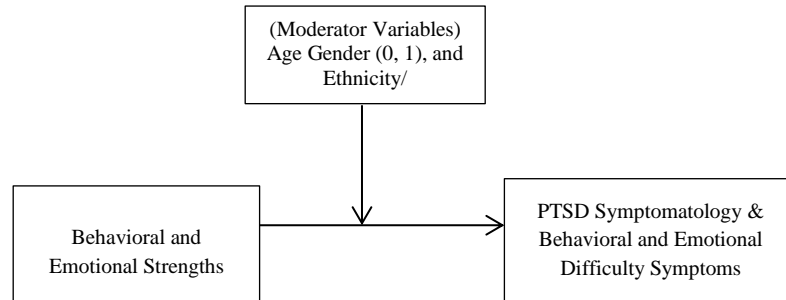
Research Question 9

Research question nine was whether children's emotional and behavioral strengths mediate the relationship between their demographic characteristics and number of interpersonal maltreatment types experienced and the severity of their behavioral and emotional difficulty symptoms. Based on this study's theoretical framework and preliminary analyses number of maltreatments types experienced was ascertained as the significant predictor variable, the child's behavioral and emotional strengths level the most likely mediator variable and the child's total behavioral and emotional difficulty symptoms as the outcome variable of interest. Thus, meditational analyses were conducted to assess the impact of the child's behavioral and emotional strength level on the relationship between the number of maltreatments types study participants experienced and their total behavioral and emotional difficulty symptoms. A meditational analysis procedure developed by Preacher and Hayes (2008) that includes a SPSS macro application to test the significance of the direct and indirect effects of path coefficients

through one or multiple mediator variables was employed. This mediation model was chosen for the following reasons: 1) the strategy includes a form of Baron & Kenny's (1986) 4-causal steps of mediation analyses while also incorporating in indirect effects tests of statistical significance (Sobel, 1982); 2) the technique also includes the size and strength testing of indirect effects and various levels (bias-corrected, bias- accelerated, etc.) of confidence intervals (CIs) assessments via the use of bootstrapping, a non-parametric re-sampling approach for making statistical inferences without a loss of power due to the lack of a sample's normality or collinearity issues; and, 3) the method can assess multiple mediators and/or include control variables in the model (Preacher & Hayes, 2008).

Prior to conducting the procedure, the control variables of child's demographic characteristics (age, gender and ethnicity) were entered into the model and bootstrap confidence intervals were set to generate at the 99% confidence level (p<.001), which automatically includes interval adjustment for bias and contrasts, as well as 1,000 re-samples. CIs around the indirect effect not containing zero indicate mediated effects significantly different from zero, in contrast to the null hypothesis.

Results obtained from Preacher and Hayes's (2008) analytic mediation model macro are displayed in Figure 10 (paths are displayed in unstandardized B coefficients) and Table 26 which indicate that the path (a paths) from the predictor variable, number of maltreatment types experienced to the mediator variable behavioral and emotional strengths was non-significant (B = -2.69, SE = 1.81, p< =.14), while the path of the direct effect of the mediator child strengths on the dependent variable (*b* path), was statistically

Figure 10: Path analysis mediation model diagram of the direct and indirect effects of child's Behavioral and Emotional Strength level (N=91). Significant at [***]p < .001, [**]p < .01, [*]p < .05
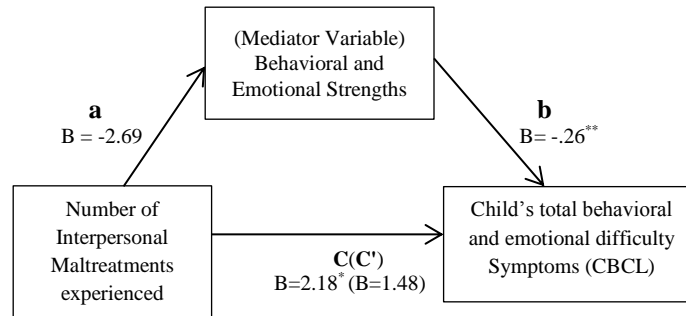
significant (B = -.26, SE =.05, p<.0001). The total effect of the independent variable

(number of maltreatment types) on the dependent variable (c path) was also significant (B

= 2.18, SE =.98, p = .03). The direct effect of the independent variable sum of

maltreatment types while controlling for the mediated path of strengths, on the dependent

variable, total behavioral and emotional difficulties (*c'* path) was non-significant (B=1.48,

SE = .88, p =.10). Even though, the dependent variable mediation model accounted for

approximately 27% of variance and was statistically significant, (R^2=.27, F [2, 88] =

16.37, p<.0001), the overall mediational model (i.e., total strengths indirect effect of IV

on DV through mediator) was non-significant because the independent variable number

of maltreatment types alone did not significantly predict a child's behavioral and

emotional strengths. In other words, in this mediational analysis, a child's behavioral and

emotional strengths is a significant predictor of a study participants' total behavioral and

emotional difficulties scores, not the number of maltreatment types experienced.

Bootstrap results for the indirect effects of the independent variable on the dependent

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Table 26: Mediation Analysis summary of the direct and indirect effects of path coefficients through child's behavioral and emotional strengths mediator variable (N = 91)

Path coefficient models	Child Behavioral Checklist_ TOTAL Scale			
	B	Std. Error	T	P
Model 1				
'a' path/IV to mediator				
Age	-2.69	1.81	-1.48	.14
	B	Std. Error	T	P
Model 2				
'b' path/mediator on DV				
BERSP_SI	-.26	.06	-5.09	.00***
	B	Std. Error	T	P
Model 3				
'c' path/Total effect IV on DV				
Age	2.18	.98	2.21	.03*
	B	Std. Error	T	P
Model 4				
c' path/Direct Effect IV on DV				
Age	1.48	.88	1.68	.10
	Bootstrap Confidence Interval Results for Indirect Effects			
Indirect Effects	Point Est.	SE	LL 99% BCI	UL 99% BCI
'ab' path/IV on DV via Mediator				
Total (BERSP_SI)	.70	.50	-.20	1.83
Model Summary	$R^2 = .27$, $R^2\Delta = .25$, F(2, 88) = 16.37, p<.001			

Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; BCI = Biased Confidence Intervals; Bootstrap resamples=1000

variable (bias corrected and accelerated) through the proposed mediators (ab paths) yielded a non-significant mean indirect effect (estimated standard error of the mean) of -0.20 to 1.83 with a 99% confidence interval. Thus, a non-significant overall mediation is further confirmed because the results did include zero, i.e., zero fell within the intervals noted.

In sum, these findings suggest that the children's behavioral and emotional strengths when acting as a mediator only partially explain the relationship between the number of maltreatments the children experienced and their total behavioral and emotional difficulty symptoms. However, the question remains, is this a valid picture, or

are there additional predictors of interest if included that can elucidate the role of study

participants level of strengths and the relationship between the potential negative impact

of the number of maltreatments they experienced and their subsequent behavioral and

emotional difficulties, such as negative internalizing and externalizing symptoms. Indeed,

adding the demographic variable age appear to do just that, as suggested in research

question ten below.

Research Question 10

Research question 10 was as follows: Within a moderated meditational model, do

children's behavioral and emotional strengths mediate the relationship between number

of maltreatment types experienced and the severity of their posttraumatic stress

symptomology and/or behavioral and emotional difficulty symptoms. In turn, do

children's demographic characteristics moderate the relationship (change direction or

strength) between the number of maltreatment types and the mediator variable,

behavioral and emotional strengths, thus moderating the mediated relationship? A formal

test of conditional indirect effects was employed utilizing Preacher, Rucker and Hayes

(2007) SPSS macro application to assess the indirect mediational effect of the

independent variable, number of interpersonal maltreatments experienced, on the child's

total behavioral and emotional difficulty symptoms through the mediator, child's

emotional and behavioral strengths level and the moderator, a study participants' age.

The "analysis of conditional indirect effects" (Preacher et al., 2007, p. 186) is conditional

on the value of the moderator through which the indirect effect of an independent

variable on the dependent variable is estimated via a macro-based procedure which facilitates a multiple step analyses process.

That process includes the following: 1) testing two multiple regression models to estimate the path coefficients (analyzed using bootstrapping) for the mediator (i.e., IV to Mediator) and moderator models (i.e., Mediator to DV) and the R^2 increase due to the interaction term; 2) tests for specific estimates (mean and +/- 1 SD) of the values of the moderator for which the conditional indirect effect is significant (the Sobel test/ Normal Theory Significance tests; Sobel,1982, 1986); 3) assessing the conditional indirect or mediating effect at a multiplicity of values of the moderator (Johnson-Neyman technique/regions of significance; Preacher, Curran & Bauer, 2006); 4) permits probing for the significance of conditional effects (moderator model) of the predictor variable at values of the moderator variable, as well as provides visual data (e.g. value of mediator/outcome variable at specific values of predictor and sample means of the moderator) of the conditional effect for plotting simple slopes to interpret the interaction effects (e.g. the Sobel test/ the normal-theory significance tests; Sobel, 1982,1986), and 5.) a bootstrapping technique that calculates bias-corrected and accelerated bootstrap confidence intervals for the conditional indirect effect and conditional direct effects at specific values of the moderator variable.

To test the conditional indirect and direct effects using this approach an analysis will be undertaken to assess whether the indirect effect of the number of maltreatment types experienced by the child on their total behavioral and emotional difficulty symptoms through their behavioral and emotional strengths level is significantly

moderated by the child's age. Preacher et al. (2007) specifies this analytic technique as model 2, noted in Figure 11, i.e., the path (OLS regression used to calculate and data is unstandardized) from the number of maltreatment types the child experienced to their behavioral and emotional strengths level as moderated by their age. In research question 9 mediational analyses, a significant relationship (B = 2.18, SE = .98, p = .03) was found between the independent variable (number of maltreatment types) and the dependent variable (total behavioral and emotional difficulty symptoms). Testing whether this total effect of IV on DV (i.e., $c = c' + ab$) or the indirect effect of IV on DV through the mediator (behavioral and emotional strengths) product of a and b (ab) depends on certain values of a moderator, i.e., conditional indirect effect (Preacher et al., 2007), is applicable here. This conditional indirect effect is calculated where a_1 is the path from the number of maltreatment types children experienced to their behavioral and emotional strengths level (mediator variable model). X_1 is the path from the interaction of the number of

Figure 11: Path analysis moderated mediation model diagram of the conditional indirect effects path coefficients where magnitude of an indirect effect may be dependent upon a moderator whereby X_1 affects both a_1 and b_1(Preacher, Rucker, & Hayes, 2007, p.193) (N=91). Significant at $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

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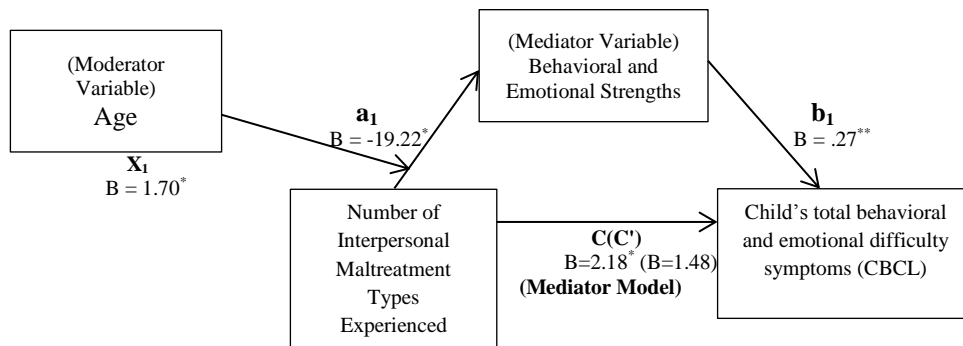
maltreatment types experienced and a child's *Age* to their behavioral and emotional strengths level (moderator variable model), i.e., a study participant's *Age* is the moderator, and b_1 is the path from a child's behavioral and emotional strengths level mediator to their total behavioral and emotional difficulty symptoms (dependent variable model).

However, while, a study participant's behavioral and emotional strengths level is the mediator, and b_1 is the path from a child's behavioral and emotional strengths level to their total behavioral and emotional difficulty symptoms (dependent variable model), the path from a study participant's behavioral and emotional strengths level to their total behavioral and emotional difficulty symptoms is not proposed to be moderated in this initial model (X_2). Further, covariates or control variables (gender and ethnicity) were also not added initially in the regression mediator variable model, nor in the dependent variable models, but were added to the analysis later to aid in the understanding of the nature of the interaction using a post hoc probing test (Hayes & Matthes, 2009) to estimate the interaction and the conditional effects between number of types of maltreatments experienced by a child across his or her age.

Figure 11 and Table 27 show the moderated mediation analyses results. The path coefficients for path a_1 displayed in unstandardized B coefficients for the mediator variable model (path from the number of maltreatments experienced to a child's level of behavioral and emotional strengths) was statistically and significantly associated with the mediator (B = -19.22, t = -2.45, p =.02). Path coefficients b_1 or the path from a study participant's behavioral and emotional strengths level to their total behavioral and

Table 27: Moderated Mediation summary of the conditional indirect and direct effects of path coefficients of number of maltreatment types experienced regressed on CBCL Total scores through child's BERS level and Age (N = 91)

Path coefficient models	Mediator Variable Model (DV=BERSP_SI)			
Model 1	**B**	**Std. Error**	**t**	**p**
'a$_1$' path/IV to mediator				
Constant	124.00	13.91	8.91	.00***
Sum_of_Type	-19.22	7.86	-2.45	.02*
Age	-3.82	1.09	-3.51	.00***
Sum_of_Type x Age	1.70	.62	2.74	.01**
	Dependent Variable Model (DV = CBCL_TOT)			
Model 2	**B**	**Std. Error**	**t**	**p**
'b$_1$' path/mediator on DV				
Constant	86.68	9.84	8.81	.00***
BERSP_SI	-.27	.06	-4.91	.00***
Mod-Med	**Conditional Indirect Effects at mean & +/- 1 SD (DV = CBCL-T)**			
Bootstrap CI's Biased/Corrected/Accelerated	**Lower =-49.66 /Upper =-10.81**			
Age (specific values)	**B**	**Std. Error**	**z**	**p**
10.16	.53	.64	.84	.40
13.00	-.77	.54	-1.41	.16
15.85	-2.07	.89	-2.32	.02*
Mod-Med	**Conditional Indirect Effects at Moderator range (DV = CBCL TOT)**			
Age (lower bound)	**B**	**Std. Error**	**z**	**p**
18.04 (Lowest)	3.07	1.26	-2.43	.02*
13.88 (Highest)	-1.16	.62	-1.88	.06†
Mediator Model				
Model Summary	$R^2 = .17$, F(6, 84) = 2.83, p=.01**			
$R^2\Delta$ increase /interaction	$R^2\Delta=.07$, F=6.79, p=.01**			
	Conditional Effects of IV at Moderator and Bootstrap CI's (mean & +/- 1 SD)			

Age (mean & +/- 1 SD)	BERS level at number of maltreatments experienced			**B**	**Std. Error**	**t**	**p**	LL 95% BCI/A	UL 95% BCI/A
	1	2	3						
10.16	84.16	81.95	80.05	-2.11	2.33	-.91	.37	-6.74	2.52
13.00	77.32	80.15	82.60	2.70	1.89	-1.43	.16	-1.06	6.46
15.85	70.47	78.35	85.11	7.50	2.92	2.57	.01**	1.70	13.31

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; BCI/A = Confidence Intervals biased and accelerated at p <.05; Bootstrap resamples =5000

emotional difficulty symptoms for the dependent variable model was also statistically

significant (B = -.27, t = -4.91, p<.00). In turn, the path coefficient for X_1 or the

interaction effect of the number of maltreatments experienced by a study participant and

their age to their level of behavioral and emotional strengths (mediator variable model)

was also statistically significant (B = 1.70, t = 2.74, p = .01). Study participants' age was also identified as a statistically significant moderator (B = -3.82, t = -3.51, p<.01) of the effects of a child's total behavioral and emotional difficulty symptoms to their behavioral and emotional strengths level. Since paths a_1, b_1 and X_1 were statistically significant; the analysis demonstrates that the child's age moderated the mediated effect of their behavioral and emotional strengths level on the number of maltreatments they experienced.

