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The Quality of Spousal Social Support as a Moderator of the Associations Between Child Maltreatment Severity and Adult Trauma Symptoms

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THE QUALITY OF SPOUSAL SOCIAL SUPPORT AS A MODERATOR OF THE ASSOCIATIONS BETWEEN CHILD MALTREATMENT SEVERITY AND ADULT TRAUMA SYMPTOMS

by

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THE QUALITY OF SPOUSAL SOCIAL SUPPORT AS A MODERATOR OF THE ASSOCIATIONS BETWEEN CHILD MALTREATMENT SEVERITY AND ADULT TRAUMA SYMPTOMS

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Child maltreatment has been linked to a myriad of long-term difficulties, including trauma symptomatology. However, not all victims experience long-term distress. Thus, a burgeoning area of research focuses on factors that may impede or facilitate resiliency to the psychological correlates of child maltreatment. Specifically, the severity of the abusive acts may be associated with greater long-term difficulties. To date, however, with the exception of child sexual abuse, few studies have examined the severity of maltreatment as a risk factor in the development of trauma symptoms. In contrast, social support has been theorized to contribute to resiliency following abuse. However, to date, the majority of studies examining positive social support as a protective factor have relied on self-report measures of perceived social support, rather than observational measures of received social support. Moreover, no study to date has examined the role that negative social support (i.e, blaming, criticizing) may play in potentiating trauma symptoms among victims of child maltreatment. Because child maltreatment involves serious boundary violations by a trusted person, a marital relationship is an important domain in which to examine these constructs. That is, it may

serve as an arena for the manifestation of psychological disturbances related to maltreatment. Thus, the present study examined whether observationally measured positive and negative spousal social support moderated the relationship between child maltreatment severity (i.e., sexual, physical, psychological abuse; neglect) and trauma symptomatology in women and men. Results indicated that the severity of each type of child maltreatment significantly predicted increased adult trauma symptomatology. Contrary to hypothesized outcomes, positive spousal social support did not predict decreased trauma symptomatology. However, negative spousal social support generally did predict increased trauma symptomatology. There were no consistent patterns of interactions between child maltreatment severity and either type of social support. Future directions for research will be discussed and clinical implications with regard to the intrapersonal and interpersonal functioning of child maltreatment victims will be highlighted.

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The Prevalence of Child Maltreatment

Child maltreatment (i.e., sexual, physical, and psychological abuse; neglect) is an endemic societal problem that has touched the lives of numerous children and adults throughout the United States. Of the 3,300,000 cases reported to Child Protective Services in 2006, 905,000 of these cases were ruled substantiated (U.S. Department of Health and Human Services, 2008). Among the victims in the substantiated cases, 8.8% were sexual abuse victims, 16% were physical abuse victims, 6.6% were emotional abuse victims, and 64.1% were neglect victims (U.S. Department of Health and Human Services, 2008). However, it is well documented that many incidents of child maltreatment never come to the attention of authorities (Claussen & Crittenden, 1991; Finkelhor, Hotaling, Lewis, & Smith, 1990). While reliable prevalence estimates are somewhat difficult to obtain due to underreporting, studies utilizing self-reported assessments in which adults report retrospectively about their childhood experiences of maltreatment provide the most accurate picture of the number of individuals affected (Perrin-Miller & Perrin, 2006). Based on these studies, it is estimated that between 20% and 25% of females, and 5% and 15% percent of males experience child sexual abuse (Finkelhor, 1994). Regarding physical abuse prevalence, a national survey of 2,000 adolescents revealed that 33% endorsed experiencing at least one incident of physical assault by a family member (Finkelhor & Dziuba-Leatherman, 1994). Moreover, it is thought that approximately 10% to 15% of all adults reported experiencing chronic emotional abuse as children (Binggeli, Hart, & Brassard, 2001). Finally, a recent study

of adults' retrospective reports indicates that 9.9% reported experiencing physical neglect while 14.8% reported experiencing emotional neglect (Dong et al., 2004). Some national data suggest that males are more likely to experience CPA than females, and may experience more severe CPA than do female victims as evidenced by higher incidence of injury resulting from the abusive acts (Sedlak, & Broadhurst, 1996). In addition, rates of emotional abuse and neglect are generally found to be equal across genders, although some studies indicate that males may have higher incidence of emotional neglect (Rosenthal, 1988; Sedlak, & Broadhurst, 1996; U.S. Department of Health and Human Services, 2008).

Child maltreatment has been conceptualized as a traumatic stressor capable of producing long-term psychological distress. Broadly speaking, child maltreatment has been linked to a myriad of difficulties in adulthood, including depression (Langhinrichsen-Roholing, Monson, Meyer, Caster, & Sanders, 1998), anxiety (Beitchman, Zucker, Hood, DeCosta, Akman, & Cossavia, 1992), substance abuse disorders (Widom, White, Czaja, & Marmorstein, 2007), personality disorders (Linehan, Cochran, & Kehrer, 2001), and relationship difficulties (Colman & Widom, 2004; DiLillo et al., 2009). However, one of the most prevalent linkages between child maltreatment and long-term mental health sequelae is that of the link between child maltreatment and adult trauma symptomatology, including post-traumatic stress disorder (Briere, 1995; Briere & Elliot, 2003).

Child Maltreatment and Trauma

According to the diagnostic criteria set forth by the *Diagnostic and Statistical Manual Of Mental Disorders, Fourth Edition, Text Revised* (*DSM-IV-TR*; American

Psychiatric Association, 2000), post-traumatic stress disorder (PTSD) results from exposure to a traumatic event that "involved actual or threatened death or serious injury, or a threat to the physical integrity of self" (Criterion A1; p. 467). Moreover, the DSM-IV-TR requires that "the person's response [to the event] involve fear, helplessness, or horror" (Criterion A2; p. 467). PTSD is marked by three symptom clusters: reexperiencing (Criterion B), avoidance (Criterion C), and hyperarousal (Criterion D). These symptoms must be present for at least one month (Criterion E) and "cause clinically significant distress or impairment in functioning" (Criterion F; p. 468; American Psychiatric Association, 2000). In addition to the criteria set forth in the DSM-IV, a large body of research has documented additional symptoms seen in trauma victims, including numbing of responsiveness, psychologically re-experiencing the event, and general hyperarousal that manifests in the form of symptoms such as sleep disturbance, diminished concentration, and an exaggerated startle response (Briere, Elliot, Harris, & Cotman, 1995). Finally, it is possible that some symptoms hypothesized to be indicative of trauma, such as symptoms of anger or irritability, defensiveness, sexual dysfunction, and tension-reducing behavior (Briere, 1995) may be particularly apparent in individuals high functioning enough to enter into an intimate relationship but still adversely affected by childhood traumatic events.