Given that the indirect relationship between IV and DV was found to be statistically significant, additional significance tests and their plotting is recommended; namely the Johnson-Neyman technique/regions of significance, Normal-Theory significance test (based on moderator values at the mean, one standard deviations below the mean, and one standard deviations above the mean), and bootstrapped confidence intervals at specific values of the moderator (Preacher et al., 2007).

First, post hoc follow-up probing of the significant conditional indirect effects of the predictor variable at values of the moderator variable (e.g., Hayes & Matthes, 2009) suggests that children strengths and were statistically significant (R^2 =.17, F [6, 84] = 2.82, p<.05). The increase in R^2 associated with adding the number of maltreatment types experienced and age interaction product terms was also statistically significant (R^2 change =.06, F = 6.79, p<.05) and explained approximately 7 % additional variance in children's strengths level.

Second, Hayes and Matthes (2009, p.933) emphasize, in the region of significance (i.e., Johnson-Neyman technique/regions of significance) a range of estimates of the

moderator values for the conditional indirect effect should be positive and statistically

significant (alpha = 0.05 level of significance). In the current analysis and plotting (see

Figure 12), the estimates of the values of the moderator (z-value) boundary of the region

where the conditional indirect effect the moderator variable has on the focal predicator

variable (number of types of maltreatments experienced) is positive and significant

includes moderator values whereby *Age* is equal to approximately 14 years of age or

above i.e., upper bound, below which the conditional indirect effect transitions to non-

significant until 7 years of age (i.e., the lower bound). Region of significance falling

outside the confidence bands (noted in figure 13) thus contains statistically significant

simple slopes. Where the moderator value of Age is between approximately 14 years of

age and 7 years of age, and falling within the band, the effect the moderator has on the

focal predicator variable is negative and non-significant (under 7 years of age is

graphically depicted but outside of the current study's data range).

Third, point estimates of each indirect effect were examined independently for a

range of values of the moderator *Age* (i.e., Mean, 1 SD above, and 1SD below) and

results suggest that the moderator values impacting the models' meditational relationship

were statistically significantly different from zero, but conditional. In other words, based

Figure 12: Test of *region of significance* or values of the Moderator age for which the Simple Slopes of a child's behavioral and emotional strengths level regressed on the number of maltreatments experienced are statistically significant (N=91).
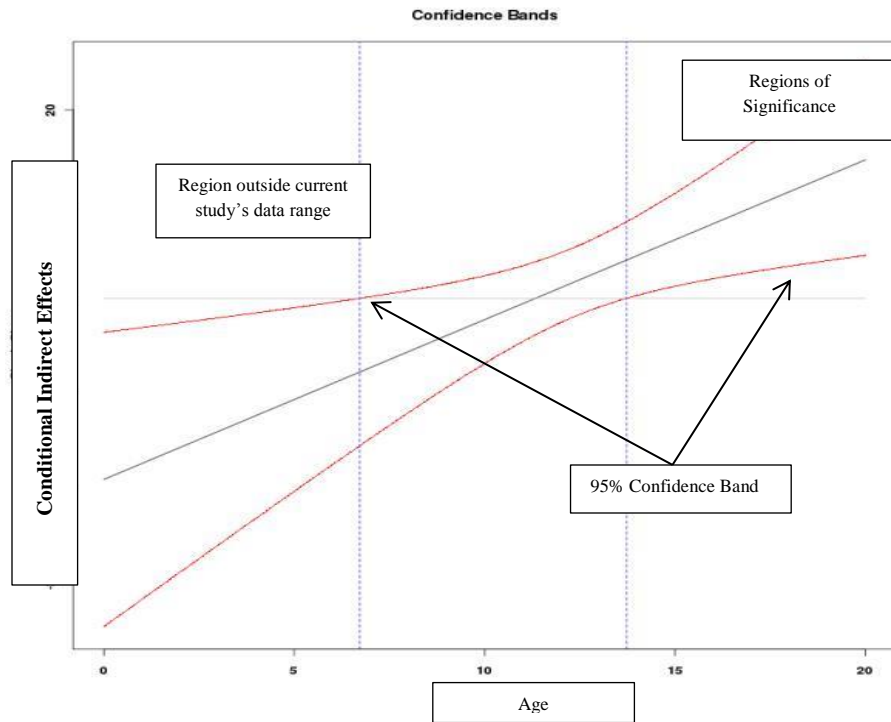
Note: Region of Significance: Calculates at α .05; Conditional values of the moderator age at the lower bound of the region are 6.71 years and 13.88 years at the upper bound of the region. Simple slopes are statistically significant, "outside" this region and are non-significant, "within" this region. Less than 7 years of age is outside the current study data range.

on normal theory hypothesis testing of z-standardized and indirect effects, findings indicate that the mediational relationship (indirect and positive effect of the mediator on the dependent variable through moderator) differed significantly from zero when the level of the moderator was 15.85 years of age, or 1 standard deviations above the mean (B = 7.50, t = 2.57, p <.05). The opposite (the conditional indirect relationship is not significant) is apparent when the moderator level was assessed at its mean, 13.00 years of age (B=2.70, t=1.43, p=.16 n.s.), and when the moderator is 10.16 years of age or 1 standard deviation below the mean (B = -2.11, t= -.91, p =.37 n.s.). This finding indicates that the moderator *Age* has a significant effect as the child's age increases, thus

confirming the Johnson- Neyman significance region test. Plotting simple slopes (see Figure 13) at one SD below the moderator mean ($Age=CV_{z1}$), at the moderator mean ($Age=CV_{z2}$), and one SD above the mean ($Age=CV_{z3}$) aids in the visual interpretation of the interaction effect's (normal-theory significance tests) impact on the meditational relationship of the moderator on the dependent variable through the independent variable. As noted, the slope of the relationship (e.g. interaction) between the number of interpersonal maltreatments types experienced and child's behavioral and emotional strength scores or the simple slopes of the outcome on the focal predictor (number of maltreatment types experienced) at specific values of the moderator age indicates that at one standard deviations below a study participants' mean age ($CV_{z1}=10.16$), a child's behavioral and emotional strengths level decreases as the number of interpersonal maltreatments types increase (informative however not statistically significant). At study participants' mean age ($CV_{z2}=13.00$), a child's behavioral and emotional strengths level slightly increases as the number of interpersonal maltreatments increase, however, this relationship is not statistically significant. In contrast, the relationship is statistically significant at one standard deviation above a study participants' mean age ($CV_{z3}=15.85$) i.e., a child's behavioral and emotional strengths level increases as the number of interpersonal maltreatments types increase. In summary, the visual interpretation of the significant and non-significant interaction effects (conditional indirect effects) further supports the assumption of a statistically significant moderated mediation relationship of the number of interpersonal maltreatments types a child experienced on the their total behavioral

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Figure 13: Simple slopes of the outcome child's behavioral and emotional strengths on focal predictor number of maltreatment types experienced at specific values of the moderator age (N=91).
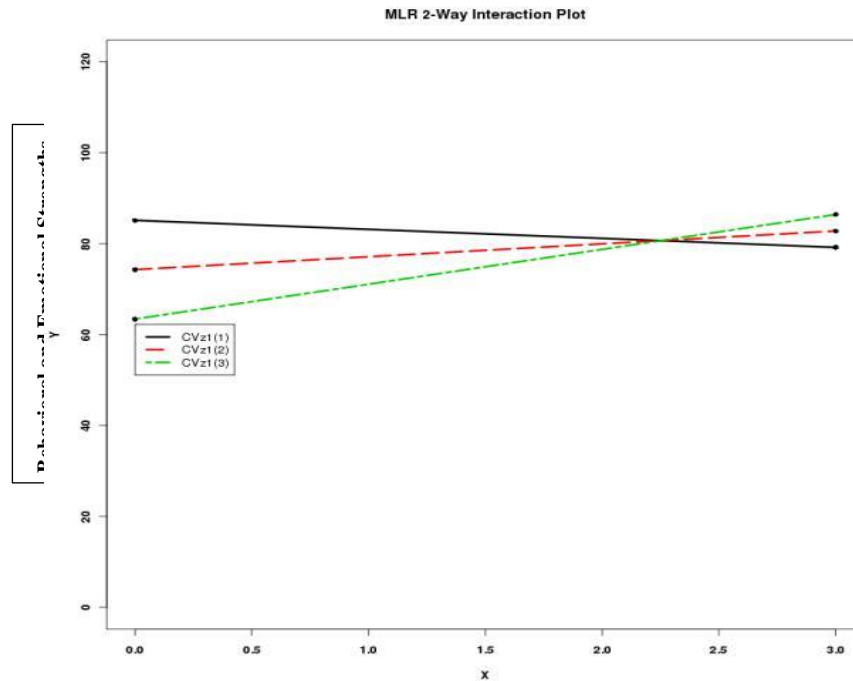
Number of Maltreatment Types Experienced

Note: Corresponding simple slopes of *the mediator/DV* on *focal predictor* at specific values of *the Moderator Age:* ** $p \leq 0$; *One SD below mean=CV_{z1}=10.16; Mean=$CVz2$=13.00;One SD above mean=CV_{z3}=15.85*[**].

and emotional difficulty symptoms through the child's emotional and behavioral

strengths level is conditional on a moderation effect by a study participants' specific age

on the path from the number of interpersonal maltreatments types experienced to child's

emotional and behavioral strengths level.

The execution of a bootstrapping technique at specific values of the moderator

variable (mean and +/- 1 SD) or values of the moderator for which the conditional direct

effect is significant (Sobel test/ Normal Theory Significance tests; Sobel,1982,1986)

generated 95% bias-corrected and accelerated bootstrap confidence intervals indicating

that with 5,000 resamples, estimates of CIs (Lower = -49.66 /Upper = -10.81) is statistically significant (i.e., the confidence band intervals do not contain zero). In other words, bootstrap confidence intervals indicate that as the child's age decreases or increases, the conditional indirect effect is most effective outside the upper and lower (graphically depicted but outside of the current study's data range) bounds of the significant region. Since the yielded confidence intervals do not include zero, the finding that the conditional indirect effects of child's strengths level, i.e., mediation effect is statistically significant at conditional values of the moderator age is corroborated.

In essence, what research question 10 findings and post hoc follow-up probing of the significant conditional indirect effects indicate is that even though the descriptive analyses results suggest that younger children sampled had higher behavioral and emotional strength levels than older children, older children had higher PTSD symptoms and/or higher behavioral and emotional difficulty symptoms than younger children, behavior and emotional difficulty symptoms were higher for children who had lower strength scores, and as the children got older their PTSD symptoms and/or higher behavioral and emotional difficulty symptoms also increased; this study's' analyses as they progressed in complexity denotes that a more complex relationship (statistically discernible relationship)actually existed between the variables. What the significant moderated mediated analyses suggests in relation to this study's earlier findings are, (1) the number of types of maltreatment experienced significantly affects the strengths level for older children ($\geq$14 as noted in Table 28). Suggesting that while younger children

were descriptively assessed with higher strengths levels and lower emotional and

behavioral difficulty symptoms and older children with lower strengths levels and higher

Table 28: Moderated Mediation analyses probing interactions (e.g. Preacher & Hayes, 2008) results for conditional indirect effects of number of maltreatment types experienced (focal predictor) at values of the moderator (Age) and child's corresponding strengths scores (N=91).

Number of maltreatment types	Behavioral and Emotional Strength Scores		
	10 years old	13 years old	16 years old*
1	84.17	77.34	70.47
2	81.95	80.15	78.35
3	80.05	82.58	85.11

Note: moderator *Age* value at -1SD=10 years of age, Mean=13years of age, and +1SD=16 years of age; * $p \leq .05$

emotional and behavioral difficulty symptoms, further analysis and probing reveal that

younger children showed higher strengths scores up until about 13 years of age and then

their strengths scores decreased for children 14 years of age and older. However, as the

number of maltreatment types they experienced increased younger children sampled

strengths level actually decreased, in contrast to the increased strength scores for older

children. In other words, a child's strengths level significantly mediated the relationship

between number of maltreatment types experienced and their behavioral and emotional

difficulty symptoms for children 14 years old and older, because their age moderated

(impacted/strengthened) the mediated relationship. Another way to look at it is that for

sampled children ≥14 years of age, it is the mediated relationship (the relationship that is

accounted for between the IV, ME, and DV) that is changed (strengthened) due to the

presence of the moderator (Age).

CHAPTER V: **Discussion**

Interpretation of Findings

Intimate Partner Violence (IPV) exposure is significantly associated with other types of childhood maltreatments. Children exposed to IPV are three to nine times more likely to experience other interpersonal violence (physical abuse, sexual abuse, emotional abuse, neglect, etc.) than children not exposed to IPV (Hamby, et al., 2010). Such multiple stressors or maltreatments often combine and accumulate in various ways that can lead to more deleterious psychological and/or psychosocial outcomes (Felitti, Anda, & Nordenberg, 1998; Hamby, et al., 2010; Rutter, 1983; Turner & Lloyd, 1995). Severe psychiatric symptoms or complex posttraumatic stress symptomology, such as those associated with exposure to multiple stressors or traumas are most predictive of PTSD development (Hawke et al., 2009; Margolin & Vickerman, 2007; Suliman et al., 2009; Thompson & Massat, 2005).

According to limited empirical research in comparison to a single form of victimization, exposure to multiple forms of victimization and risk for abuse can lead to an increase in internalizing or externalizing emotional and behavioral issues (Appleyard, Egeland, van Dulman, & Sroufe. 2005; Felitti, Anda, & Nordenberg, 1998; Finkelhor et al., 2007; Jouriles et al., 2001; Wolfe et al., 2003). Researchers (e.g. Bourassa, 2007; Finkelhor, Ormrod, & Turner, 2007; Gewirtz & Edleson, 2007)on this topic frequently implore that future studies should focus on the co-occurrence of IPV exposure and the various possible forms of abuse (physical, emotional, sexual abuse, neglect, etc.) directed

toward children and the potential interrelationships among certain types or combinations of multiple forms of interpersonal childhood victimizations across a child's age, ethnicity or gender that may affect the structural relationship between maltreatment and potential negative psychosocial outcomes (Edwards et al., 2003; Finkelhor et al., 2007; Hamby et al., 2010; Vranceanu et al., 2007).

This dissertation study extends the previous literature by investigating factors that concurrently influence the development of PTSD symptoms and emotional difficulty symptoms in children exposed to multiple interpersonal maltreatments across potential mitigating or attenuating demographic factors such as a child's age, ethnicity or gender. The study also identified moderators and a mediator that affected this relationship. This nascent investigation further discerned whether or not moderation occurred to the proposed mediational impact of a child's behavioral and emotional strengths on the relationship between number of maltreatments experienced by the child and their behavioral and emotional difficulty symptoms. Extrapolating evidence regarding the mediating role and/or moderated mediated role of strengths is expected to inform understanding of how the presence of strengths is related to psychopathology (Lyons et al., 2000). Interpretations and discussion of the findings from these multi-modal exploratory analyses is detailed below.

First, the sample of trauma exposed and maltreated study participants were ethnically diverse, though largely Hispanic (35.9%), female (62.3%), approximately 12 years of age and living with a caregiver/parent (82.1%) whose socioeconomic status varied, whereby approximately 50% of the households included an income of nearly

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$20,000 a year or less. Similar to the maltreatment co-occurrence composition noted by Appel and Holden (1998) in their review of primarily clinical and high-risk samples, about 41% of this study's sample experienced multiple interpersonal maltreatments. Notably, both rates are slightly higher than the 34.6% of youth who reported experiencing multiple maltreatments in two other studies that reviewed the literature or investigated the experiences of multiple maltreated youths (Edwards, et al., 2003; Kearney, Wechsler, Kaur, & Miller, 2010). Clinically, 85.7% of this study's sample were diagnosed with borderline or clinical emotional and behavioral impairments, while close to half received a post-traumatic stress disorder diagnosis (Primary Axis 1disorder)at intake for the original study (American Psychiatric Association, 2000). Most children in the sample also received counseling (80%) prior to enrollment into the original study (BRAT, 2010).

Younger children (M = 84.71) in this study were rated with higher behavioral and emotional strength scores than older children (M = 74.34); females (M = 79.12) scores were higher than males (M = 76.94); and, Hispanic (M = 80.52) study participants were assessed with higher scores than Caucasian (M = 79.39) or African American (M = 74.50). Hence, descriptively, being female, younger and Hispanic was associated with higher strength scores overall. Furthermore, the sample's mean behavioral and emotional strength score (BERS) ratings across age, ethnicity and gender was 78.88; indicative of below average strengths. This shows also that this study's clinical sample had lower strength scores than a study (e.g. BERS Mean = 86.64; Walrath et al., 2004) that found a significant correlation between a youth's functional impairment and strengths. In

contrast, however, this study's participants had higher strength mean scores than children with emotional and behavioral disorders in a study that investigated the relationship between a functional impaired child's level of strengths and their subsequent assessment and treatment placement (BERS Mean = 64.14; Oswald et al., 2001). Moreover, similar to a recent study (Barksdale et al., 2010) this clinical sample's mean low BERS scores rating is probably suggestive of the fact that a large portion of the sample was assessed with below average strengths (e.g. 74.7%) while only approximately 24% of the sample was assessed with average to above average strength scores.

Research has also shown that multiple interpersonal stressors, like physical violence, sexual abuse and injury are highly predictive of severe PTSD symptomatology/disorders (Copeland et al., 2007; Davis, & Siegel, 2000; Hawke et al. 2009; Kearney et al., 2010; Kendall-Tackett, Williams, & Finkelhor, 1993; Vranceanu et al., 2007; Widom, 1999). This study analysis of research question 1 found that the type interpersonal violence maltreatments (IPV exposure, physical abuse, sexual abuse, etc.) experienced does appear to significantly affect the child's behavioral and difficulty symptoms in comparison to study participants who did not experience interpersonal abuse. In other words, study participants' behavioral and emotional difficulty symptoms significantly varied across maltreatment types with clinical indices of 71, 73, 74, and 76, for study participants who experienced IPV and physical abuse, all three abuse types, physical abuse and sexual abuse, and physical abuse, respectively. Notably, given that, all the symptom scores fall within the total behavior and emotional difficulty clinical indices range, experiencing a specific combination of interpersonal maltreatments, according to

these results are deleterious to the psychological and emotional well-being of a vulnerable child.

As previously mentioned, increased number of childhood maltreatment experiences are highly predictive of adverse adult mental health outcomes. Edwards et al. (2003) found that adults who experienced more types of abuse during childhood had worse psychological and mental health than those who had experienced fewer types. Felitti et al. (1998), Finkelhor et al., (2007), and Mohay & Forbes (2009) also found a dose-response relationship or graded relationship between the number of multiple types of maltreatment and adult mental health deficits. The current study (Research Question 2) also found that post-traumatic stress symptomology is significantly higher for children who report that they experienced more types of maltreatments. In that, participants that experienced three different types of maltreatments in comparison to children who reported no interpersonal abuse were more likely to have a clinically significant post-traumatic stress symptomology score (i.e. > 38) and condition (Pynoos et al., 1998).

While research (e.g. Bourassa, 2007; Copeland et al. 2007; Davis & Siegel, 2000; Davidson, 1993; Fortin et al., 2000; Hensley & Varela, 2008; Norris et al., 2002) suggest that younger children (12 years old or younger) who have experienced multiple forms of maltreatments have higher externalizing symptoms or may be at higher risk for developing a post-traumatic stress disorder than older youth, this study found the opposite. Results (Research Question 3) instead show that older study participants had higher difficulty symptoms than younger children, though the median scores for younger and older children fell within the borderline clinical range.

A plausible explanation for the difference in previous research finding and the current study might include the difficulty researchers note in assessing negative symptoms in younger children (Bogat et al. 2006; Kearney et al., 2010; Levendosky et al. 2002). For example, previous research suggest that younger children often present different symptomatology profiles than older children, and parents may undervalue certain symptom presentation in very young children, and, as a result, underreport their existence (Bogat et al. 2006; Kearney et al., 2010; Levendosky et al. 2002). It is particularly noteworthy that English and associates (2005) and Pfefferbaum (2005) report that a psychopathology condition in adolescents is highly predicted by young victims' reports of multiple interpersonal maltreatments.

This study's findings that IPV exposed and maltreated females were more likely to have higher PTSD symptom scores than males, confirms a large body of existing literature (e.g. Copeland et al. 2007; Hensley & Varela, 2008; Norris et al., 2002; Shannon et al., 1994; Vogel & Vernberg, 1993) that suggest females are more likely to visually demonstrate and talk about posttraumatic stress symptoms than males (Research Question 3). However, even though in this study female scores were higher than males, both females and males' scores fell within clinical indices denoting that a post-traumatic stress disorder is likely.

In contrast, to the convincing literature concerning the associations between age, gender, and PTSD symptoms, evidence regarding ethnicity/race has proven more elusive; however, sparse investigations (e.g., Rossman & Ho, 2000) do suggest a significant correlation. Furthermore, others that have examined the relationship suggest that while

trauma rates do not differ across ethnic groups, a larger percentage of minority youths (e.g. African American, Hispanic, etc.) report more maltreatment and abuse than non-minority groups (Kearney et al., 2010; Khaylis et al. 2007; Zyromski, 2007). These researchers also hypothesize that even though current evidence is insufficient to draw strong conclusion, it is probable that psychological and distress symptoms experienced by minority youth, the result of interpersonal maltreatment and abuse are exacerbated by cumulative violence from other sources (e.g. community, racism, etc.). The current study results (Research Question 3) also may add to the literature with its finding that while African American and Hispanic study participants' behavioral and emotional difficulty symptom scores fell within the borderline clinical range; Caucasian children behavioral and emotional difficulty symptoms median scores were higher overall and fell within the clinical range (Barksdale et al., 2010).

Similar to Walrath and associates' (2004) finding about the relationship between functional impairments and strengths, in the present study, younger participants exposed to multiple maltreatments had significantly higher behavioral and emotional strength levels than older children (Research Question 4). Surprisingly, in the present study, strength levels for females exposed to multiple maltreatments did not significantly differ to male scores and these scores did not differ across ethnic groups. Conversely, Walrath et al., (2004), report that being male and in an ethnic minority group was associated with higher strength scores. Similarly, Barksdale et al., (2010) found that a youth's strengths level differed as a function of ethnicity in unique and unexpected ways, i.e., minority youth with higher strengths also had greater functional impairments compared to non-

minority youth who had lower strengths and less functional impairments, etc. Conceptually, these results appear to indicate that strengths increased as a result of greater impairments, possibly the result of experiencing a higher number of interpersonal maltreatments. These intriguing findings call for additional research that explains such unique associations and potential interrelated cultural factors.

On the other hand, consistent with other studies (e.g. Lyons et al., 2000; Masten, 2001; Oswald et al., 2001; Ronnau & Poertner, 1993; Walrath et al., 2004) behavioral and emotional difficulty symptom scores were significantly different for sample participants with different levels of behavioral and emotional strength levels (Research Question 4). More specifically post hoc follow-up tests indicate that difficulty symptoms were higher for study participants who also were assessed with lower behavioral and emotional strength scores, while the inverse appear apparent as well; that is behavioral and emotional difficulty symptoms appear to decrease as a child's behavioral and emotional strength scores increase.

Research (e.g., Copeland et al. 2007; Davis & Siegel, 2000; Davidson, 1993; Hensley & Varela, 2008; Kearney et al., 2010; Norris et al., 2002; Vogel & Vernberg, 1993) suggests that younger children and females who experienced multiple interpersonal maltreatments are likely to have more severe posttraumatic stress symptomatology. Similar predicative associations regarding ethnicity are sparse (e.g. Rossman & Ho, 2000) or largely inconclusive (Kearney et al., 2010). Findings from this study's multivariate analyses suggest that a participants' posttraumatic stress symptomatology and/or behavioral and emotional difficulty symptoms were significantly predicted by

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their age and ethnicity (e.g. Hispanic). In that, older children had higher emotional

difficulty symptoms and in comparison to Caucasian children, Hispanic participants'

difficulty symptoms cores were less, and a child's gender was not statistically

significantly related to symptoms.

Also, research evidence (e.g. Barksdale et al., 2010; Walrath et al., 2004) is

emerging that key demographic variables age, ethnicity, and/or gender are significant

predictors of a child's strengths. Other researcher (e.g. Luthar, Cicchetti, & Becker, 2000;

Walrath et al., 2004) findings on this topic appear to concur (in part) with the current

study's findings (Research Question 5) that participant age, but not their ethnicity or

gender, significantly predict a child's behavioral and emotional strength, i.e., as the

study's participants age increased their corresponding strength scores decreased.

In addition to examining the associations between the predictor variables and the

outcome variables (i.e., posttraumatic stress and/or behavioral and emotional difficulty

symptoms) of interest, this study also explored moderators that may impact the

relationships. Specifically, this study's results (Research Question 6) and others suggest

that experiencing multiple types of interpersonal abuse were highly predictive of severe

PTSD symptomatology/behavioral disorders (Copeland et al., 2007; Hawke et al. 2009;

Kearney et al., 2011; Kendall-Tackett, Williams, & Finkelhor, 1993; Widom, 1999). In

turn, moderated relations emerged suggest that a traumatized child's ethnicity may

provide essential insight into the relationships examined. For instance, research indicates

that ethnic minorities appear to experience a disproportionate amount of interpersonal

childhood maltreatments, which is associated with experiencing severe posttraumatic

stress symptomatology due to other types of violence (e.g. community, etc.) and racism exposure (Kearney et al., 2010; Khaylis et al. 2007; Rossman & Ho, 2000; Zyromski, 2007). In this study, results suggest that being African American *and* experiencing multiple types of interpersonal abuse amplified a study's participants' vulnerability to symptoms of posttraumatic stress and behavioral and difficulty symptoms in comparison to Caucasian children. According to Luthar and Zigler (1991) amplifying or vulnerability factors (i.e., such as one's gender and/or ethnicity) can have the opposite effect as protective factors, i.e., amplifying or vulnerability factors may exacerbate negative outcomes instead of providing a buffer that potentially ameliorates a negative effect.

Thus, consistent with this study's findings, others (e.g. Davis & Siegel, 2000; Finkelhor et al., 2007; Hensley & Varela, 2008; Jouriles et al., 2001; Norris et al., 2002; Suliman et al. 2009; Wolfe et al., 2003) have also found that (1) victims of multiple interpersonal maltreatments are more likely have more severe posttraumatic stress symptomatology, (2) the cumulative impact of violence exposure increased exponentially with the number of different types of interpersonal maltreatments experienced, and (3) ethnic minorities experience higher rates of PTSD symptomatology and/or behavioral and emotional difficulty symptomatology.

Further, this study explored the relationship between number of maltreatments types experienced and a child's strengths (Research Question 7), as well as whether their demographic characteristics modified this association. Results indicated that age (e.g. $\geq$ 12) and but not ethnicity or gender, significantly moderated the relationship, when study participants experienced a certain number, i.e., three different maltreatment types. This

suggests that as the number of types of maltreatments increased the study's participant's age increased (moderator with an amplifying or vulnerability factor), while correspondingly, the child's behavioral and emotional strengths scores increased. This is a surprising finding that requires further study.

Research, as noted, purports that a relationship exists between a child's strengths level and their psychological or emotional functional impairments. For instance, researchers (e.g. Barksdale et al., 2010; Oswald, et al., 2001; Lyons et al., 2000; Walrath et al., 2004) indicate that a significant association exists between a youth level of strengths and subsequent level of functional impairment, clinical impairment, and/or treatment placement.

Extending the above findings further, the current study (Research Question 8) also found that a child's strengths significantly predicted their clinical impairment symptoms (i.e., behavioral and emotional difficulty symptomatology) even though the relationship did not vary across the children age, ethnicity, or gender. However, it has not been shown in the literature as finding from this study suggests that behavioral and emotional strengths may mediate trauma risk factors in the development of posttraumatic stress disorder or related psychopathology.

Although previous research (e.g. Barksdale et al., 2010; Brown, Odom, & McConnell, 2008; Griffith, Hurley, Trout, Synhorst, Epstein & Allen, 2010; Lyons et al., 2000; Walrath et al., 2004) suggest that strengths may mitigate the impact of childhood interpersonal victimizations by potentially minimizing psychiatric symptoms thereby reducing psychological and/or functional impairments, the mechanisms through which

such potentially inherent attributes affect the psychosocial outcomes are less known. In the present study, a mediation model (Research Question 9) ascertained that while strengths appear to be a central mechanism that helps explain the association between the number of maltreatments experienced and behavioral and emotional problems, it did not significantly account for the relationship by itself. Specifically, path analysis model results indicate that the number of types of maltreatments a child experienced did not predict their behavioral and emotional strengths level alone, study participants' strengths do however significantly mediated the relationship between the number of maltreatments experienced by a child and their difficulty symptoms and that a child's age moderated this mediated relationship. In other words, moderated mediation analyses results suggest that child's age moderated the mediated effect of their behavioral and emotional strengths on the number of maltreatments they experienced and their clinical impairment symptoms.

It bears highlighting further that, recommended post hoc follow-up probing interaction analyses (e.g. Hayes & Matthes, 2009) found (1) Age has a significant effect as the child's age increases, (2) at one standard deviation above a study participants' mean age (i.e.15.85) a child's behavioral and emotional strengths level significantly increases as the number of interpersonal maltreatments types increase, and (3) a child's strengths level significantly mediated the relationship between number of maltreatment types experienced and their difficulty symptoms for children 14 years old and older, because their age moderated (impacted/strengthened due to the presence of the moderator) the mediated relationship.

Summary

In summary, study results support the research assumptions that children who experienced multiple types of interpersonal maltreatments, i.e., IPV exposure and sexual abuse, physical abuse and sexual abuse, or three different types of maltreatments (IPV exposure, Sexual abuse and physical abuse) have greater posttraumatic stress symptomatology and/or behavioral and emotional difficult symptoms than sampled children who experienced no interpersonal maltreatment types. Study participants who were12 years of age and older were assessed with more severe presentation of behavioral and emotional difficulties symptoms, while females were more likely to have higher posttraumatic stress symptomatology than males. A significant difference in a maltreated child's behavioral and emotional strength scores was found to exist depending on a participant's age (i.e., younger children strengths scores were higher that older children) but not their gender or ethnicity. Moreover, behavioral and emotional difficulty symptoms were significantly different for children with different levels of behavioral and emotional strengths and appear to decrease as a child's strength scores increase.

Multivariate analysis results suggest that a child's demographic characteristic *Age* significantly predicted variance in study's participants' posttraumatic stress symptoms, behavioral and emotional difficulties symptoms and their behavioral and emotional strengths. More specifically, it appears that, as a child's age increased their negative symptomatology increased, while their behavioral and emotional strengths decreased. On the other hand, a child's ethnicity (Hispanic) significantly predicted variance in study's participants' behavioral and emotional difficulties symptoms.

Also, in comparison to children who experienced no interpersonal maltreatments, study participants who experienced two or more different interpersonal maltreatment types significantly demonstrated more severe posttraumatic stress symptoms and behavioral and emotional difficulty symptoms. Interestingly, the effects of a child experiencing multiple maltreatments appear to me moderated by their demographic characteristic *ethnicity* (African American) if the outcome assessed entailed posttraumatic stress symptomatology versus when the effect becomes more robust when assessing children's behavioral and emotional difficulty symptoms (African American and Hispanic).

Findings also suggest that while the number of types of maltreatments a child experienced did not statistically significantly predict variance in their behavioral and emotional strengths, their age and emotional and behavioral difficulties symptom status did. This suggests that as a study participant increased in age (moderator), their strengths scores decreased as the number of types of interpersonal maltreatments increased.

Even though a child's strengths significantly predicted their clinical impairment symptoms (i.e., behavioral and emotional difficulty symptomatology) the relationship did not vary across the study participants' age, ethnicity, or gender. The child's behavioral and emotional strengths alone does not explain the relationship between the number of interpersonal maltreatments study participants' experienced and their negative symptomatology; that is, study participants' strengths were not indicative of whether the negative impact experienced predicted their subsequent behavioral and emotional symptoms.

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However, results from these progressively complex analyses does show that a unique significant association existed between the variables such that the indirect effect (mediational effect) of the number of maltreatment types experienced by the child on their total behavioral and emotional difficulty symptoms through their strengths appear to be changed (strengthened) by the child's age. This means that while younger children were descriptively assessed with higher strengths and lower emotional and behavioral difficulty symptoms, further analysis and probing reveal that younger children showed higher strengths scores up until about 13 years of age and then their strengths scores decreased in comparison to children 15 years of age and older. An indication that as the number of maltreatment types they experienced increased younger children strengths actually decreased, in contrast to the significantly increased strengths for older children who experienced the same number of interpersonal traumatic experiences.