Child sexual abuse (CSA) and child physical abuse (CPA), the most frequently studied forms of maltreatment, have long been associated with both post-traumatic stress disorder (PTSD; Masho & Ahmed, 2007), as well as increases general trauma symptomatology (Briere, 2002; Widom, 1999). Each of these forms of child maltreatment is characterized by events and acts that are capable of causing actual or

threatened bodily harm and, in their invasiveness, threaten the physical and emotional integrity of a victim. However, aside from experiencing symptoms meeting full diagnostic criteria for PTSD, many victims of child maltreatment report experiencing other symptoms indicative of trauma (Putnam, 1998), including symptoms that appear to be unique to trauma stemming from child maltreatment (Briere, Elliot, Harris, & Cotman, 1995). These symptoms may include interpersonal sensitivity and emotion dysregulation (Briere & Rickards, 2007), sexual functioning disturbances (DiLillo et al., 2009) and dissociative symptoms (Briere, 2006; Klanecky, Harrington, & McChargue, 2007).

Despite findings that CSA and CPA lead to long-term trauma symptomatology, there are considerable gaps in the child maltreatment literature. For example, far less research has addressed the lasting consequences of child emotional abuse and neglect, particularly with regard to trauma as an outcome of these abuse types. This makes sense, given that the acts that constitute these forms of maltreatment do not necessarily conform to the definition of "traumatic event," as specified in Criterion A1 of the DSM-IV (American Psychiatric Association, 2000). That is, these forms of child abuse are typically characterized by persistent and pervasive negative verbalizations directed at a victim and acts of omission, which may not cause immediate physical injury. However, although these abuse types are often not discrete events, the cumulative emotional impact of these experiences may build up over time, resulting in the same perceived threats to physical and emotional integrity and the eventual manifestation of trauma symptoms. In other words, the nature of these acts may nonetheless create a perception that one's safety and well-being is in jeopardy. The small body of research examining the long-term correlates suggests that emotional abuse and neglect may have far reaching consequences

for adult victims in domains of functioning other than trauma symptomatology (Bifulco, Moran, Baines, Bunn, & Stanford, 2002; Gross & Keller, 1992; Hart, Brassard, Binggeli, & Davidson, 2002; Lang et al., 2006). With regard to trauma symptoms specifically, a history of emotional abuse and neglect has been linked to increased trauma symptoms among women seeking primary medical care (Spertus, Yehuda, Wong, Halligan, & Seremetis, 2003). Both emotional abuse and neglect were also found to be predictive of PTSD symptoms and general emotional distress in a low-income sample of Brazilians (Grassi-Oliveira & Stein, 2008). Moreover, prevalence estimates for emotional maltreatment, emotional neglect, and physical neglect, respectively, underscore the importance of studying the long-term functioning of these victims (Felitti et al., 1998).

Male Victims of Child Maltreatment

With the exception of studies examining aggressive behavior outcomes, comparatively little research has examined the long-term presence of trauma symptoms in adult *male* victims of child maltreatment, despite prevalence estimates that are comparable to that of females. On one hand, this makes sense given that research to date suggests that women may be at greater risk for experiencing PTSD and trauma symptoms (Norris, Foster, & Weisshaar, 2002). However, the limited research available on long-term outcomes of child maltreatment suggests that adult male victims experience similar, and sometimes even greater distress, than female victims, and that these outcomes include trauma symptomatology. For example, Dumont, Widom, and Czaja (2007) found that men are less resilient to the effects of child abuse and neglect in both adolescence and adulthood than are women. Furthermore, a recent study revealed that increases in trauma symptoms among male victims of child maltreatment are associated with

decreased marital satisfaction for husbands but not wives (DiLillo et al., 2009). Finally, in one of the few studies to examine the long-term effects of CSA severity on male victims, factors indicative of greater abuse severity were linked to higher levels of self-injury, suicidal ideation, and trauma symptoms (Banyard, Williams, & Siegel, 2004). These findings underscore the need for more research that can shed light on gender differences in the associations between child maltreatment and trauma symptomatology.

The Role of Risk and Protective Factors

Despite widespread findings that child maltreatment is associated with adult trauma symptoms, the negative impact of early abuse is not universal. Research suggests that long-term consequences of child maltreatment are heterogeneous and that not all victims experience similar—or any—lasting difficulties following abuse. It has been reported, for example, that many CSA victims experience little to no maladjustment in the aftermath of their abuse (Browne & Finkelhor, 1986; Finkelhor, 1990; Rind, Tromovitch, & Bauserman, 1998). Other studies have failed to establish a link between various forms of child maltreatment and adult psychopathology (e.g., Widom, White, Czaja, & Marmorstein, 2007). However, the majority of studies examining long-term resilience to child maltreatment have focused on female survivors of CSA (Banyard, Williams, Siegel, & West, 2002; Hyman & Williams, 2001). Few studies have examined long-term resiliency rates among victims of other forms of maltreatment, or among male victims (Dumont, Widom, & Czaja, 2007; McGloin & Widom, 2001). Therefore, additional attention must be given to moderating and mediating variables that may explain variability in long-term functioning among both male and female victims of other forms of child maltreatment. This research is particularly important given that clinicians

aiming to treat symptomatology resulting from child maltreatment frequently draw on literature when deciding which techniques will increase resiliency.

Because of the implications for clinical practice, a burgeoning area of research in the field has focused on factors that may predict long-term resilience by potentiating or mitigating the development of psychological distress, including trauma symptomatology, in victims of child maltreatment. For example, risk factors found to increase distress levels among victims include a negative disclosure experience (Jonzon & Lindblad, 2004), as well as revictimization following the initial abuse (Follette, Polusny, Bechtle, & Naugle, 1996). Alternately, individual coping style, positive disclosure experiences, and therapeutic intervention following abuse have all been linked to more positive mental health outcomes in adults reporting a history of child maltreatment (Finkelhor & Berliner, 1995; Irwin, 1999; Jonzon & Lindblad, 2004; Stauffer & Deblinger, 1996).

Abuse Severity

One factor that may impede resilience to the long-term correlates of child maltreatment is the severity of the abuse to which victims are exposed. To date, however, the majority of research detailing the outcomes associated with child maltreatment has dichotomized samples in victims and non-victims. Unfortunately, operationalizing abuse in this manner fails to capture the nature of the multifaceted and complex experiences endured by child maltreatment victims. Recently, however, researchers have begun to move beyond dichotomous classification and are now taking into account the behaviorally specific characteristics of acts that constitute child maltreatment (Chaffin, Wherry, Newlin, Crutchfield, & Dykman, 1997). Behaviorally specific characteristics indicative of increased CSA severity (e.g., acts involving

penetration, the frequency of the abuse, the perpetrator's identity) have previously been linked to greater long-term psychological maladjustment, including increased trauma symptomatology. For example, in a study examining the relationship between PTSD and sexual revictimization in a large sample of undergraduate women, CSA characteristics including the frequency, duration, type of abuse, and level of force were examined. Results revealed that more severe levels of each of these abuse characteristics were related to increased reexperiencing, avoidance, and hyperarousal symptoms, which in turn, mediated associations between CSA and subsequent revictimization (Risser, Hetzel-Riggin, Thomson, & McCanne, 2006). Similarly, in a sample of men and women deemed to have substantiated histories of CSA based on hospital records, it was found that a higher frequency of CSA acts was related to increased trauma symptoms among men (Banyard, Williams, & Siegel, 2004). As a whole, these findings suggest that examining the severity of abuse—rather than dichotomizing samples into victims and non-victims—is likely to paint a more nuanced picture of how child maltreatment may contribute to adult trauma symptomatology.

Aside from CSA, there is a dearth of literature examining the severity of other forms of child maltreatment in relation to long-term trauma symptomatology. However, associations have been found between the severity of other forms of maltreatment (i.e., emotional and physical abuse) and increases in depressive and psychotic symptomatology (Bifulco, Moran, Baines, Bunn, & Stanford, 2002; Schenkel, Spaulding, DiLillo, & Silverstein, 2005). For all forms of maltreatment, factors such as how long the acts went on (i.e., duration), the age that the victim was at abuse onset, and how often the acts occurred (i.e., frequency) have been theorized to contribute to the "severity" of abuse

(DiLillo et al., in press; English et al., 2005; Thornbury, Ireland, & Smith, 2001). Other research suggests that the invasiveness of the acts can be considered a measure of abuse severity (e.g., penetration is typically considered more severe than exposure; DiLillo et al., in press; Gomes-Schwartz, Horowitz, & Cardarelli, 1990). Moreover, an increased number of perpetrators with whom acts occurred may also lead to greater long-term distress. Similarly, the relationship between the victim and the perpetrator has been shown to be related to the magnitude of the psychological outcomes associated with maltreatment (Steel, Sanna, Hanna, Whipple, & Cross, 2001), such that incest or intrafamilial CSA was related to higher levels of trauma symptoms. Finally, abusive acts that were coerced (e.g., through extended grooming or threat of injury), the use of force during the acts, or acts that resulted in injury have been theorized to be more severe than acts in which coercion or force were not use or acts in which no injury occurred (DiLillo et al., in press; Steel, Sanna, Hanna, Whipple, & Cross, 2001).

Positive Social Support

In contrast to abuse severity, which has been theorized to contribute to an increase in the psychological sequelae of abuse, other "protective factors," have been shown to increase resiliency to the detrimental correlates of child maltreatment. Prominent among these factors is positive social support (Hyman, Gold, & Cott, 2003; Tremblay, Herbert, & Piche, 1999). Although the large body of literature on social support has generated many definitions of this construct, researchers generally define positive social support as cognitive and emotional assistance provided by an individual to someone coping with a problem (i.e., received social support; Thoits, 1986). Sources of social support include friends, family, co-workers, and romantic partners or spouses (Thoits, 1986; Procidano &

Heller, 1983). Social support in the context of a romantic or marital relationship has been further defined as "responsiveness to another's needs and, more specifically, as acts that communicate caring; that validate the other's worth, feelings, or actions; or that facilitate adaptive coping with problems through the provision of information, assistance, or tangible resources" (Cutrona, 1996a, p. 10). Positive social support behaviors include reassuring, consoling, providing suggestions for solving a problem, encouraging, validating, and providing affection.

To date, the majority of studies measuring the construct of social support have utilized self-report measures to gauge levels of cognitively appraised (i.e., perceived) levels of social support from friends, family, and romantic partners. Results of many studies suggest that perceived social support has a buffering effect on levels of individual psychopathology in response to traumatic stressors such as sexual assault and serious medical illness (Borja, Callahan, & Long, 2006; Dumont, Widom, & Czaja, 2007; Hyman, Gold, & Cott, 2003; Savage & Russell, 2005; Simpson, Haines, Lekwuwa, Wardle, & Crawford, 2006; Wethington & Kessler, 1986). Particularly pertinent to the present study are meta-analytic findings that the absence of social support is the single greatest risk factor in the development of PTSD among adults exposed to a variety of traumatic experiences, including child maltreatment (Brewin, Andrews, & Valentine, 2000).

With regard to the role of social support in buffering against the correlates of child maltreatment specifically, it has been found that perceived social support buffered against feelings of loss among adult female victims of CSA drawn from a college sample (Murthi & Espelage, 2005). Additionally, a higher perception of available social support

was a significant predictor of resiliency in several domains among both male and female victims of child abuse and neglect (Dumont, Widom, & Czaja, 2007). Finally, and particularly relevant to the current investigation, a study of women seeking community outpatient treatment for psychological distress related to CSA victimization found that treatment focused on increasing the perception of available social support attenuated PTSD symptoms (Hyman, Gold, & Cott, 2003). While results of these studies suggest that social support indeed buffers against trauma symptomatology resulting from child maltreatment, self-report measures of social support are limited, as individuals' cognitive appraisals of available or received social support are thought to be largely influenced by stress level and mood at the time of assessment (Cutrona, 1996a; Schwarz, Groves, & Schuman, 1998; Yap & Devilly, 2004; Verhofstadt, Buysee, & Ickes, 2007).

Perhaps in response to the limitations of self-report methods, a few studies have used observational methods of social support to study the buffering effects of received social support. Although relatively novel, observational measures of social support provide several advantages over self-report measures, including the ability for researchers to measure received social support by a third party who is less susceptible to the influence of emotional bias (Verhofstadt et al., 2007). In other words, observational measures of social support may eliminate potential sources of response bias (i.e., stress level, mood) that may influence the self-report of a respondent. The few studies that have used observational methods suggest that social support in the context of a marriage buffers against the detrimental effects of marital conflict and life stressors (e.g., Gable, Gonzaga, & Strachman, 2006; Pasch, Bradbury, & Davila, 1997; Pasch & Bradbury, 1998; Verhofstadt et al., 2007). However, to date, no study has examined observationally

measured (i.e., received) social support in buffering against intrapersonal outcomes of child maltreatment such as trauma symptomatology. Moreover, to date, reflecting trends in the broader child maltreatment literature, studies examining the protective role of social support have dichotomized samples into victims and non-victims, rather than examining abuse as a multifaceted continuous construct. Furthermore, no study to date has examined the buffering effect of social support in victims of emotional abuse.