Implications

Social Work Practice, Prevention, and Intervention

History would attest that social workers are concerned about ending partner-violent homes and where such violence occurs, to lessen its effects on children. In turn, previous research findings and this exploratory study have important implications for social work practice, prevention and intervention. The results highlight the need for social workers to better understand the effects of multiple interpersonal maltreatments on children in order to better assist them. In that, challenges and unique opportunities exist in developing enhanced strategies for amelioration of family or other interpersonal violence and strengthening vulnerable children exposed and victimized by it.

On the one hand, results suggest that challenges entail facilitating the development of more evidence-based practice approaches (Kracke & Hahn, 2008; Litrownik et al., 2003) and enhancing multimodal/cross agency collaborations (McKinney et al., 2006; Mohr et al., 2000; Koverola & Heger, 2003) that can address the complex dynamics of family violence (i.e., to better prevent and detect concurrent victimizations), while retaining a focus on the safety and needs of the children involved (Bedi, 2007). In addition, given the research findings that a large percentage of childhood traumas in youths at risk for multiple victimizations go undetected consideration is needed towards the development of assessment measures that more adequately encapsulate such vulnerability factors (Mills et al., 2000; Mills & Yoshihama, 2002)

On the other hand, this study results also highlights some additional unique opportunities for social work practitioners that include: 1.) Being responsive to the unique needs and circumstances of families and children (i.e., younger children and teens) struggling with interpersonal violence and their often-related socioeconomic disadvantages (Gewirtz & Edleson, 2007). Essentially, researchers argue that a comprehensive support system structured along a range of interventions, available in the community and through various agencies, is the most advantageous way to deal with this problem (Carlson, 2000; Gewirtz & Edleson, 2007; McKinney et al., 2006; Mohr et al., 2000; Nixon et al., 2007); 2.) Being aware of, fostering and facilitating child strengths, resilience or other protective factors in the environment that lessen the impact of violence exposure (Evans, 1999; Rudolph & Epstein, 2000), as well as cultivating a better understanding regarding child-focused strengths based practice modalities (e.g., Clare &

Mevik, 2008; Clements et al., 2008; Goddard & Bedi, 2009; Hafford-Letchfield &

Spatcher, 2007; Mullin & Canning, 2006; Mullender, 2006; Rudolph & Epstein, 2000)

such as recent advent of differential response (DR) practices in child protective services

(CPS; Conley, 2007; Sawyer & Lohrbach, 2005; Waldfogel, 2008). DR is essentially a

new CPS practice approach method that sorts child maltreatment or DV reports into

multiple risk categories (Conley, 2007). The higher risk category cases, suggesting

imminent harm to a child, would receive a standard investigation and protocol, while

lower risk cases, such as some IPV exposure reported cases, would receive an enhanced

assessment and community based "team" approach (Waldfogel, 2008); 3.) Aiding in

obtaining resources and coordinating involvement with multiple agencies, such as health

clinics, schools, family support programs, intimate violence prevention and intervention

services, and mental health services (Koverola & Heger, 2003; McKinney et al., 2006;

Mohr et al., 2000; Taylor & Sorenson, 2007); 4.) Provide culturally appropriate programs

and services for vulnerable children and their families (Gewirtz & Edleson, 2007; Kracke

& Hahn, 2008; Mohr et al., 2000); and 5.) Strengthen community providers and policy

makers' comprehensive understanding of the impact of IPV on children and youth, while

also increasing children and youth's access to evidence-based, early intervention services

(Carlson, 2000; Fowler & Chanmugam, 2007; Holt, Buckley & Whelan, 2008). For

example, it is highly important, according to Holt, Buckley, and Whelan (2008), that

authorities are aware of the complex aspects of IPV exposure and the need to respond in a

timely fashion based on the child's individual needs or circumstances.

In effect, this study's findings regarding the heightened vulnerability of multiple victimized African American youth suggests that specific social work preventive and intervention practices are essential if changes are to be effectively implemented, while the lack of programming and necessary resources and procedures to follow-up on services rendered to such victims may unwittingly increase negative consequences of prior childhood violence victimization (Nixon et al., 2007). To that end, social workers must understand and utilize the available research on the co-occurrences of IPV exposure and child abuse as well as their related adverse effects (Kracke & Hahn, 2008; Litrownik et al., 2003). The extent to which social workers use empirical and theoretical knowledge from relevant research to gain a clear understanding of the factors associated with multiple interpersonal maltreatments, and its negative emotional and psychological effects on abused child witnesses are important factors for treatment, prevention, and strengths-based intervention strategy and policy development (Carlson, 2000; Gewirtz & Edleson, 2007; Holt, Buckley & Whelan, 2008).

Lastly, this study adds to the literature by empirically and theoretically noting under what conditions, i.e., age, ethnicity, strengths, etc. violence exposed children are more likely to be more affected by interpersonal maltreatments or more resilient. Such as ascertaining what the primary behavioral and emotional strengths of maltreated children are, and which strengths should be targeted for development and perhaps how (i.e., through resilience training) this might be done (Lyons et al., 2000). In effect, having an appropriate understanding of this literature and the associated problems are key towards social workers' ability to not only offer protection and support, but to garner

environmental and financial resources for the development of evidence-based practice

interventions that ameliorate exposure to violence and its deleterious effects (Litrownik,

2003; Kracke & Hahn, 2008).

Future Research Recommendations

Researchers (e.g. Koverola & Heger, 2003; Mohr et al., 2000; Silverman, &

Hinshaw, 2008) argue that substantive improvements are needed in the study of children

who concurrently are exposed to IPV and victims of child abuse. Particularly, more

collaboration is needed across disciplines, among agencies, and among researchers and

practitioners. Effective communication and collaboration is essential if common ground

is to be found and the gap between research and practice is to be narrowed. For instance,

given this study's findings on developmental factors that are impacted by multiple

interpersonal maltreatment victimizations as well as, the various ages abused children's

intrinsic strengths appear more salient, particular attention by both researchers and

practitioners is warranted concerning abused children's time specificity as it relates to his

or her developmental stages (Litrownik et al., 2003; Margolin & Gordis, 2000; Mohr et

al., 2000).

Moreover, this study's intriguing moderated mediation findings that revealed

when a study participant's conditional age moderates (buffers) the mediated relationship

between the number of interpersonal maltreatments study participants experienced, their

strengths level, and total behavioral and emotional difficulty symptoms, highlights the

increased need for investigations that better ascertain the role and impact of potential

moderators, confounding factors, cumulative and/or interactive effects, and co-

occurrences related multiple maltreatment child victimizations (e.g., Finkelhor, Ormrod, & Turner, 2007; Fowler & Chanmugam, 2007; Litrownik et al., 2003; Wolfe et al., 2003), as well as enhanced knowledge of behavioral and emotional strengths, or other resiliency factors associated with lessening the impact of interpersonal violence exposure on young children (Gewirtz & Edleson, 2007).

This study and previous research on this topic underscores the importance of elucidating key risk, contextual, and protective factors in understanding how particular aspects of intrinsic strengths (resilience) can be therapeutically sustained or increased in vulnerable populations (Edelson, 1999; Martinez-Torteya et al., 2009; McKinney et al., 2006; Rudolph & Epstein, 2000). For example, more longitudinal studies are needed that can expound upon developmental factors (e.g., adjustment or adaptation) associated with the sequelae of childhood trauma exposure and developmentally-related resiliency mechanisms theoretically hypothesized to buffer effects in some victims (Carlson, 2000; Margolin & Gordis, 2000; Mohr et al., 2000; Wolfe et al., 2003).

Researchers surmise and this study's findings (i.e., young, female, African American youth increased vulnerability to higher posttraumatic stress symptomatology) further highlight that an increase in theoretically grounded and culturally sensitive population-based studies rather than relying so heavily on studies employing shelter samples is crucial for closing research gaps in this literature (Carlson, 2000; Mohr et al., 2000; Wolfe et al., 2003).

Study Strengths and Limitations

This multi-method study adds to the existing literature by clarifying the relationship between children's demographic characteristics, multiple interpersonal maltreatments, emotional and behavioral strengths, and severe posttraumatic stress symptomatology and/or behavior and emotional difficulty symptoms. This study also contributes to the emerging research and theoretical assumption on multi- dimensional contextual or interrelated risk factors and explores moderator and mediators that might attenuate or exacerbate associations. Additionally, while this study provides useful information for developing and testing hypotheses for future research, several limitations bear mentioning.

First, while the findings are anticipated to be resourceful towards the development of future research studies and hypotheses, however, the results found are not definitive and don't fully reveal all potential significant associations between the theoretical relevant predictor variables and outcome variables, i.e., for example that might shed light on factors that contribute to older study participants increased trauma exposure and their correspondingly increased strengths. Further, despite the fact that several path analyses models were identified that best fit the data, factors or influences (i.e., parent's mental health status, poverty, etc.) outside the model that could suggest an omission of crucial variables requires consideration during the analytic strategy stage for future research.

Similarly, given the clinical composition of the data these results are not generalizable to a general community sample of children and youths, however, the findings build on existing literature by suggesting that different numbers and types of

child victimization are associated with the development of childhood trauma symptoms. In turn, in addition to the clinical population analyzed, the secondary data, and the small sample size influenced the type of data analyses that could be employed, limited the range of available variables, and limits the interpretation and practice application of the results.

Importantly, this study only controlled for the participants demographic characteristics and was not designed to address or control for socioeconomic factors, etc. Likewise, even though these exploratory analyses were theoretically grounded within an attachment, developmental, and strengths perspective framework, future research of these associated concepts via the lens of a risk and resiliency theoretical model may also be warranted.

Finally, a majority of the outcome measures utilized were parent's report of the child's posttraumatic stress symptomatology and/or behavioral and emotional strengths, thus vulnerable to social desirability bias and second account interpretations. Utilizing the child's own account of their experiences and clinicians' observations or assessments as another source of information would strengthen similar research studies. Moreover, the data utilize for these analyses were cross-sectional acquired, thereby, interpretations are limited to associations. Thus, asserting a causal linkage to theses or similar results is not scientifically valid.

Conclusions

In conclusion, research has shown and the results of these exploratory findings indicate that childhood multiple interpersonal maltreatment victimization is a risk factor for severe trauma symptomatology and related psychiatric disorders. The results also address a gap in the literature as to whether a child's strengths affect posttraumatic stress symptoms and/or behavior and emotional difficulty symptoms across a victim's age, ethnicity or gender. In addition, the present study broadened the focus of previous research. In that, to the authors' knowledge, it is the first empirically investigation of factors that concurrently influence the complex relationship between key demographic characteristics and pathways that impact negative clinical and psychosocial outcomes, as well as the relationship between a child's level of behavioral and emotional strengths and multi-maltreatment victimizations. In other words, this study attempt to empirically and theoretically connect interrelated constructs and highlight factors that influence the relationship between interrelated moderator (e.g., buffer, attenuate, or amplify effects) and mediator (e.g., how relationship exist) variables.

Theoretically, the developmental psychopathology frameworks and strengths perspective predicted the variables with the greatest explanatory power and were more consistent with the data, while results that highlighted young school aged children vulnerability and propensity towards increased behavioral and difficulty symptoms underscore dimensions of the attachment theory. Moreover, similar to other research (e.g., Grych et al., 2000; Tedeschi & Calhoun, 1995, 2005; Weems & Overstreet, 2008) these findings suggests that intrinsic influences, i.e., strengths does potentially mitigate a

combination of exposure to IPV exposure and child maltreatments, thereby have the potential to ameliorate psychopathology of trauma in children victimized by violence in the home.

Also, the exploration of the relationship between number of interpersonal maltreatment types experienced and behavioral and emotional strengths, and whether age, ethnicity, or gender modified this association considers both a child's psychopathology and their strengths in an attempt to identify essential less noticeable components between the concepts. To that end, previous research (Barksdale et al., 2010; Walrath et al., 2004) and these findings that a child's strengths significantly predicted their clinical impairment symptoms (i.e., behavioral and emotional difficulty symptomatology) and that the relationship did not vary across the children age, ethnicity, or gender shed light on only part of the actual complex relationships.

In other words, as an extension of that knowledge, these comprehensive findings indicate that study participants' strengths also significantly mediated the relationship between the trauma experienced by a child and their difficulty symptoms due to the moderation effects of a child's age. As previously mentioned, a child's strengths is analyzed here as a mediator due to, first, its significant negative association with clinical symptomatology, i.e., strengths increase and clinical or functional impairments decrease and vice versa (e.g., Barksdale et al., 2010; Oswald et al., 2001; Walrath et al., 2004). Such a relationship may indicate that because study participants strengths directly impact the outcome criterion, in turn, given the interrelationship between the study variables, it may account for the less known relationship between the interpersonal trauma and a

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child's negative clinical symptomatology. Second, it makes clinical and theoretical sense based on the current data and the proposed analytic model, i.e., path analysis model and the hypothesized direct and indirect influence between variables. Lastly, given strengths conceptual and intrinsic nature (e.g., even the most severely emotionally impaired children have strengths), in this study the different trauma exposure experiences (more types of maltreatment experiences) is hypothesized to impact a study participants strengths, i.e., certain participants acquired more strengths possibly related to cultural values, etc. (Barksdale et al., 2010; Oswald et al., 2001; Walrath, Mandell, et al., 2004).

Results also provide evidence of the integral role or when the buffering effect of a study participant's age became relevant and when their strengths level moderated mediation effect was salient. This pertinent information regarding increased strengths and related decreased psychopathology levels could be advantageous in situations where practitioners are seeking treatment modalities or resources that will help alleviate negative psychosocial symptomatology in both young and older children exposed to multiple interpersonal stressors.

Lastly, researchers (e.g., Davis & Siegel, 2000; Finkelhor et al. 2007) have frequently implored future investigations that comprehensively assess for probable cumulative and interrelated effects among different kinds of child maltreatments across key demographic characteristics. Such a holistic approach was the goal of this nascent investigation with the desire to advance specific prevention and treatment strategies against interpersonal violence related childhood trauma, as well as highlight ways to bolster or increase strengths that potentially shield at risk children from adverse

psychological outcomes. These results are also anticipated to aid in the formulation of

hypotheses for future research that considers both trauma psychopathology and

behavioral and emotional strengths (e.g., Lyons et al., 2000) while utilizing a large

community sample of children and youth data gathered longitudinally.

Appendix A

Hierarchical Multiple Regression Analyses non-significant coefficients

Research Question 6

Table 19A: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's age on the relationship between the number of interpersonal maltreatment types participants' experienced and their posttraumatic stress symptomatology (N = 105)

Age (moderator)	UCLA-K_PTSD-Index for DSM-IV						
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 1					.07		3.79[*]
Age	1.21	1.00	.25	1.21			
Gender (0,1)	5.09	3.05	.18[†]	1.67			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.08	.01	.47
Ethnicity							
African American	.86	3.63	.03	.33			
Hispanic	3.66	3.19	.13	1.15			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.12	.05	1.70
SOTK_1	11.23	16.02	.38	.70			
SOTK_2	20.31	19.01	.60	1.07			
SOTK_3	74.63	76.73	1.68	.97			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.14	.02	.58
Age × SOTK_1	-1.03	1.31	-.45	-.79			
Age × SOTK_2	-1.68	1.50	-.68	-1.12			
Age × SOTK_3	-4.19	4.73	-1.55	-.89			
Model Summary	R = .37, R^2 = .14, F (10, 94) = 1.53, p=.14 n.s.						

Note:Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; n.s.= non-significant; SOTK=sum of maltreatment type experienced 1,2, 3

Table 19B: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's age on the relationship between the number of interpersonal maltreatment types participants' experienced and their behavioral and emotional difficulty symptomatology (N = 104)

Age (moderator)	Child Behavioral Checklist_Total						
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 1					.04		2.09
Age	.67	.64	.22	1.05			
Gender (0,1)	-2.06	1.96	-.11	-1.05			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 2					.08	.04	2.39[†]
Ethnicity							
African American	-3.27	2.33	-.16	-1.41			
Hispanic	-3.71	2.06	-.20[†]	-1.80			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 3					.12	.04	1.47
SOTK_1	8.20	10.26	.43	.80			
SOTK_2	4.49	12.18	.21	.37			
SOTK_3	62.65	49.15	2.21	1.28			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	$F\Delta$
Model 4					.14	.01	.48
Age × SOTK_1	-.42	.84	-.29	-.50			
Age × SOTK_2	-.30	.96	-.19	-.31			
Age × SOTK_3	-3.54	3.03	-2.06	-1.17			
Model Summary	R = .67, R^2 = .14, F (10, 94) = 1.48, p =.16 n.s.						

Note:Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.=non-significant;SOTK=sum of maltreatment type experienced 1, 2, 3

Table 19C: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's gender on the relationship between the number of interpersonal maltreatment types participants' experienced and their posttraumatic stress symptomatology (N = 105)

Gender (moderator)	UCLA-K_PTSD-Index for DSM-IV						
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 1					.07		3.79[*]
Age	.18	.57	.04	.31			
Gender (0,1)	2.58	4.85	.09	.53			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 2					.08	.01	.47
Ethnicity							
African American	1.18	3.68	.04	.32			
Hispanic	2.94	3.17	.10	.93			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 3					.12	.05	1.70
SOTK_1	-2.48	5.86	-.08	-.42			
SOTK_2	-4.31	5.26	-.13	-.82			
SOTK_3	16.21	9.38	.36[†]	1.73			

Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 4					.14	.02	.80
Gender × SOTK_1	3.03	7.23	.09	.42			
Gender × SOTK_2	8.71	7.47	.19	1.16			
Gender × SOTK_3	-6.58	10.69	-.13	-.62			
Model Summary	R = .38, R^2 = .14, F (10, 95) = 1.60, p=.12 n.s.						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.= non-significant;SOTK=sum of maltreatment type experienced 1, 2, 3.

Table 22A: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's ethnicity (Hispanic) on the relationship between the number of interpersonal maltreatment types participants' experienced and their behavioral and emotional difficulty symptomatology (N = 105)

Hispanic (moderator) Variables entry	UCLA-K_PTSD-Index for DSM-IV						
	b	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 1					.07		3.79[*]
Age	.53	.59	.11	.90			
Gender (0,1)	3.87	3.07	.13	1.26			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.08	.01	.47
Ethnicity							
African American	1.94	3.56	.06	.54			
Hispanic	7.39	5.42	.26	1.36			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.12	.05	1.70
SOTK_1	-.10	4.25	-.00	-.02			
SOTK_2	4.19	4.73	.12	.89			
SOTK_3	12.38	6.31	.28[*]	1.96			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.15	.03	.96
Hispanic × SOTK_1	-2.05	7.02	.05	-.29			
Hispanic × SOTK_2	-12.16	7.85	-.25	-1.55			
Hispanic × SOTK_3	-7.83	9.63	-.12	-.81			
Model Summary	R = .39, R^2 = .15, F (10, 95) = 1.66, p=.10 n.s.						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.= non-significant; SOTK=sum of maltreatment type experienced 1, 2, or 3

Research Question 7

Table 24A: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's gender on the relationship between the number of interpersonal maltreatment types participants' experienced and their behavioral and emotional strengths (N = 90)

Gender (moderator)	Behavioral and Emotional Strengths (BERSP)						
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 1					.07		3.25[*]
Age	-1.63	.74	-.27[*]	-.20			
Gender (0,1)	9.31	6.57	.27	1.42			
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 2					.09	.02	1.16
Ethnicity							
African American	-7.67	4.44	-.21[†]	-1.73			
Hispanic	.58	4.32	.02	.13			
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 3					.12	.03	.88
SOTK_1	-10.77	7.61	-.31	-1.42			
SOTK_2	-.09	7.10	-.00	-.01			
SOTK_3	5.05	11.47	.09	.44			
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 4					.15	.03	.90
Gender × SOTK_1	4.10	9.46	.11	.43			
Gender × SOTK_2	-9.59	9.77	-.19	-.98			
Gender × SOTK_3	-12.85	13.56	-.20	-.95			
Model Summary	R = .39, R^2 = .15, F (10, 80) = 1.41, p =.19						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10; SOTK=sum of maltreatment type experienced 1, 2, or 3.

Table 24B: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's ethnicity (African American) on the relationship between the number of interpersonal maltreatment types participants' experienced and behavioral and emotional strengths (N = 90)

Ethnicity (moderator)	Behavioral and Emotional Strengths (BERSP)						
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 1					.07		3.25[*]
Age	-1.82	.72	-.31[**]	-2.53			
Gender (0,1)	6.19	3.93	.17	1.58			
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 2					.09	.02	1.16
Ethnicity							
African American	-4.94	6.55	-.13	-.75			
Hispanic	2.29	4.07	.06	.56			
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 3					.12	.03	.88
SOTK_1	-9.29	5.25	-.27[†]	-1.77			
SOTK_2	-.75	5.83	-.02	-.13			
SOTK_3	.12	8.04	.00	.02			
Variables entry	b	Std. Error	β	t	R^2	$R^2\Delta$	FΔ
Model 4					.20	.08	2.69[*]
AA × SOTK_1	12.22	9.34	.19	1.31			
AA × SOTK_2	-17.16	10.57	-.23	-1.62			
AA × SOTK_3	-9.02	13.06	-.10	-.69			
Model Summary	R = .45, R^2 = .20, F (10, 80) = 2.02, p <.05						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.=non-significant; AA= African American; SOTK=sum of maltreatment type experienced 1, 2, or 3.

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Table 24C: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's ethnicity (Hispanic) on the relationship between the number of interpersonal maltreatment types participants' experienced and behavioral and emotional strengths (N = 90)

Ethnicity (moderator)	**Behavioral and Emotional Strengths (BERSP)**						
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 1					.07		3.99[**]
Age	-1.78	.74	-.30[*]	-2.40			
Gender (0,1)	7.17	3.99	.21[†]	1.80			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.11		2.20
Ethnicity							
African American	-6.09	4.26	-.16	-1.43			
Hispanic	-4.06	8.53	-.11	-.48			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.06	.05	.96
SOTK_1	-6.84	5.09	-.20	-1.34			
SOTK_2	-7.67	5.66	-.19	-1.35			
SOTK_3	-8.97	7.58	-.17	-1.18			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.21	.04	1.62
Hispanic × SOTK_1	2.29	10.40	.05	.22			
Hispanic × SOTK_2	10.72	11.35	.17	.94			
Hispanic × SOTK_3	22.24	14.16	.24	1.57			
Model Summary	R = .40, R^2 = .16, F (10, 80) = 1.48, p=.16 n.s.						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.=non-significant; SOTK=sumof maltreatment type experienced 1, 2, or 3

Research Question 8

Table 25A: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's age, gender, and ethnicity on the relationship between the number of interpersonal maltreatment types participants' experienced and their posttraumatic stress symptomatology (N = 105)

Age, Gender, Ethnicity (Mod) Variables entry	UCLA-K_PTSD-Index for DSM-IV						
	b	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 1					.06		2.89[†]
Age	-1.62	3.22	-.31	-.50			
Gender (0,1)	3.35	17.60	.11	.19			

Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.07	.01	.41
Ethnicity							
African American	26.57	18.63	.82	1.43			
Hispanic	30.38	18.54	.94	1.64			

Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.08	.01	1.21
BERSP_SI	-.35	.47	-.40	-.75			

Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.12	.04	.88
Age × BERSP	.03	.04	.61	.81			
Gender × BERSP	-.01	.22	-.02	-.04			
Ethnicity× BERSP							
African American	-.33	.24	-.77	-1.36			
Hispanic	-.34	.23	-.88	-1.51			
Model Summary	R = .35, R^2 = .12, F (9, 81) = 1.25, p=.28 n.s.						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.=non-significant; BERSP=behavioral and emotional strengths.

Table 25B: Hierarchical Multiple Regression Analyses summary of the moderation effect of a child's age on the relationship between the number of interpersonal maltreatment types participants' experienced and their behavioral and emotional difficulty symptomatology (N = 105)

Age, Gender, Ethnicity (Mod)	Child Behavioral Checklist_Total						
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 1					.07		3.34[*]
Age	1.64	1.76	.50	.93			
Gender (0,1)	-10.23	9.61	-.53	-1.06			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 2					.12	.05	2.27
Ethnicity							
African American	-3.21	10.17	-.16	-.32			
Hispanic	-14.69	10.12	-.73	-1.45			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 3					.32	.20	25.31[***]
BERSP_SI	-.16	.25	-.30	-.64			
Variables entry	**b**	**Std. Error**	**β**	**t**	**R^2**	**$R^2\Delta$**	**FΔ**
Model 4					.34	.02	.57
Age × BERSP	-.02	.02	-.46	-.70			
Gender × BERSP	.12	.12	.50	.95			
Ethnicity× BERSP							
African American	-.02	.13	-.09	-.18			
Hispanic	.14	.12	.56	1.10			
Model Summary	R = .58, R^2 = .34, F (9, 81) = 4.60, p <.001						

Note: Significant at ***p≤.001 ** p ≤ .01* p ≤ .05 † p≤ .10;n.s.=non-significant; BERSP=behavioral and emotional strengths

References

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

Achenbach, T. M., & Edelbrock, C. (1983). Manual for the Child behavior checklist and revised child behavior profile. Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: implications of cross-informant correlations for situational specificity. *Psychological bulletin*, 101(2), 213.

Acosta, O. M., Albus, K. E., Reynolds, M. W., Spriggs, D., & Weist, M. D. (2001). Assessing the Status of Research on Violence-Related Problems among Youth. *Journal of Clinical Child Psychology,* 30(2), 152-160.

Ainsworth, M. D., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment: A psychological study of the Strange Situation. Hillsdale, NJ: Erlbaum.

American Psychiatric Association (2004). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: Author.

American Psychiatric Association (2006). Diagnostic and statistical manual of mental disorders (6th ed.). Washington, DC: Author.

Anderson, S. A. and D. B. Cramer-Benjamin (1999). " The Impact of couple Violence on Parenting and Children: An Overview and Clinical Implications." *American Journalof Family Therapy,* 27(1), 1-19.

Appel, A. E., & Holden, G. W. (1998). The co-occurrence of spouse and physical child abuse: A review and appraisal. *Journal of Family Psychology,* 12(4), 578-599.

Appleyard, K., Egeland, B., van Dulman, M., & Sroufe, L. A. (2005). When more is not better: The role of cumulative risk in child behavior outcomes. *Journal of Child Psychology and Psychiatry*, 46(3), 235-245.

Bachman, R. & Saltzman, L. E. (1995). *Violence against Women: Estimates from the Redesigned National Crime Victimization Survey*, (NCJfgfg1545212154154348). Bureau of Justice Statistics, U.S. Department of Justice

Bair-Merritt, M. H., Blackstone, M., & Feudtner, C. (2006). Physical health outcomes of childhood exposure to intimate partner violence: a systematic review. *Pediatrics,* 117(2), 278-290.

Bair-Merritt, M. H., Feudtner, C., Localio, A. R., Feinstein, J. A., Rubin, D., & Holmes, W.C. (2008). Health care use of children whose female caregivers have intimate partner violence histories. *Archives of Pediatrics & Adolescent Medicine,* 162(2), 134-139.

Baldry, A.C. (2007). "It does affect me": Disruptive behaviors in preadolescents directly and indirectly abused at home. *European Psychologist*, 12, 29–35.

Bancroft L. & Silverman J.G,(2002). *The Batterer as Parent: Addressing the Impact of Domestic Violence on Family Dynamics*. Thousand Oaks, California: Sage Publications.

Barksdale, C. L., Azur, M., & Daniels, A. M. (2010). Behavioral and Emotional

    Strengths Among Youth in Systems of Care and the Effect of Race/Ethnicity.

    Journal of Emotional and Behavioral Disorders, 18(4), 236-246.

Barnett, O. W., Miller-Perrin, C. L., & Perrin, R. D. (1997). *Family violence across the*

    lifespan: *An introduction*. Thousand Oaks, CA: Sage.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in

    social psychological research: Conceptual, strategic, and statistical considerations.

    Journalof Personality and Social Psychology, 51, 1173-1182.

Bauer, N. S., Herrenkohl, T. I., Lozano, P., Rivara, F. P., Hill, K. G., & Hawkins, J. D.

    (2006). Childhood bullying involvement and exposure to intimate partner

    violence.*Pediatrics,* 118(2), E235-E242.

Becker, K. B., & McCloskey, L. A. (2002). Attention and conduct problems in children

    exposed to family violence. *American Journal of Orthopsychiatry,* 72(1), 83-91.

Bedi, G., & Goddard, C. (2007). Intimate partner violence: What are the impacts on

    children? *Australian Psychologist,* 42(1), 66-77.

Belsky, J. (1999). Interactional and contextual determinants of attachment security. In J.

    Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and*

    clinical applications. NewYork, NY: Guilford Press.

Bogat, G. A., DeJonghe, E., Levendosky, A. A., Davidson, W. S., & von Eye, A. (2006).

    Trauma symptoms among infants exposed to intimate partner violence. *Child*

    Abuse & Neglect, 30(2), 109-125.

Boney-McCoy S,, & Finkelhor D. 1995. Psychosocial sequelae of violent victimization in

    a national youth sample. *Journal of Consulting. Clinical Psychologist*, 63(1)

    ,726–36.

Borduin, C. M. (1994). Innovative models of treatment and service delivery in the

    juvenile justice system. *Journal of Clinical Child Psychology,* 23(1),19-25.

Bourassa, C. (2007). Co-occurrence of interparental violence and child physical abuse

    and its effect on the adolescents' behavior. *Journal of Family Violence,* 22(8),

    691-701.

Bowlby, J. (1969). Attachment and loss: Vol. 1. Attachment. New York: Basic Books.

    180

Bowlby, J. (1973). Attachment and loss: Vol. 2. Separation. New York: Basic Books.

Bowlby, J. (1980). Attachment and loss: Vol. 3. Loss, sadness, and depression. New

    York: Basic Books.

Bowlby, J. (1988). A secure base: Parent-child attachment and healthy human

    development. New York: Basic Books, Inc.

Brown, W. H., Odom, S. L., McConnell, S. R., & Rathel, J. M. (2008). Peer interaction

    interventions for preschool children with developmental difficulties. In W. H.

Brown,S. L. Odom & S. R. McConnell (Eds.), *Social competence of young children:*

    Risk, disability, and Intervention (2nd ed., pp. 141-163). Baltimore: Brookes.

BRATS, 2010 (Building Resiliency after Trauma Study) Lopez, M.A. & Ren, H. (2012,

    July, juried). Building Resilience After Trauma: Can We Come Back Stronger?

Poster presented at the 2012 Georgetown University Training Institutes. Orlando, FL.

Caffo, E., Forresi, B., & Strik Lievers, L. (2005). Impact, psychological sequelae and management of trauma affecting children and adolescents. *Current Opinion In Psychiatry,* 18(4), 422-428.

Campos, J. J., Barrett, K., Lamb, M. E.,Goldsmith, H. H., & Stenberg, C. (1983). Socioemotional development. In P. H. Mussen (series Ed.), M. M Haith, & J. J. Campos (Eds.), Handbook of child psychology: Vol. 2 infancy and developmental psychobiology (4th edn., pp. 783–915). New York: Wiley.

Carlson, B.E. (1984). Children's observations of interparental violence. In Battered womenand their families. A.R. Roberts, ed. New York: Springer Publishing,147–67.

Carlson, B. E. (1991). Domestic violence. In A. Gitterman (Ed.), *Handbook of social work practice with vulnerable populations* (pp. 417–502). New York: Columbia University Press.

Carlson, B. E. (2000). Children Exposed to Intimate Partner Violence. *Trauma, Violence & Abuse,* 1(4), 321-342.

Carlson, E., & Sroufe, A. (1995). Contribution of attachment theory to developmental psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol. 1. Theory and methods* (pp. 581– 617). New York: Wiley.

Carney, M., Buttell, F., & Dutton, D. (2007). Women who perpetrate intimate partner violence: A review of the literature with recommendations for treatment. *Aggression and Violent Behavior,* 12(1),108–115.

Carpenter, G. L., & Stacks, A. M. (2009). Developmental effects of exposure to intimate partner violence in early childhood: A review of the literature. Children and Youth Services Review, 31(8), 831–839.

Cassidy, J., & Shaver, P. R. (1999). Handbook of attachment. New York, 7 Guilford. Centers for Disease Control and Prevention (CDC). (2003) *Costs of intimate partner violence against women in the United States*. Atlanta (GA): CDC, National Center for Injury Prevention and Control. Available from http://www.cdc.gov/violenceprevention/pdf/IPVBook-a.pdf

Centers for Disease Control and Prevention(CDC).2006. Adverse Childhood Experiences Study. Available from http://www.cdc.gov/nccdphp/ace/index.htm

Chan, Y.-C. & J. W.-K. Yeung (2009). Children living with violence within the family and its sequel: A meta-analysis from 1995 to 2006. *Aggression and Violent Behavior*, 14(5),313-322.