Negative Social Support

In contrast to positive social support, negative social support is comprised of behaviors such as blaming, criticizing, doubting, and belittling in response to a solicitation for social support. Other behaviors indicative of negative social support include expressing sarcasm, defensiveness, or boredom during the provision of support. Whereas a healthy intimate relationship that provides high levels of positive social support may be a protective factor in the face of life stressors, negative social support behaviors within an intimate relationship may serve as a risk factor for developing psychological distress such as depression and trauma symptoms (Cutrona, 1996b; Whiffen, Judd, & Aube, 1999). Research to date suggests that the presence of negative social supportive behaviors is associated with the development of trauma symptoms among male and female crime victims (Andrews, Brewin, & Rose, 2003). More closely related to the field of child maltreatment, two studies have shown that elements indicative of a negative social environment are related in increases in PTSD symptom severity among female victims of assault. For example, one study revealed that negative reactions to assault disclosure such as blame or criticism were related to an increase in PTSD symptomatology in a community sample of female assault victims (Ullman & Filipas,

2001). Similarly, a prospective study of female sexual and non-sexual assault victims revealed that negative social interactions shortly following the assault predicted increases in trauma symptomatology (Zoellner, Foa, & Bartholomew, 1999). However, both of these studies relied on self-report measures of social interaction experiences. Even so, findings from these studies suggest that, an intimate relationship wrought with negative social support behaviors may serve as a risk factor exacerbating trauma symptomatology among victims of child maltreatment.

The Importance of Examining Social Support Within the Marital Context

Because child maltreatment often involves serious physical and emotional boundary violations by a trusted person (U.S. Department of Health and Human Services, 2008), an intimate relationship with a trusted person in adulthood, such as that of a marriage, may serve as the arena for the manifestation of emotional or psychological disturbances related to the earlier maltreatment (Browne & Finkelhor, 1986; DiLillo et al., 2009). In other words, the intimate nature of a marriage may prompt the appearance of maladjustment issues such as trauma symptoms related to child maltreatment history. It is possible that victims of all forms of maltreatment, particularly those who have experienced more severe abuse, are in marriages that are more troubled as a result of the abuse. If this is the case, the manner in which an intimate partner responds to a spouse struggling with abuse-related distress may play a key role in either attenuating or potentiating that victim's coping effectiveness and thus, the victim's level of trauma symptoms (Fincham & Bradbury, 1990; Thoits, 1986). Moreover, evidence suggests that dyadic dysfunction in the form of psychological aggression, which likely includes negative social support behaviors, may produce many of the same negative mental health

outcomes as child maltreatment (Testa & Leonard, 2001; Stets & Strauss, 1990). Therefore, it stands to reason that a victim of child maltreatment who is consistently exposed to negative social support behaviors from a spouse would be at especially high risk for developing many of the intrapersonal difficulties associated with both child maltreatment and a low quality intimate relationship. These may include broad trauma symptomatology as well as specific trauma symptoms that may manifest in romantic relationships (i.e., anger/irritability, avoidant behaviors, dysfunctional sexual behaviors, tension-reducing behaviors). To date, however, this idea has not been subjected to empirical study.

Gender Considerations

Aside from the dichotomy of positive and negative social support, numerous writings suggest that women may solicit more social support from multiple sources including spouses, perceive higher levels of social support from family and friends, and, importantly, benefit more from social support than do men (Cutrona, 1996a; 1996b; Turner, 1994; Walen & Lachman, 2000; Verhofstadt, Buysee, & Ickes, 2007). These findings from the broader social support literature are consistent with results of a recent study of child maltreatment outcomes, in which female victims of CSA, physical abuse, and neglect reported, on average, receiving higher levels of social support, and were more resilient in multiple domains of functioning (i.e., educational achievement, psychological functioning, substance use) than were male victims (Dumont, Widom, & Czaja, 2007). However, reflective of the broader social support literature, this study relied on a self-report measure to obtain information about perceived social support.

In addition to research showing that social support has differential effects based on gender, it has also been postulated that men and women also differ with regard to the manner in which they provide support (Belle, 1982). In fact, this "marriage support gap" theory suggests that women may provide more positive social support to their spouses than their spouses provide to them (Belle, 1992; Cutrona, 1996a; Neff & Karney, 2005). However, again reflective of the broader social support literature, most studies revealing the marriage support gap employ self-report measures of perceived social support (Verhofstadt et al., 2007). Findings from the handful of studies employing observational measures of social support to examine marital functioning have not found evidence of the theorized marriage support gap (Verhofstadt et al., 2007).

Thus, the use of objective, observational data as a measure of received social support has the potential to shed new light on differences in the way social support affects the intrapersonal functioning of both male and female victims of child maltreatment. If observational data continue to suggest that the provision of quality social support appears to be similar across genders, the differential buffering or potentiating effects of social support may then depend solely on the gender of the spouse *receiving* the support. If this is the case, it could be that the cognitive perception of the usefulness of the support varies by gender, and this, in turn, influences the effect that the support has on individual functioning (i.e., the presence or absence of trauma symptoms). On the other hand, in populations prone to experience psychological distress, such as victims of child maltreatment, the level of distress may vary by gender, which may in turn serve to influence the effect of social support on that distress. However, additional empirical study of levels of both positive and negative social support provided by both

genders is needed to shed light on these processes and to determine whether the effectiveness of social support, in fact, varies by gender.

Summary

In sum, child maltreatment is a widespread problem that has been shown to have associations with a variety of long-term negative psychological outcomes, including trauma symptomatology in adulthood. However, these outcomes have not been studied as extensively in adult victims of emotional abuse or neglect, nor in adult male victims. Moreover, psychological sequela among victims of maltreatment is not universal, as a large percentage of victims report experiencing little to no long-term difficulties. Thus, it is important for researchers to gain an understanding of risk and protective factors that may serve to moderate associations between child maltreatment and trauma symptomatology. The severity of the abusive acts to which victims have been exposed may serve as one factor that influences the degree of trauma symptomatology that is experienced. In contrast, received positive social support may serve as a protective factor that buffers against the harmful correlates of child maltreatment. Though positive social support assessed through self-report has consistently been found to buffer against individual psychopathology in general, no research to date has examined observed spousal social support as a moderator between child maltreatment and trauma symptomatology. Finally, no research to date has examined negative social support behaviors as a risk factor for the development of trauma symptoms in adult victims of child maltreatment.