Cicchetti, D., & Toth, S. L. (1995). A developmental perspective on child abuse and neglect. *Journal American Academy Child Adolescent Psychiatry*, 34(1), 541–65.

Cicchetti, D., & Tucker, D. (1994). Development and self-regulatory structures of the mind. *Development and Psychopathology,* 6, 533–549.

Clare, B., & Mevik, K. (2008). 'Inclusive education': Teaching social work students to work with children. *Journal of Social Work*, 8(1), 28-44.

Clements, C. M., Oxtoby, C., & Ogle, R. L. (2008). Methodological Issues in Assessing

    Psychological Adjustment in Child Witnesses of Intimate Partner Violence.

    Trauma, Violence & Abuse, 9(2), 114-127.

Cohen, J. A., Perel, J. M., DeBellis, M. D., Friedman, M. J., & Putnam, F. W. (2002).

    Treating traumatized children: Clinical implications of the psychobiology of

    posttraumatic stress disorder. *Trauma Violence & Abuse*, 3(2), 91–108.

Conley, A. (2007). Differential response: A critical examination of a secondary

    prevention model. *Children and Youth Services Review*, 29 (11), 1454–1468.

Cook, A., Blaustein, M., Spinazzola, J., & van der Kolk, B. (Eds.) (2003). *Complex*

    trauma in children and adolescents. Retrieved January 16, 2011, from the

    National Child Traumatic Stress Network,

    http://www.nctsnet.org/nctsn_assets/pdfs/edu_materials/ComplexTrauma_All.pdf

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., DeRosa, R.,

    Hubbard, R., Kagan, R., Liautaud, J., Mallah, K., Olafson, E., & van der Kolk, B.

    (2005). Complex rauma in children and adolescents. *Psychiatric Annals,* 35(5),

    390-398.

Copeland, W. E., Keeler, G., Angold, A., & Costello, E. J. (2007). Traumatic events and

    posttraumatic stress in childhood. *Archives of General Psychiatry,* 64(5), 577-

    584.

Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and

    development of psychiatric disorders in childhood and adolescence. *Archives of*

    General Psychiatry, 60(8), 837-844.

Cox, C. M., Kenardy, J. A., & Hendrikz, J. K. (2008). A meta-analysis of risk factors that predict psychopathology following accidental trauma. *Journal for Specialists in Pediatric Nursing,* 13(2), 98-110.

Davidson, J. (1993). Issues in the diagnosis of posttraumatic stress disorder. In J. Oldham. M. Riba, & A. Tasman. (Eds.) *Review of psychiatry, Vol. 12* (pp. 141-155).Washington DC: American Psychiatric Press.

Davies CA. (2005). *Children exposed to domestic violence: A review and meta-analysis of the empirical research*. Dissertation Abstracts International: The Sciences & Engineering 66(6-B), 3402.

Davis, R. (1994). *A coordinated response to domestic violence*: A field test. Grant proposal to Family Violence Research Program, National Institute of Justice, U.S. Department of Justice.

Davis, L., & Siegel, L. J. (2000). Posttraumatic Stress Disorder in Children and Adolescents: A Review and Analysis. *Clinical Child & Family Psychology Review,* 3(3), 135-154.

De Bellis, M. D. (2001). Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy. *Development and Psychopathology,* 13(3), 539-564.

De Bellis, M. D., & Van Dillen, T. (2005). Childhood post-traumatic stress disorder: An overview. *Child and Adolescent Psychiatric Clinics of North America,* 14(4), 745.

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., et al. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28, 771-784

Dube S.R., Anda R.F., Felitti V.J., Edwards V.J. & Williamson D.F. (2002). Exposure to abuse, neglect, and household dysfunction among adults who witnessed intimate partner violence as children: implications for health and social services. *ViolenceVictim*, 17(1), 3–17.

Dubner A.E.,& Motta R.W. (1999).Sexually and physically abused foster care children and posttraumatic stress disorder. *Journal of Consultant Clinical Psychology,*67(1),367 373.

Dubowitz H.,& Bennett S.(2007). Physical abuse and neglect of children. *Lancet*, 369(9576), 1891–9.

Edleson, J. L. (1999a). Children's Witnessing of Adult Domestic Violence. *Journal of Interpersonal Violence,* 14(8), 839-871.

Edleson, J. L. (2000, February). *Primary prevention and adult domestic violence*. Paper presented at the meeting of the Collaborative Violence Prevention Initiative, San Francisco, CA.

Edleson, J. L., Mbilinyi, L. F., & Shetty, S. (2003). Parenting in the context of domestic violence. San Francisco: Judicial Council of California, Administrative Office of the Courts, Center for Families, Children & the Courts. Available at http://www.courtinfo.ca.gov/programs/cfcc/pdffiles/fullReport.pdf

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the adverse childhood experiences study. *American Journal of Psychiatry,* 160(8), 1453-1460.

Egeland, B. R., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development & Psychopathology*, 5(4), 517–528.

Egeland, B., & Erickson, M. F. (1993). Implications of attachment theory for prevention and intervention. In H. Parens & S. Kramer (Eds.), *Prevention in mental health* (pp. 23 50). Northvale, NJ: Jason Aronson, Inc.

Egeland, B., Jacobvitz, D., & Sroufe, L. A. (1988). Breaking the cycle of abuse. *Child development*, 1 (1), 1080-1088.

Egeland, B., & Sroufe, L. A. (1981). Attachment and early maltreatment. *Child Development*, 52(1), 44–52.

El-Bassel, N., Gilbert, L., Rajah, V., Folleno, A., & Frye, V. (2001). Social support among women in methadone treatment who experience partner violence: Isolation and male controlling behavior. *Violence Against Women*, 7(1), 246–274.

Epstein, M. H. (1998). Strength-based assessment: The behavioral and emotional rating scale. *Behavioral Healthcare Tomorrow, 7*(3), 46-48.

Epstein, M. H. (1999). The development and validation of a scale to assess the emotional and behavioral strengths of children and adolescents. *Remedial and Special Education*,20(1), 258-262.

Epstein, M. H., Harniss, M. K., Pearson, N., & Ryser, G. (1999). The behavioral and
emotional rating scale: Test-retest and inter-rater reliability. *Journal of Child and
Family Studies*, 8(1), 319-327.

Epstein, M. H., Mooney, P., Ryser, G., & Pierce, C. D. (2004). Validity and reliability of
the behavioral and emotional rating scale (2nd edition): Youth rating scale.
Research on Social Work Practice, 14(5), 358-367.

Epstein, M. H., & Sharma, H. M. (1998). *Behavioral and Emotional Rating Scale: A
strength based approach to assessment.* Austin, TX: PRO-ED.

Epstein, M. H., Ryser, G.,& Pearson, N. (2002). Standardization of the Behavioral and
Emotional Rating Scale: Factor structure, reliability and criterion validity. *Journal
of Behavioral Health Services and Research*, 29, 208-216.

Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta
analysis of child and adolescent outcomes. *Aggression & Violent Behavior,* 13(2),
131-140.

Family Violence Prevention Fund. (2008). Domestic violence is a serious, widespread
social   problem in America: The facts. Retrieved April 9, 2011, from
http://www.endabuse.org/resourcesfacts/.

Fantuzzo, J.W., Boruch, R., Beriama, A., Atkins, M., & Marcus, S. (1997). Domestic
violence and children: Prevalence and risk in five major US cities. *Journal of the
American Academy of Child and Adolescent Psychiatry,* 36(1), 116-122.

Fantuzzo, J. W., DePaola, L. M., Lambert, L., Martino, T., Anderson, G., & Sutton, S.
(1991). Effects of interparental violence on the psychological adjustment and

competencies of young children. *Journal of Consulting and Clinical Psychology,*
59(2), 258-265.

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

Fantuzzo, J.W., Fusco, R., Mohr, W., & Perry, M. (2007). Domestic Violence and
Children's Presence: A Population-based Study of Law Enforcement Surveillance
of Domestic Violence. *Journal of Family Violence,* 22(6), 331-340.

Fantuzzo, J. W., & Lindquist, C. U. (1989). Effects of observing conjugal violence on
children: a review and analysis of research methodology. *Journal of Family
Violence,*4(1), 77-94.

Fantuzzo, J. W., & Mohr, W. K. (1999). Prevalence and effects of child exposure to
domestic violence. *Future of Children,* 9(3), 21-32.

Fantuzzo, J. W., Mohr, W. K., & Noone, M. J. (2000). Making the invisible victims of
violence against women visible through university/community partnerships.
Journal of Aggression, Maltreatment, and Trauma, 3(1), 9–23.

Feerick, M. M., & Haugaard, J. J. (1999). Long-term effects of witnessing marital
violence for women: The contribution of childhood physical and sexual abuse.
Journal of Family Violence, 14(4), 377–398.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V.,
et al. (1998). Relationship of childhood abuse and household dysfunction to many

of the leading causes of death in adults. The Adverse Childhood Experiences

(ACE) Study. *American Journal of Preventive Medicine,* 14(4), 245-258.

Finkelhor, D., & Kendall – Tackett, K. (1997). A developmental perspective on

childhood impact of crime, abuse, and violent victimization. In D. Cicchetti &

S.L. Toth (Eds.), *Rochester Symposium on Developmental Psychopathology, Vol*

8. Developmental Perspective on Trauma: Theory, Research, and Intervention (pp

1 -32). Rochester,NY: University of Rochester Press.

Finkelhor, D., Ormrod, R., & Turner, H. & Hamby, S. L. (2005). The Juvenile

Victimization Questionnaire: Reliability, validity, and national norms. *Child*

*Abuse & Neglect,*29(4), 383-412.

Finkelhor, D., Orrarod, R. K., & Turner, H. A. (2007). Poly-victimization: A neglected

component in child victimization. *Child Abuse & Neglect,* 31(1), 7-26.

Finkelhor, D., Turner, H., Ormrod, R., Hamby, S., & Kracke, K. (2009). Children's

Exposure to Violence: A Comprehensive National Survey. *OJJDP Juvenile*

Justice Bulletin, 1-12.

Fletcher, K. E. (2003). Childhood posttraumatic stress disorder. In E. J. Mash &   R. A.

Barkley (Eds.), *Child psychopathology* (2nd ed.; pp. 330-371). New York:

Guilford.

Fortin, A., Cyr, M., & Lachance, L. (2000). *Les enfants témoins de violence conjugale:*

Analyse des variables de protection [Children witnesses of domestic violence:

Analysis of protection variables]. *Collection Études et analyses*, 13, Québec,

Québec,Canada:Centre de recherche interdisciplinaire sur la violence familiale et la violence faite aux femmes.

Fowler, D. N., & Chanmugam, A. (2007). A critical review of quantitative analyses of children exposed to domestic violence: Lessons for practice and research. *Brief Treatment and Crisis Intervention, 7*(4), 322-344.

Friedman, P., Friedman, K. A., & Weaver, V. (2003). Strength-based assessment of African-American adolescents with behavioral disorders. *Perceptual and Motor Skills, 96*(2), 667-673.

El-Bassel, N., Gilbert, L., Rajah, V., Folleno, A., & Frye, V. (2001). Social support among women in methadone treatment who experience partner violence: Isolation and male controlling behavior. *Violence Against Women*, *7,* 246–274.

Ganley, A. L., & Schechter, S. (1996). *Domestic violence: a national curriculum for child protective services. San Francisco*: Family Violence Prevention Fund.

Gelles, R. J. (1974). The Violent Home: A Study of Physical Aggression between Husbands and Wives. Beverly Hills, CA: Sage Publications.

Gelles, R. J., & Straus M.A. (1988). Intimate Violence. New York: Simon and Schuster.

Gewirtz, A. H., & Edleson, J. L. (2007). Young children's exposure to intimate partner violence: Towards a developmental risk and resilience framework for research and intervention. *Journal of Family Violence,* 22(3), 151-163.

Gjelsvik, A., Verhoek-Oftedahl, W., & Pearlman, D. N. (2003). Domestic violence incidents with children witnesses: Findings from Rhode Island surveillance data. *Womens Health Issues, 13*(2), 68-73.

Goldberg, S. (1991). Recent developments in attachment theory and research. *Canadian*

    Journal of Psychiatry, 36(6), 393-400.

Graham-Bermann, S. A., & Levendosky, A. A. (1998). Traumatic stress symptoms in

    children of battered women. *Journal of Interpersonal Violence, 13*(1), 111.

Graham-Bermann, S. A., & Seng, J. (2005). Violence exposure and traumatic stress

    symptoms as additional predictors of health problems in high-risk children.

Green, S. B., & Salkind, N. J. (2008). Using SPSS for Windows and Macintosh:

    Analyzing and understanding data (5th ed.). Upper Saddle River, NJ: Pearson

    Prentice Hall.

Greenfield, Rand, Craven, Klaus, Perkins, et al., (1998). *Violence by intimates: Analysis*

    of data on crimes by current or former spouse, boyfriends, and girlfriends.

    Washington, DC: US Department of Justice, Bureau of Justice Statistics.

Griffith, A. K., Hurley, K. D., Trout, A. L., Synhorst, L., Epstein, M. H., & Allen, E.

    (2010). Assessing the Strengths of Young Children at Risk: Examining Use of the

    Preschool Behavioral and Emotional Rating Scale With a Head Start Population.

    Journal of Early Intervention, 32(4), 274-285.

Groves, B.M., (2002). Children who see too much, Beacon Press, Boston

Groves, B. M., Zukerman, B., Marans, S., & Cohen, D. J. (1993). Silent victims. JAMA:

    Journal of the American Medical Association, 269,262-264.

Grych, J. H., Jouriles, E. N., Swank, P. R., McDonald, R., & Norwood, W. D. (2000).

    Patterns of adjustment among children of battered women. *Journal of Consulting*

    and Clinical Psychology, 68(1), 84-94.

Guille, L. (2004). Men who batter and their children: An integrated review. *Aggression and Violent Behaviour*, 9, 129–163.

Hafford-Letchfield, T., & Spatcher, P. (2007). Getting to Know You: Social Work Students' Experiences of Direct Work with Children in Education Settings. *Social Work Education,* 26(3), 311-317.

Hamby, S., Finkelhor, D., Turner, H., & Ormrod, R. (2010). The overlap of witnessing partner violence with child maltreatment and other victimizations in a nationally representative survey of youth. *Child Abuse & Neglect,* 34(10), 734-741.

Harniss, M. K., Epstein, M. H., Ryser, G., & Pearson, N. (1999). The Behavioral and Emotional Rating Scale Convergent Validity. *Journal of Psychoeducational Assessment*, 17(1), 4- 14.

Hawke, J. M., Ford, J. D., Kaminer, Y., & Burke, R. (2009). Trauma and PTSD Among Youths in Outpatient Treatment for Alcohol Use Disorders. *Journal of Child & Adolescent Trauma*, 2(1), 1-14.

Hayes, A. F., & Matthes, J. (2009). Computational procedures for probing interactions in OLS and logistic regression: SPSS and SAS implementations. *Behavior Research Methods*, 41(3), 924-936.

Hazen, A. L., Connelly, C. D., Kelleher, K., Landsverk, J., & Barth, R. (2004). Intimate partner violence among female caregivers of children reported for child maltreatment. *Child Abuse & Neglect,* 28(3), 301-319.

Heim, C., Young, L. J., Newport, D. J., Mletzko, T., Miller, A. H., & Nemeroff, C. B. (2009). Decreased CSF oxytocin concentrations after childhood abuse. *Molecular Psychiatry*, 14, 954–958.

Henning, K., Leitenberg, H., Coffey, P., Turner, T., & Bennett, R. T. (1996). Long-term psychological and social impact of witnessing physical conflict between parents. *Journal of Interpersonal Violence*, 11(1), 35–52.

Hensley, L., & Varela, R. E. (2008). PTSD symptoms and somatic complaints following Hurricane Katrina: the role of trait anxiety and anxiety sensitivity. *Journal of Clinical Child and Adolescent Psychology,* 37, 542–552

Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R. C., & Moylan, C. A. (2008). Intersection of child abuse and children's exposure to domestic violence. Trauma Violence & Abuse, 9(2), 84-99.

Higgins, D. J. & McCabe, M.P. (2001). Multiple forms of child abuse and neglect:adult retrospective reports. *Aggression & Violent Behavior*, 6(1), 547–578.