The Proposed Study

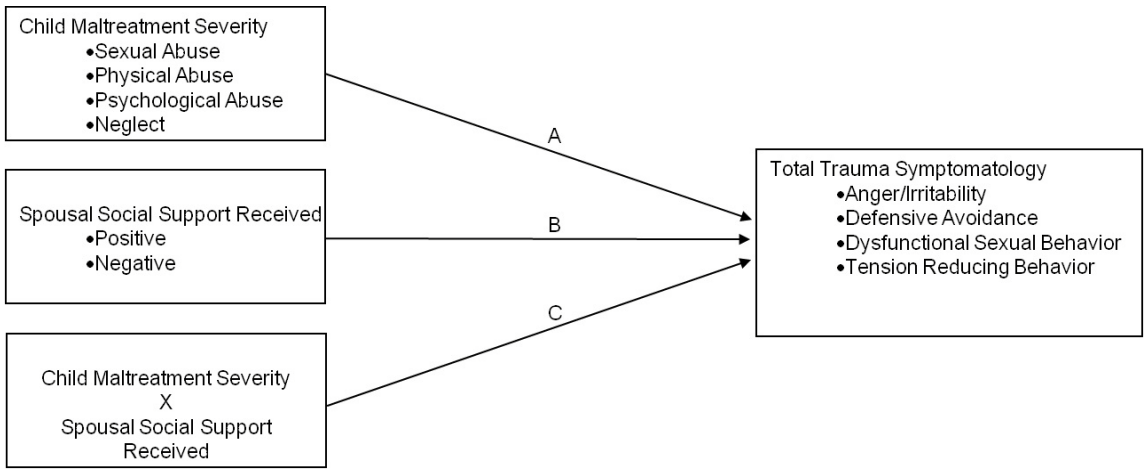
The goal of the proposed study, therefore, was to examine associations between the severity of multiple types of maltreatment (i.e., physical, sexual, psychological abuse; neglect) and the severity of total trauma symptomatology, as well as specific classes of trauma symptoms thought to be salient to relationship functioning, in both men and women. The main effect of each type of child maltreatment severity was examined to determine whether it was predictive of changes in total trauma symptomatology and specific trauma symptoms (i.e., anger/irritability, defensive avoidance, dysfunctional sexual behavior, and tension reducing behavior). The proposed study also employed observational research methods to examine the possible main effect of both positive and negative spousal social support on the severity of trauma symptomatology. Based on past research demonstrating the buffering effects of self-reported social support on adult mental health functioning, positive and negative social support were examined as potential moderators of associations between prior maltreatment severity and adult trauma symptom severity.

The proposed study examined associations between these variables within the context of marital relationships, and more specifically, newlywed couples. Because child maltreatment often involves serious emotional boundary violations by a trusted person, an intimate relationship with a trusted person in adulthood may serve as the arena for the manifestation of emotional or psychological disturbances related to the earlier maltreatment (Browne & Finkelhor, 1986; DiLillo et al., 2009). In other words, examining the role of spousal social support at a critical juncture in a victim's development, during the period in which the individual is adjusting to a new marriage, may provide unique insight into the influence that both positive and negative spousal

social support can have in promoting or inhibiting resiliency against the effects of child maltreatment. Finally, the proposed study examined gender differences in the associations between maltreatment severity and trauma symptom severity, levels of positive and negative social support received, and the buffering and potentiating effects of positive and negative social support, respectively.

Abuse severity history and trauma symptom data were collected as part of a larger study on child maltreatment and marital functioning, as was videotaped "social support discussions" between spouses, which were coded to derive measures of social support. The basic conceptualization of this project is depicted in Figure 1 below.

Figure 1. Conceptual Model of the Current Study



Specific Aims and Corresponding Hypotheses

Aim 1. Examine the relationship between child maltreatment severity and trauma symptoms.

A. *Hypothesis*: Greater child maltreatment severity of every type (i.e., sexual abuse, physical abuse, psychological abuse; neglect) will be associated with increased trauma symptom severity (Figure 1, Path A).

Aim 2. Explore the associations between spousal social support behaviors and trauma symptoms.

A. *Hypothesis*: Higher levels of positive social support behavior received from a spouse will be associated with decreased individual trauma symptom severity (Figure 1, Path B).

B. *Hypothesis*: Higher levels of negative social support behavior received from a spouse will be associated with increased individual trauma symptom severity (Figure 1, Path B).

Aim 3. Identify the role of social support behaviors in moderating the concurrent relationship between child maltreatment severity and trauma symptoms.

A. *Hypothesis*: Positive social support received from a spouse will have a buffering effect, whereby the positive associations between child maltreatment severity and trauma symptom severity will be reduced in individuals receiving more positive social support behaviors from spouses (Figure 1, Path C).

B. *Hypothesis*: Negative spousal social support will have a potentiating effect, whereby the positive associations between child maltreatment severity and trauma symptom severity will be strengthened in individuals receiving more negative social support behaviors from spouses (Figure 1, Path C).

Aim 4. Investigate gender patterns in trauma symptomatology associated with child maltreatment severity, social support, and their interaction.

A. *Hypothesis*: The severity of each type of child maltreatment will significantly predict increased trauma symptomatology for both women and men

B. *Hypothesis*: Positive social support will have a greater buffering effect for women, such that the relationship between child maltreatment severity and trauma symptom severity will be ameliorated in women more than it will be in men.

C. *Hypothesis*: Negative social support will have a greater potentiating effect for women, such that the relationship between child maltreatment severity and trauma symptom severity will be strengthened in women more than it will be in men.

Method

Participants

Participants in the current were 193 newlywed couples (*N* = 386 participants) randomly recruited from a publicly available marriage license database in Lancaster County, Nebraska as part of a larger study examining associations between child maltreatment and adult marital functioning. For purposes of the larger study, a couple was defined as newlyweds if they had been married one year or less at the time they were recruited to participate in the study. Additionally, at the time of recruitment, both spouses were required to be at least 19 years of age, the legal age of majority in Nebraska. Recruitment efforts from the larger study resulted in a sample of couples that had been married an average of 11.06 months (*SD* = 2.46, range = 11 to 15 months) at the time of data collection. Participants' ages ranged from 19 to 50 (*M* = 26.59, *SD* = 4.13). Regarding ethnicity, 94.1% of participant's were European American, .7% African American, 1.5% Hispanic/Latino, .7% Asian American, .7% Native American, and 2.2% unknown. Average reported annual family income was as follows: 39.5% of participants reported an income of under $40,000, 43% reported an income of $40,001 to $80,000, and 17.5% reported an income of above $80,001. Regarding education level, the vast

majority of participants (93.4%) had completed some college. Thirty-six percent of participants had completed a bachelor's degree and 26.0% reported having completed some graduate school or an advanced degree. Six percent of participants had earned only a high school diploma or GED, and only 0.4% had failed to complete high school.