Holden, G. W., Geffner, R., & Jouriles, E. N. (1998). *Children exposed to marital violence: Theory, research, and applied issues*. Washington, DC US: American Psychological Association.

Holden, C.W.& Ritchie, K.L. (1991). Linking extreme marital discord, child rearing, and child behavior problems: evidence from battered women. *Child Delinquency,* 62(1), 311-327.

Holland, B. S., & Copenhaver M. D. (1988). Improved Bonferroni-type multiple testing procedures. *Psychological Bulletin*, *104*, 145-149.

Hollander, M., & Wolfe, D. A. (1999). Nonparametric statistical methods. NY John

    Wiley & Sons.

Holm, S. 1979. A simple sequentially rejective multiple test procedure. - Scand. *Journal*

    of Statistics. 6, 65-70.

Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence

    on children and young people: A review of the literature. *Child Abuse & Neglect,*

    32(8), 797-810.

Hughes, H. M., & Barad, S. J. (1983). Psychological functioning of children in a battered

    women's shelter: A preliminary investigation. *American Journal of*

    Orthopsychiatry, 53(3), 525–531.

Hughes, H. M., & Luke, D. A. (1998). Heterogeneity in adjustment among children of

    battered women. in G. W. Holden, R. Geffner, & E. N. Jouriles (Eds.), *Children*

    exposed to marital violence: Theory, research, and applied issues (pp. 185–221).

    Washington, DC: American Psychological Association.

Hughes, H. M., Parkinson, D., & Vargo, M. (1989). Witnessing spouse abuse and

    experiencing   physical abuse: A "double whammy"? *Journal of Family Violence*,

    4, 197– 209.

Hurt, H., Malmud, E., Brodsky, N. L., & Giannetta, J. (2001). Exposure to violence:

    Psychological and academic correlates in child witnesses. *Archives of Pediatrics*

    and Adolescent Medicine, 155(12), 1351–1356.

Hyman, A., Schillinger, D, & Lo, B. (1995). Laws mandating reporting of domestic

    violence. *Journal of the American Medical Association*, 22, 1781-1787.

Ireland, T., & Smith, C. (2009). Living in Partner-violent Families: Developmental Links to Antisocial Behavior and Relationship Violence. *Journal of Youth & Adolescence,38*(3), 323-339.

Jaffe, P. G., Crooks, C. V., & Wolfe, D. A. (2003). Legal and Policy Responses to Children Exposed to Domestic Violence: The Need to Evaluate Intended and Unintended Consequences. *Clinical Child and Family Psychology Review, 6*(3), 205-213.

Jaffe, P., Wolfe, D. A., & Wilson, S. K. (1990). Children of battered women. Newbury Park, CA: Sage.

Jouriles, E. N., McDonald, R., Norwood, W. D., Ezell, E., Graham-Bermann, S. A., & Edleson, J. L. (2001). Issues and controversies in documenting the prevalence of children's exposure to domestic violence. In *Domestic violence in the lives of children: The future of research, intervention, and social policy.* (pp. 12-34). Washington, DC, US: American Psychological Association.

Jouriles, E. N., McDonald, R., Slep, A. M. S., Heyman, R. E., & Garrido, E. (2008). Child Abuse in the Context of Domestic Violence: Prevalence, Explanations, and Practice Implications. *Violence and Victims,* 23(2), 221-235.

Jouriles, E. N., Norwood, W. D., McDonald, R., Vincent, J. P., & Mahoney, A. (1996). Physical violence and other forms of marital aggression: Links with children's behavior problems. *Journal of Family Psychology,* 10(2), 223-234.

Kearney, C. A., Wechsler, A., Kaur, H., & Lemos-Miller, A. (2010). Posttraumatic Stress
Disorder in Maltreated Youth: A Review of Contemporary Research and
Thought. *Clinical Child and Family Psychology Review,* 13(1), 46-76.

Kellermann, A. L., Fuqua-Whitley, D. S., Rivara, F. P.,& Mercy, J. (1998). Preventing
youth violence: What works? *Annual Review of Public Health*, 19, 271-292.

Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse
on children: a review and synthesis of recent empirical studies. *Psychological
bulletin*, 113(1), 164.

Kennedy-Chapin, R. (1995). Social policy development: The strengths perspective.
Social Work, 40, 506-514.

Khaylis, A., Waelde, L., & Bruce, E. (2007). The role of ethnic identity in the
relationship of race-related stress to PTSD symptoms among young adults.
Journal of Trauma and Dissociation, 8, 91–105.

Kilpatrick, K. L., Litt, M., & Williams, L. M. (1997). Post-traumatic stress disorder in
child witnesses to domestic violence. *American Journal of Orthopsychiatry,
67*(4), 639-644.

Kilpatrick D.G., Saunders B.E., Smith D.W.(2003). *Youth Victimization: Prevalence and
Implications*. Washington, DC: US Department of Justice, National Institute of
Justice, 1–19.

Kitzmann, K. M., Gaylord, N. K., Holt, A. R., & Kenny, E. D. (2003). Child witnesses to
domestic violence: A meta-analytic review. *Journal of Consulting and Clinical
Psychology,* 71(2), 339-352.

Koverola, C. (2007). Perpetuating mother-blaming rhetoric: a commentary. *Journal of Child Sexual Abuse,* 16(1), 137-143.

Koverola, C., & Heger, A. (2003). Responding to children exposed to domestic violence: Research informing practice and policy. *Journal of Interpersonal Violence,* 18(4), 331-337.

Kracke, K., & Hahn, H. (2008). The Nature and Extent of Childhood Exposure to Violence: What We Know, Why We Don't Know More, and Why It Matters. *Journal of Emotional Abuse,* 8(1/2), 29-49.

Lambert, M.C., Rowan G. T., et al. (2005) Assessment of Behavioral and Emotional Strengths in Black Children: Development of the Behavioral Assessment for Children of African Heritage. *Journal of Black Psychology*, 31(4), 321-351.

Lehmann, P. (1997). The Development of Posttraumatic Stress Disorder (PTSD) in a Sample of Child Witnesses to Mother Assault. *Journal of Family Violence,* 12(3), 241-257.

Lehmann, P. (2000). Posttraumatic stress disorder (PTSD) and child witnesses to mother assault: A summary and review. *Children and Youth Services Review, 22*(3-4), 275-306.

Levine, M.D. (1975). Interpersonal violence and its effects on the children: A study of 50 families in general practice. *Medicine, Science and Law*, 15, 172-176.

Levendosky, A. A., Bogat, G. A., Davidson, W. S., & von Eye, A. (2000a). *Risk and protective factors for domestic violence*. Centers for Disease Control, Injury Prevention Center, RO1/CCR518519-01.

Levendosky, A. A., Huth-Bocks, A. C., Semel, M. A., & Shapiro, D. L. (2002). Trauma symptoms in preschool-age children exposed to domestic violence. *Journal of Interpersonal Violence,* 17(2), 150-164.

Lieberman, A. F. (2004). Traumatic stress and quality of attachment: Reality and internalization in disorders of infant mental health. *Infant Mental Health Journal*, 25(4), 336–351.

Lieberman, A. F., & Pawl, J. H. (1990). Disorders of attachment and secure base behavior in the second year of life. In M. T. Greenberg, D. Cicchetti, & E. M.Cummings (Eds.), Attachment in the preschool years: Theory, research, and intervention (pp. 375–397). Chicago, IL: University of Chicago Press.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage Publications.

Litrownik, A. J., Newton, R., Hunter, W. M., English, D., & Everson, M. D. (2003). Exposure to Family Violence in Young At-Risk Children: A Longitudinal Look at the Effects of Victimization and Witnessed Physical and Psychological Aggression. *Journal of Family Violence,* 18(1), 59-73.

Lopez, M.A. & Ren, H. (2012, July, juried). Building Resilience After Trauma: Can We Come Back Stronger? Poster presented at the 2012 Georgetown University Training Institutes. Orlando, FL.

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology,* 12(4), 857-885.

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development,* 71(3), 543-562.

Luthar, S. S., & Zigler, E. (1991). Vulnerability and competence: A review of research on resilience in childhood. *American Journal of Orthopsychiatry*, 61, 6–22.

Lyons, J. S., Uziel-Miller, N. D., Reyes, F., & Sokol, P. T. (2000). Strengths of children and adolescents in residential settings: Prevalence and associations with psychopathology and discharge placement. *Journal of the American Academy of Child and Adolescent Psychiatry,* 39(2), 176-181.

McKay, M. M. (1994). The link between domestic violence and child abuse: assessment and treatment considerations. *Child Welfare: Journal of Policy, Practice, and Program.*

Margolin, G. (1998). Effects of domestic violence on children. In P.K. Trickett and C. J. Schellenbach (Eds). Violence against children in family and community (pp. 57-101). Washington, DC: American Psychological Association Press.

Margolin, G. & Gordis, E.B. (2000). The effects of family and community violence on children. *Annual Review of Psychology*, 51, 445-479.

Margolin, G., & Gordis, E. B. (2004). Children's violence exposure in the family and community. *Current Directions in Psychological Science*, 13, 152-155.

Margolin, G., & Vickerman, K. A. (2007). Posttraumatic stress in children and adolescents exposed to family violence: I. Overview and issues. *Professional Psychology:Research and Practice,* 38(6), 613-619.

Martinez-Torteya, C., Anne Bogat, G., von Eye, A., & Levendosky, A. A. (2009).

      Resilience Among Children Exposed to Domestic Violence: The Role of Risk and

      Protective Factors. *Child Development,* 80(2), 562-577.

Mash, E. J., & Dozois, J. A. (1996). Child psychopathology: a developmental-systems

      perspective. In E. J. Mash & R. A. Barley (Eds.), Child psychopathology (pp.

      3−60). New York: Guilford.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American*

      Psychologist, 56, 227–238.

Masten A. S., & Obradović J. (2006). Competence and resilience in development. *Annals*

      of the New York Academy of Sciences, 1094, 13–27.

Masten, A.S., & Reed, M.-G.J.(2002) Resilience in development. In C.R. Snyder & S.

      Lopez (Eds.), *Handbook of positive psychology* (pp. 74-88). Oxford.

Max, W., Rice, D.P.,Finkelstein, E., Bardwell, R.A., & Leadbetter, S. (2004). The

      economic toll of intimate partner violence against women in the United States.

      Violence and Victims, 19, 259-272.

McCloskey, L. A., Figueredo, A. J., & Koss, M. P. (1995). The effects of systemic family

      violence on children's mental health. *Child Development*, 66(5), 1239–1261.

McCloskey, L. A., & Walker, M. (2000). Posttraumatic stress in children exposed to

      family violence and single-event trauma. *Journal of the American Academy of*

      Child and Adolescent Psychiatry, 39(1), 108-115

McDonald, R., Jouriles, E. N., Ramisetty-Mikler, S., Caetano, R., & Green, C. E. (2006). Estimating the Number of American Children Living in Partner-Violent Families. *Journal of Family Psychology,* 20(1), 137-142.

McFarlane, J. M., Groff, J. Y., O'Brien, J. A., & Watson, K. (2003). Behaviors of children who are exposed and not exposed to intimate partner violence: An analysis of 330 black, white, and Hispanic children. *Pediatrics,* 112(3), E202-E207.

McKay, M. M. (1994). The link between domestic violence and child abuse: Assessment and treatment considerations. *Child Welfare*, 73, 29–39.

McKinney, C., Sieger, K., Agliata, A. K., & Renk, K. (2006). Children's Exposure to Domestic Violence: Striving Toward an Ecological Framework for Interventions. *Journal of Emotional Abuse,* 6(1), 1-23.

McQuaide, S., & Ehrenreich, J. H. (1997). Assessing client strengths. *Families in Society:The Journal of Contemporary Human Services,* 78(2), 201–212.

Mills, L. G., Friend, C., Conroy, K., Fleck-Henderson, A., Krug, S., Magen, R. H., ... & Trudeau, J. H. (2000). Child protection and domestic violence: Training, practice, and policy issues. *Children and Youth Services Review*, 22(5), 315-332.

Mills, L. G., & Yoshihama, M. (2002). Training Children's Services Workers in Domestic Violence Assessment and Interventrion: Research Findings and Implications for Practice. *Children and Youth Services Review*, 24(8), 561-581.

207

Mohay, H., & Forbes, N. (2009). Reducing the Risk of Posttraumatic Stress Disorder in Children Following Natural Disasters. *Australian Journal of Guidance and Counselling,* 19(2), 179-195.

Mohr, W. K., Lutz, M. J. N., Fantuzzo, J. W., & Perry, M. A. (2000).Children Exposed to Family Violence. *Trauma, Violence & Abuse,* 1(3), 264-283.

Moore, C. G., Probst, J. C., Tompkins, M., Cuffe, S., & Martin, A. B. (2007). The prevalence of violent disagreements in US families: effects of residence, race/ethnicity, and parental stress. *Pediatrics*, 119(Supplement 1), S68-S76.

Moretti, M. M., Obsuth, I., Odgers, C. L., & Reebye, P. (2006). Exposure to maternal vs. paternal partner violence, PTSD, and aggression in adolescent girls and boys. Supported by the Canadian Institutes of Health Research New Emerging Team or Gender and Aggression, URLwww.sfu.ca/gap<URL> (#54020). *Aggressive Behavior, 32*(4), 385- 395.

Mullender, A. (2006) What children tell us. In: *Domestic Violence and Child Protection – Directions for Good Practice* (eds C.Humphreys & N. Stanley). Jessica Kingsley Publishers, London.

Mullin, W., & Canning, J. (2006). Teaching the Child Perspective in Social Work Education: Ethical Principles and Classroom Strategies. *Social Work Education,* 25(5), 435-445.

Nader, K., Pynoos, R., Fairbanks, L., and Frederick, C. (1990). Children's PTSD reactions one year after a sniper attack at their school. *American Journal of Psychiatry,*147(11),1526-   1530.

Nixon, K. L., Tutty, L. M., Weaver-Dunlop, G., & Walsh, C. A. (2007). Do good

    intentions beget good policy? A review of child protection policies to address

    intimate partner violence. *Children and Youth Services Review,* 29(12), 1469-

    1486.

Norris, F. H., Kaniasty, K., Conrad, M. L., Inman, G. L., & Murphy, A. D. (2002).

    Placingage differences in cultural context: a comparison of the effects of age on

    PTSD after disasters in the United States, Mexico, and Poland. *Journal of Clinical*

    Geropsychology, 8(3), 153-173.

O' Keefe, M. (1992). Children from martially violent homes: Factors associated with

    their adjustment, *Dissertation Abstracts International*, 52, 3726.

O'Keefe, M. (1996). The differential effects of family violence on adolescent adjustment.

    Child and Adolescent Social Work Journal, 13(1), 51–67.

Oko, J. (2006). Evaluating alternative approaches to social work: A critical review of the

    strengths perspective. *Families in Society-the Journal of Contemporary Social*

    Services, 87(4), 601-611.

Olejnik, S., Li, J., Supattathum, S., & Huberty, C. J. (1997). Multiple testing and

    statistical power with modified Bonferroni procedures. *Journal of Educational*

    and Behavioral Statistics, 22(4), 389-406.

Osofsky, J. D. (2003). Prevalence of children's exposure to domestic violence and child

    maltreatment: Implications for prevention and intervention. *Clinical Child and*

    Family Psychology Review, 6(3), 161-170.

Osofsky, J. D., & Scheeringa, M. S. (1997). Community and domestic violence exposure: Effects on development and psychopathology (pp. 155–180). *In Rochester Symposium on Developmental Psychopathology, Vol. 8. Developmental perspectives on trauma: Theory, research, and intervention*. Rochester NY : University of Rochester Press.

Oswald, D. P., Cohen, R., Best, A. M., Jenson, C. E., & Lyons, J. S. (2001). Child strengths and the level of care for children with emotional and behavioral disorders. *Journal of Emotional and Behavioral Disorders,* 9(3), 192-199.

Pagelow, M.D. (1984). *Family Violence*. New York: Praeger.

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

Pervanidou, P., & Chrousos, G. P. (2007). Post-traumatic Stress Disorder in children and adolescents: from Sigmund Freud's "trauma" to psychopathology and the (Dys)metabolic syndrome. *Hormone And Metabolic Research = Hormon- Und Stoffwechselforschung = Hormones Et Métabolisme,* 39(6), 413-419.