Measures

As indicated in Figure 1, three classes of variables were included in this study, those assessing: 1) child maltreatment experiences, 2) social support behaviors, and 3) trauma symptomatology. Measurement methods included self-report as well as videotaped observational data, which was coded using a standardized coding system.

Child Maltreatment

Computer Assisted Maltreatment Inventory (CAMI; DiLillo et al., 2010). The CAMI is a computer administered self-report inventory that retrospectively assesses child abuse experiences including sexual abuse, physical abuse, psychological abuse, and neglect (See Appendix A). For sexual and physical abuse, participants respond to behaviorally specific screener questions that reveal whether they experienced various abusive acts prior to age 18. To screen for sexual abuse, participants are asked to indicate whether they experienced a variety of sexual acts (i.e., kissing, fondling, intercourse) either, against their will, with a family member, and/or with someone five or more years older than the participant at the time of the acts. To screen for physical abuse, participants are asked to indicate whether they experienced a number of physically aggressive acts (i.e., slapping, thrown down, hitting with a fist) at the hands of a primary caregiver.

Subsequent questions are tailored to inquire about the circumstances of the activities occurring with up to three named perpetrators for sexual abuse and up to five

named perpetrators for physical abuse. For sexual abuse, victim classifications are made using empirically-derived operational definitions of child sexual abuse that consider both the age of the victim and perpetrator, the relationship to the perpetrator, the use of force, and the frequency, severity, and duration of the acts. For physical abuse, victim classifications are made using empirically-derived operational definitions of child physical abuse that consider the identity of the perpetrator, the frequency, severity, and duration of the acts, injuries resulting from the acts, and whether medical attention was required for such injuries. Because psychological abuse and neglect often reflect patterns of more subtle behaviors, these abuse types do not rely on screener questions, but rather are best assessed using a Likert-type scale (sample items include: "My parents threatened to leave me and never come back" and "As a child, my clothes and shoes didn't fit me"; (DiLillo et al., 2010).

For each abuse subtype, the CAMI yields both binary classifications (victim versus non-victim) and continuous scores reflecting the severity of each abuse type. Moreover, the presence of certain features of the sexual and physical abuse acts, empirically determined to be indicative of greater abuse severity (i.e., frequency of the acts, nature of the acts, duration of the acts, whether injury resulted from the acts, the number of and relationship to the perpetrator(s) who committed the acts) are assigned a weighted score reflecting abuse severity (Clemmons, Walsh, DiLillo, & Messman-Moore, 2007; DiLillo et al, 2010; Nash, 2006; See Appendix B). For the psychological abuse and neglect subscales, all items endorsed are summed for a total measure of abuse severity. For purposes of this study, the continuously scored sexual abuse, physical abuse, psychological abuse, and neglect scores were used to derive severity scores for

each maltreatment subtype for each participant. The CAMI has strong internal consistency and test-retest reliability (DiLillo et al., 2010). The developers also report good criterion-related validity when compared to the Childhood Trauma Questionnaire (Bernstein & Fink, 1998), another widely used measure of child maltreatment (DiLillo et al., 2010).

Social Support

Social Support Discussion Task (Pasch & Bradbury, 1997). During the data collection portion of the larger study, each spouse was provided with a list of sample topics and each asked to choose a personal problem that that spouse wished to discuss with their partner (e.g., exercising more, being more assertive, improving relationships with family; See Appendix C for the complete list of topics). Spouses also had the option of choosing a topic not listed on the sample list. The couple was instructed to avoid topics that were a source of conflict within their marriage. Couples then engaged two eight-minute discussions, one about each spouse's topic. Thus, during one discussion, a spouse was provided an opportunity to be the "helper," or the person providing social support, and during the other discussion, a spouse was provided the opportunity to be the "helpee," or the person receiving social support. During each discussion, the "helper" spouse was given non- specific instructions to "participate however you see fit" rather than being told to provide support during the discussion.

All discussions were videotaped to allow for later analysis using Pasch and Bradbury's (1997) Social Support Interaction Coding System (SSICS; described below). While the purpose of the discussion is for the "helper" to aid the "helpee" in solving a personal problem, the "helper's" behavior during this discussion has the potential to

hinder their partner's ability to cope with a problem, and this hindrance is thought to generalize to situations outside of the discussion task. For example, a spouse who receives positive support from a partner about a less intimate issue, such as losing weight, is also likely to receive positive support from a partner concerning struggles with more intimate issues such as coping with child maltreatment or the loss of a job. In contrast, spouses who are unable to provide positive support to their partners, or worse, who engage in unsupportive, or negative social support behaviors (i.e., blaming, criticizing) about a mundane issue are likely to respond in a similar fashion when being solicited to help with larger issues.

Social Support Interactive Coding System (SSICS; Pasch & Bradbury, 1997). The SSICS is a coding system designed to measure the incidence of social support provided and received during a cued discussion task (Cutrona, 1996a; Pasch & Bradbury, 1998). The SSICS generates four types of social support codes: positive social support, negative social support, neutral social support, and off task speech. For purposes of the current study, only the positive and negative social support codes provided by the "helper" were used in subsequent analyses, as these codes are most theoretically relevant to the current study. Data coding procedures proposed by Pasch and Bradbury (1998) were used in the current study (See Appendix C). A team of advanced undergraduates was trained over a period of six months on the underlying theory as well as procedures involved in reliable use of the SSICS. Inter-rater reliability checks were conducted on a weekly basis until all coders reached initial agreement levels of *kappa* > .80, a widely used cutoff employed to gauge excellent inter-rater reliability (Landis & Koch, 1977). Coders were then subject to random bi-weekly reliability checks throughout the coding of

all data. Finally, subsequent to the completion of data coding, 24% of the data were randomly selected and double-coded to ensure overall inter-rater reliability. Intraclass correlations revealed high levels of inter-rater reliability (positive support received = .91, negative support received = .86).

Upon the reliable completion of all data coding, positive and negative social support scores were determined using the following steps. First, after a couple's discussion task was coded, the number of speaking turns classified in each category (i.e., positive support, negative support) was summed. The number derived was then divided by the "helper" spouses' total number of speaking turns in each discussion. This process yielded a proportion of positive speaking turns and negative speaking turns provided by a spouse during a discussion for each participant's problem. This proportional score then represents the positive social support received and the negative social support received by the participant.