Pfefferbaum, B. (1997). Posttraumatic stress disorder in children: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry,* 36(11), 1503-511.

Pfefferbaum, B. (2005). Aspects of exposure in childhood trauma: The stressor criterion. *Journal of trauma & dissociation*, 6(2), 17-26.

Porter. B., & O'leary, K.D. (1980). Marital discord and childhood behavior problems. *Journal of Abnormal Child Psychology*, 8, 287-295.

Postmus, J. L. (2000). Analysis of the Family Violence Option: A Strengths Perspective. *Affilia,* 15(2), 244-258.

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, 31(4), 437-448.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods*, 40(3), 879-891.

Preacher, K. J., & Hayes, A. F. (2008). SPSS and SAS macros for estimating and comparing indirect effects in multiple mediator models. Retrieved April 24, 2013, from

http://www.comm.ohio-state.edu/ahayes/SPSS%20programs/indirect.html

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Assessing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42, 185-227.

Prince-Embury, S. (2007, 2006)." Resiliency Scales for Children and Adolescents: A Profile of Personal Strengths". San Antonio, TX: Harcourt Assessment, Inc. *Canadian Journal of School Psychology*, 22(2), 255-261.

Prinz, R. J., & Feerick, M. M. (2003). Next steps in research on children exposed to domestic violence. *Clinical Child and Family Psychology Review*, 6(3), 215-219.

Pynoos, R.S., & Nader, K.(1989). Children's memory and proximity to violence. *Journal of American Academy Child & Adolescence Psychiatry*, 28(2), 236–241.

Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). The Universityof California at Los Angeles Posttraumatic Stress Disorder Reaction Index (UCLA PTSD RI) for DSM–IV (Revision 1). *Los Angeles, CA: UCLA Trauma PsychiatryProgram*.

Rawana, E., & Brownlee, K. (2009). Making the Possible Probable: A Strength-Based Assessment and Intervention Framework for Clinical Work With Parents, Children, and Adolescents. *Families in Society-the Journal of Contemporary Social Services,*90(3), 255-260.

Rhoades, K. A. (2008). Children's Responses to Interparental Conflict: A Meta-Analysis of Their Associations With Child Adjustment. *Child Development, 79*(6), 1942-1956.

Roberts, R. E., Roberts, C. R., & Xing, Y. (2007). Comorbidity of substance use disorders and other psychiatric disorders among adolescents: Evidence from an epidemiologic survey. *Drug and Alcohol Dependence*, 88, S4–S13.

Ronnau, J., & Poertner, J. (1993). Identification and use of strengths: A family system approach. *Children Today, 22, 20*–23.

Rosenbaum, A. (1988). Methodological issues in marital violence research. *Journal of Family Violence, 3*(2), 91-104.

Rosenblatt, A. (1996). Bows and ribbons, tape and twine: Wrapping the wrap-around process for children with multi-system needs. *Journal of Child and Family Studies*, 5, 101 117.

Rosenberg, M. L., O'Carroll, P. W., & Powell, K. E. (1992). Let's be clear: Violence is a public health problem. *Journal of the American Medical Association,* 267(22), 117.

Rossman, B.B.R. (1994). Children in violent families: Diagnostic and treatment considerations. *Family Violence and Sexual Assault Bulletin*, 10, 29-34.

Rossman, B. B. R., & Ho, J. (2000). Posttraumatic response and children exposed to parental violence. Journal of Aggression, Maltreatment, and Trauma, 3, 85–106.

Roussos, A., Goenjian, A. K., Steinberg, A. M., Sotiropoulou, C., Kakaki, M., Kabakos, C., Karagianni, S., & Manouras, V. (2005). Posttraumatic stress and depressive reactions among children and adolescents after the 1999 earthquake in Ano Liosia, Greece.*American Journal of Psychiatry, 162,* 530-537.

Rudolph, S. M., & Epstein, M. H. (2000). Empowering children and families through strength based assessment. *Reclaiming Children and Youth*, 8(4), 207-209.

Ruchkin, V., Henrich, C. C., Jones, S. M., Vermeiren, R., & Schwab-Stone, M. (2007). Violence Exposure and Psychopathology in Urban Youth: The Mediating Role of Posttraumatic Stress. *Journal of Abnormal Child Psychology,* 35(4), 578-593.

Rutter, M., & Sroufe, L. A. (2000). Developmental psychopathology: Concepts and challenges. *Development and Psychopathology*, 12, 265–296.

Saleebey, D. (1997). *The Strengths Perspective in Social Work Practice*, (2nd ed.).White

    Plains, NY: Longman Publishers.

Saltzman, K. M., Weems, C. F., & Carrion, V. G. (2006). IQ and Posttraumatic Stress

    Symptoms in Children Exposed to Interpersonal Violence. Child Psychiatry &

    Human Development, 36(3), 261-272.

Saleebey, D. (Ed.). (2002). *The strengths perspective in social work practice* (3rd ed.).

    Boston: Allyn & Bacon.

Sawyer, R., & Lohrbach, S. (2005). Integrating domestic violence intervention into child

    welfare practice. *Protecting Children*, 20, 62–77.

Scheeringa, M. S., Salloum, A., Arnberger, R. A., Weems, C. E., Amaya-Jackson, L., &

    Cohen, J. A. (2007).Feasibility and effectiveness of cognitive-behavioral therapy

    for posttraumatic stress disorder in preschool children: Two case reports. Journal

    of Trauma Stress, 20, 631-636.

Silva, R. R., Alpert, M., Munoz, D. M., Singh, S., Matzner, F., & Dummit, S. (2000).

Stress and vulnerability to posttraumatic stress disorder in children and adolescents. *The*

    American Journal of Psychiatry, 157(8), 1229-1235.

Silvern, L., Karyl, J., Waelde, L., Hodges, W. E, Starek, J., Heidt, E., & Min, K. (1995).

    Retrospective reports of parental partner abuse: Relationships to depression,

    trauma symptoms and self-esteem among college students. *Journal of Family*

    Violence, 10,   177- 202.

Silverman, W. K., & Hinshaw, S. P. (2008). The Second Special Issue on Evidence-
Based Psychosocial Treatments for Children and Adolescents: A 10-Year
Update. *Journal of Clinical Child & Adolescent Psychology,* 37(1), 1-7.

Sim, L., Friedrich, W. N., Davies, W. H., Trentham, B., Lengua, L., & Pithers, W.
(2005). The Child Behavior Checklist as an Indicator of Posttraumatic Stress
Disorder and Dissociation in Normative, Psychiatric, and Sexually Abused
Children. *Journal of   Traumatic Stress,* 18(6), 697-705.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural
equation models. In S. Leinhart (Ed.), *Sociological methodology 1982* (pp. 290-
312).San Francisco: Jossey-Bass.

Sobel, M. E. (1986). Some new results on indirect effects and their standard errors in
covariance structure models. In N. Tuma (Ed.), *Sociological Methodology 1986*
(pp.159-186). Washington, DC: American Sociological Association.

Spilsbury, J., Belliston, L., Drotar, D., Drinkard, A., Kretschmar, J., Creeden, R., et al.
(2007). Clinically Significant Trauma Symptoms and Behavioral Problems in a
Community-based Sample of Children Exposed to Domestic Violence. *Journal of
Family Violence,* 22(6), 487-499.

Stagg, V., Wills, G. D., & Howell, M. (1989). Psychopathology in early childhood
witnesses of family violence. *Topics in Early Childhood Special Education, 9*(2),
73-87.

Staudt, M., Howard, M. O., & Drake, B. (2001). The operationalization, implementation, and effectiveness of the strengths perspective: A review of empirical studies. *Journal of Social Service Research, 27*(3), 1-21.

Steinberg, A. M., Brymer, M., Decker, K., & Pynoos, R. S. (2004). The UCLA PTSD Reaction Index. Current Psychiatry Reports, 6, 96–100.

Sternberg, K. J., Lamb, M. E., Guterman, E., & Abbott, C. B. (2006). Effects of early and later family violence on children's behavior problems and depression: A longitudinal, multi-informant perspective. *Child Abuse & Neglect, 30*(3), 283-306.

Straus, M. (1974). Leveling, civility, and violence in the family. *Journal of Marriage and Family*, 36, 13–29.

Straus, M. A., & Gelles, R. J. (1986). Societal Change and Change in Family Violence from 1975 to 1985. *Journal of Marriage & Family,* 48(3), 465-479.

Straus, M. A., & Gelles, M. A. (Eds.). (1990). *Physical Violence in American Families: Risk Factors and Adaptations to Violence in 8,145 Families*. New Brunswick: Transaction Publishers.

Straus, M., Gelles, R., & Steinmetz, S. (1980). *Behind closed doors: Violence in the American family*. Garden City, NJ: Anchor Press.

Sugarman, D. B., Boney-McCoy, S. (2000). Research synthesis in family violence: The art reviewing research. *Journal of Aggression, Maltreatment, and Trauma*, 4, 55-82.

Suliman, S., Mkabile, S. G., Fincham, D. S., Ahmed, R., Stein, D. J., & Seedat, S. (2009). Cumulative effect of multiple traumas on symptoms of posttraumatic stress disorder, anxiety, and depression in adolescents. *Comprehensive Psychiatry*, 50(2), 121-127.

Tabachnick, B.G. and Fidell, L.S. (2007), Using Multivariate Statistics (5th ed.). New York: Allyn and Bacon.

Taylor, C. A., & Sorenson, S. B. (2007). Intervention on behalf of children exposed to intimate partner violence: Assessment of support in a diverse community-based sample. *Child Abuse & Neglect,* 31(11-12), 1155-1168.

Tedeschi, R.G., & Calhoun, L.G. (1995). Trauma and transformation. Thousand Oaks, CA: Sage.

Tedeschi, R. G., & Kilmer, R. P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology-Research and Practice,* 36(3), 230-237.

Thompson Jr, T., & Massat, C. R. (2005). Experiences of Violence, Post-Traumatic Stress, Academic Achievement and Behavior Problems of Urban African-American Children. *Child & Adolescent Social Work Journal,* 22(5/6), 367-393.

Tjaden, P., & Thoennes, N. (1998). *Prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey* (Research in brief). Washington, DC: National Institutes of Justice and Centers for Disease Control and Prevention.

Tjaden P, & Thoennes ,N. (2000) *Extent, nature, and consequences of intimate partner violence: findings from the National Violence Against Women Survey*. Washington (DC): Department of Justice (US); 2000. Publication No. NCJ 181867. Available from: http://www.ojp.usdoj.gov/nij/pubssum/181867.htm

Tjaden P., & Thoennes N. (2006). *Full Report of the Prevalence, Incidence and Consequences of Violence Against Women: Research Report.* Washington, DC: National Institute of Justice; 2006. NCJ 183781.

Turner, R. J., & Lloyd, D. A. (1995). Lifetime traumas and mental health: The significance of cumulative adversity. *Journal of Health and Social Behavior*, 360-376.

US Department of Health and Human Services, Administration on Children Youth and Families (2009): *Child Maltreatment 2007.* Washington, DC: US Government Printing Office; 2009. Available at http://www.acf.hhs.gov/programs/cb/pubs/cm07/index.htm.

U.S. Department of Justice, Bureau of Justice Statistics. (2006). *Intimate partner violence 1993- 2004.* Washington, D.C.

United States Department of Justice. Bureau of Justice, Statistics. (2008). *National Crime Victimization Survey*, 1993 [Record-Type Files], Inter-university Consortium for Political and Social Research (ICPSR) [distributor].

Van der Kolk, B. A. (2003). The neurobiology of childhood trauma and abuse. *Child and Adolescent Clinics of North America*, 12(2), 293–317.

Vickerman, K. A., & Margolin, G. (2007). Posttraumatic stress in children and adolescents exposed to family violence: II. Treatment. *Professional Psychology: Research and Practice,* 38(6), 620-628.

Violence Against Women Office. (1996). *The Violence Against Women Act fact sheet (1998).* Retrieved from http://www.usdoj.gov/vawo/vawafct.html

Vogel, J. M., & Vernberg, E. M. (1993). Part 1: Children's psychological responses to disasters. *Journal of Clinical Child Psychology*, 22(4), 464-484.

Vernberg, E. M., & Vogel, J. M. (1993). Part 2: Interventions with children after disasters. *Journal of Clinical Child Psychology*, 22(4), 485-498.

Vranceanu, A. M., Hobfoll, S. E., & Johnson, R. J. (2007). Child multi-type maltreatment and associated depression and PTSD symptoms: The role of social support and stress. *Child Abuse & Neglect*, 31(1), 71-84.

Waldfogel, J., Dodge, K. A., & Coleman, D. L. (2009). Differential response. In *Preventing child maltreatment: Community approaches.* (pp. 139-155). New York, NY US: Guilford Press.

Walrath, C. M., Mandell, D. S., Holden, E. W., & Santiago, R. L. (2004). Assessing the strengths of children referred for community-based mental health services. *Mental Health Services Research,* 6(1), 1-8.

Wechsler-Zimring, A., & Kearney, C. A. (2011).Posttraumatic Stress and Related Symptoms Among Neglected and Physically and Sexually Maltreated Adolescents. *Journal of Traumatic Stress,* 24(5), 601-604.

Weems, C. F., & Overstreet, S. (2008). Child and adolescent mental health research in the context of Hurricane Katrina: An ecological-needs-based perspective and introduction to the special section. *Journal of Clinical Child and Adolescent Psychology*, 37, 487-494.

Weise, R. E., Blehar, M. C., Maser, J. D., & Akiskal, H. S. (1996). Competence models in adult psychopathology: A report on a National Institute of Mental Health workshop. *Psychotherapy: Theory, Research, Practice, Training*, 33(1), 61.

Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood.* Ithaca, NY: Cornell University Press.

Widom, C. S. (1989). Does violence beget violence? A critical examination of the literature. *Psychological Bulletin,* 106(1), 3-28.

Widom, C. S. (1999). Posttraumatic stress disorder in abused and neglected children grown up. *American Journal of Psychiatry*, 156(8), 1223-1229.

Wolfe, D. A., Crooks, C. V., Lee, V., McIntyre-Smith, A., & Jaffe, P. G. (2003). The Effects of Children's Exposure to Domestic Violence: A Meta-Analysis and Critique. *Clinical Child & Family Psychology Review,* 6(3), 171-187.

Wolfe, D. A., & Jaffe, P. (1991). Child abuse and family violence as determinants of child psychopathology. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement,* 23(3), 282-299.

Wolfe, D. A., Jaffe, P., Wilson, S. K., & Zak, L. (1985). Children of battered women: The relation of child behavior to family violence and maternal stress. *Journal of Consulting and Clinical Psychology*, 53(5), 657–665.

Wolfe, D. A., Zak, L., Wilson, S., & Jaffe, P. (1986). Child witnesses to violence
    between parents: Critical issues in behavioral and social adjustment. *Journal of
    Abnormal Child Psychology,* 14(1), 95–104.

Wolfe, D. A., Sas, L., & Werkle, C. (1994). Factors associated with the development of
    posstraumatic stress disorder among child victims of sexual abuse. Child Abuse
    and Neglect, 18, 37-50.

Ybarra, G., Wilkens, S., & Lieberman, A. (2007). The Influence of Domestic Violence on
    Preschooler Behavior and Functioning. *Journal of Family Violence,* 22(1), 33-42.

Zeanah, C. H., Danis, B., Hirshberg, L., Benoit, D., Miller, D., & Heller, S. S. (1999).
    Disorganized attachment associated with partner violence: A research note. *Infant
    Mental Health Journal*, 20(1), 77–86.

Zeanah, C. H., & Scheeringa, M.S. (1997). The experience and effects of violence in
    infancy.In *Children in a Violent Society.* ed. JD Osofsky, pp. 97–123. New York:
    Guilford.

Zinzow, H. M., Ruggiero, K. J., Resnick, H., Hanson, R., Smith, D., Saunders, B., &
    Kilpatrick, D. (2009). Prevalence and mental health correlates of witnessed
    parental and community violence in a national sample of adolescents. *Journal of
    Child   Psychology and Psychiatry*, 50, 441–450.

Zolotor, A. J., Denham, A. C., & Weil, A. (2009). Intimate Partner Violence. *Primary
    Care,*   36(1), 167.

Zyromski, B. (2007). African American and Latino youth and post-traumatic stress

   syndrome: Effects on school violence and interventions for school counselors.

   Journal of school violence, 6(1), 121-137.