Trauma Symptomatology

Trauma Symptom Inventory (TSI; Briere, 1995). The TSI is a 100-item self-report measure developed to assess a variety of psychosocial, behavioral, and emotional trauma-related symptoms. Respondents are asked to utilize a four-point Likert scale, anchored from 0 (*it has never happened*) to 3 (*it has happened frequently*) to indicate the frequency of symptoms within the past six months. The TSI contains 10 clinical scales, the first five of which were developed to correspond with PTSD symptoms outlined in the DSM-IV-TR (Anxious Arousal, Depression, Anger/Irritability, Intrusive Experiences, and Defensive Avoidance; American Psychiatric Association, 2000). The remaining clinical scales assess symptoms that are frequently observed in persons who have

experienced childhood trauma (Dissociation, Sexual Concerns, Dysfunctional Sexual Behavior, Impaired Self-Reference, and Tension-Reduction Behavior; Briere, 1995). Moreover, the TSI has proven reliable in identifying PTSD in trauma survivors, correctly classifying those experiencing symptoms of PTSD 85.5% of the time (McDevitt-Murphy, Weathers, & Adkins, 2005). The current study used an aggregate total score of all the subscales (i.e., the TSI total score) to provide a continuous measure of trauma symptom severity. Internal consistency for the TSI total score in the current sample was .96. Moreover, as previously discussed, the current study also proposed to look at four TSI subscales, hypothesized to gauge levels of trauma symptomatology that may be particularly salient to relationship functioning: anger/irritability, defensive avoidance, dysfunctional sexual behavior, and tension reducing behavior. Internal consistency for each of these subscales in the current sample was as follows: anger/irritability = .87, defensive avoidance = .87, dysfunctional sexual behavior = .74, and tension reducing behavior = .60.

Additional Measures

Demographic Information. Participants were asked to provide information on race/ethnicity, age, gender, and income. Additionally, they were asked several questions about their current family, including number of previous marriages, length of current marriage, number of children, substance abuse use, and prior mental health treatment.

Procedures

Recruitment

Prior to data collection, IRB approval was obtained from the University of Nebraska-Lincoln (See Appendix D for IRB approval documentation). Participants in the

larger NIMH-funded study were recruited randomly from a publicly available database of all marriage licenses issued in Lancaster County, Nebraska over a 12-month period. Each couple was mailed a letter inviting them to participate and instructing them to contact the research laboratory. To be eligible for participation in the larger study, both partners must have been at least 19 years old (the legal age of majority in Nebraska) and in their first year of their first marriage. Couple's whose letters were returned as "undeliverable" were not included in the final count of couples contacted, nor were couples who indicated that they had never gotten married. Of the 1,465 married couples who were contacted about potential participation in the study, 202 (14.5%) enrolled in the larger study. This recruitment rate is comparable to other studies employing similar recruitment techniques (Davila, Bradbury, Cohan, & Tochluk, 1997).

Data Collection

Participants visited the data collection laboratory at the University of Nebraska-Lincoln on three occasions over a two-year period. Data from the first visit was used in the current study. After obtaining written informed consent, a battery of self-report questionnaires, which included the measures used in the current study, was administered in random order. To increase privacy and to prevent discussion between spouses regarding answers, participants filled out all questionnaires in a private room. Participants were then videotaped engaging in two discussion tasks (i.e. four discussions), one designed to measure conflict resolution within the relationship and the other, used in the current study, designed to assess antecedents of social support within the relationship. Each data collection session lasted approximately 3 hours and participants were paid $300 compensation over the duration of the study.

Analytic Strategy

All data were checked for data entry errors and corrected accordingly. In addition, extreme scores were examined and corrected using outlier analyses and Windsorizing procedures. Of note is that upon examination of the social support data obtained, nine couples data was omitted from all subsequent analyses due to the couples' failure to follow the instructions during the social support discussion task (i.e., discussed topics unrelated to the task for > 60% of the discussion task; discussed a topic that was a source of conflict within the marriage). Thus, data from 193 couples were used in the current study, resulting in $N = 386$.

The purpose of the first set of analyses was to establish predictive associations between child maltreatment severity (i.e. physical, sexual, psychological maltreatment; neglect) and trauma symptomatology (i.e., total trauma symptoms, anger/irritability symptoms, defensive avoidance symptoms, dysfunctional sexual behaviors, tension reducing behaviors; Specific Aim 1) as well as associations between received social support (i.e., positive or negative social support) and all trauma symptomatology (Specific Aim 2). The goal of subsequent analyses was to test both positive and negative social support as moderators (Specific Aim 3) of the associations between child maltreatment severity and trauma symptomatology. To test each of these aims, hierarchical two-step regression models were constructed with child maltreatment severity (i.e., sexual abuse, physical abuse, psychological abuse, or neglect) and proportion of social support received (i.e., positive or negative) entered at step one. Each of these variables were re-entered at step two, along with an interaction variable constructed by calculating the product of the two centered independent predictor

variables. Finally, as discussed previously, some research on social support suggests that men and women may respond to perceived social support differently (Cutrona, 1996a). Thus, in addition to running all analyses utilizing data from all participants, analyses were also conducted using separate regression models for men and women (Specific Aim 4).

Results

Preliminary Analyses and Descriptive Characteristics of the Sample

Data analyses then began with an assessment of descriptive data for all hypothesized independent variables, moderating variables, and dependent variables. Descriptive statistics of the entire sample can be seen in Table 1. In general, descriptive data indicate relatively low severity child sexual and physical abuse victimization experiences reported on the CAMI throughout the sample. The severity of psychological abuse and neglect reflected within the sample is moderate. Descriptive data obtained from an analyses of the observational data coded with the SSICS indicate relatively high levels of positive social support and relatively low levels of negative social support, both provided and received, throughout the sample. Finally, descriptive results of the TSI total and four subscales reflect relatively low severity trauma symptoms within the sample.

Also, in Table 1, Analyses of Variance (ANOVA) revealed that women endorsed more severe sexual abuse victimization than did men. Men endorsed significantly higher levels of physical abuse and neglect victimization. No differences were found between men and women with regard to psychological abuse severity. Moreover, no gender differences were found between men and women with regard to amount of positive or

negative social support provided or received. Finally, there was no significant difference in total trauma symptomatology scores between women and men in the overall sample. However, follow-up analyses revealed that women endorsed significantly higher levels of Tension Reducing Behavior than did men.

Table 1
Descriptive Statistics by Gender

Variable	Overall		Women		Men		
	Mean	*S.D.*	Mean	S.D.	Mean	S.D.	*F* (1, 385)
	N = 386		*n* = 193		*n* = 193		
Computer Administered Maltreatment Inventory							
Sexual Abuse	1.66	3.82	2.82	4.65	0.49	2.22	40.04***
Physical Abuse	7.57	5.63	6.84	5.55	8.30	5.62	6.70**
Psychological Abuse	38.12	12.58	36.90	11.63	39.35	13.39	3.71
Neglect	28.89	9.61	27.25	8.62	30.54	10.28	11.66**
Received Social Support							
Positive	0.70	0.18	0.69	0.19	0.70	0.18	0.91
Negative	0.04	0.11	0.04	0.11	0.04	0.10	0.01
Provided Social Support							
Positive	0.70	0.18	0.70	0.18	0.69	0.19	0.86
Negative	0.04	0.11	0.04	0.10	0.04	0.11	0.01
Trauma Symptom Inventory							
Total Score	49.46	26.36	50.74	26.78	48.16	25.94	0.93
Anger/Irritability Subscale	7.44	4.56	7.79	4.63	7.09	4.46	2.31
Defensive Avoidance	4.69	4.22	4.81	4.21	4.57	4.23	0.32
Dysfunctional Sexual Behavior	1.31	1.63	1.18	1.53	1.44	1.72	2.54
Tension Reducing Behavior	1.78	1.94	2.00	2.11	1.56	1.73	4.94*

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

For descriptive purposes, rates of each type of child maltreatment were calculated for each form of child maltreatment. Consistent with techniques recommended by DiLillo et al. (in press), to calculate rates of sexual abuse and physical abuse, participants endorsing non-zero scores on each of the six empirically derived severity indicators were classified as victims. Table 2 presents information regarding the six CAMI sexual abuse severity indicators for those participants classified as victims of sexual abuse. Table 3 presents information regarding the six CAMI physical abuse severity indicators for those participants classified as victims of physical abuse. Also consistent with techniques recommended by DiLillo et al. (2010), rates of psychological abuse and neglect victimization were calculated by classifying participants with scores equivalent to one standard deviation below the mean as non-victims of each abuse type. Using these dichotomous classification methods, 199 (51.6%) participants reported experiences that met the criteria for one or more forms of child maltreatment on the CAMI. Sixty-seven (17.4%) participants of the sample of the sample met criteria for sexual abuse, 140 (36.3%) participants met criteria for physical abuse, 58 (15.0%) participants met criteria for psychological abuse, and 56 (14.5%) participants met criteria for neglect. By gender, fifty-seven (29.5%) women and 10 (5.2%) men met criteria for sexual abuse, 55 (28.5%) women and 85 (44.0%) men met criteria for physical abuse, 26 (13.5%) women and 32 (16.6%) men met criteria for psychological abuse, and 20 (10.4%) women and 36 (18.7%) men met criteria for neglect.

Table 2

Child Sexual Abuse Descriptive Data From the CAMI

	Overall (*n* = 67)		Women (*n* = 57)		Men (*n* = 10)	
	n	% of victims	*n*	% of victims	*n*	% of victims
Number of Perpetrators						
One	51	76.1	44	77.2	7	70.0
Two	13	19.4	11	19.3	2	20.0
Three	3	4.5	2	3.5	1	10.0
Perpetrator						
Non-family	41	61.2	35	61.4	6	60.0
Family, but not parent	21	31.3	18	31.6	3	30.0
Parent	5	7.5	4	7.0	1	10.0
Frequency						
1 – 2 times	36	53.7	32	56.1	4	40.0
3 – 10 times	21	31.3	16	28.1	5	50.0
11 or more times	10	14.9	9	15.8	1	10.0

Duration						
Less than one year	40	59.7	35	61.4	5	50.0
1 – 2 years	14	20.9	11	19.3	3	30.0
More than 2 years	13	19.4	11	19.3	2	20.0
Nature of Acts						
Non-contact	6	9.0	5	8.8	1	10.0
Physical Contact (without penetration)	45	67.2	38	66.7	7	70.0
Penetration	17	25.4	14	24.6	3	30.0
Force						
No force used	9	13.4	7	12.3	2	20.0
Verbal tactics	33	49.3	25	43.9	8	80.0
Threats of physical harm	3	4.5	3	5.3	0	0.0
Physically held down	23	34.3	22	38.6	1	10.0

Note. CAMI = Computer Assisted Maltreatment Inventory. * $p < .05$

Table 3

Child Physical Abuse Descriptive Data From the CAMI

	Overall (*n* = 140)		Women (*n* = 55)		Men (*n* = 85)	
	n	% of victims	*n*	% of victims	*n*	% of victims
Number of Perpetrators						
One	36	25.7	19	34.5	17	20.0
Two	81	57.9	33	60.0	48	56.5
Three	12	8.6	2	3.6	10	11.8
Four or more	11	7.9	1	1.8	10	11.8
Perpetrator						
Non-family	12	8.6	3	5.5	9	10.6
Family, but not parent	13	9.3	3	5.5	10	11.8
Parent	115	82.1	49	89.1	66	77.6
Frequency						
1 – 2 times	11	7.9	4	7.3	7	8.2
3 – 10 times	54	38.6	24	43.6	30	35.3
11 or more times	75	53.6	27	49.1	48	56.5

Duration						
Less than one year	9	6.4	3	5.5	6	7.1
1 – 2 years	5	3.6	1	1.8	4	4.7
More than 2 years	125	89.3	50	90.9	75	88.2
Nature of Acts						
Low Severity (grabbed, shook, slapped, pinched, spanked on bottom with/without object)	10	7.1	5	11.0	5	5.9
Moderate Severity (punched, kicked, knocked down, hard object thrown)	52	37.1	19	34.5	33	38.8
High Severity (hit with hard object, choked, beaten, burned, threatened with weapon)	78	55.7	31	56.4	47	55.3
Injury/Medical Attention						
No Injury	89	63.6	39	70.1	50	58.8
Minor Injury (bruises, bloody nose or lip, cuts or scratches)	48	34.3	15	27.3	33	38.8

Moderate Injury (broken or fractured bones, burns)	1	0.7	1	1.8	0	0.0
Severe Injury (internal injuries, paralysis)	2	1.4	0	0.0	2	2.4

Note. CAMI = Computer Assisted Maltreatment Inventory. * $p < .05$

In Table 4, bivariate correlations shown along the diagonal quantify the extent of association between all study variables within the entire sample. Off-diagonal elements quantify the correlations between all variables within women (below the diagonal) and within men (above that diagonal). Bivariate analyses revealed moderate to strong positive associations between each form of child maltreatment severity, total trauma symptoms, and specific trauma symptoms for women and men. Positive social support provided and received were positively associated with one another and negatively associated with negative social support provided and received for both women and men. Negative social support provided was also positively associated with negative social support received for both women and men. Regarding associations between child maltreatment and social support, significant associations were only found between sexual abuse severity and positive and negative social support. In general, bivariate analyses revealed few significant associations between positive or negative social support and total or specific trauma symptoms for women or men. Finally, in order to assess for multicollinearity between each of the independent variables and moderating variables, variance inflation factors (VIF) were calculated for each variable included in the models. Results indicated that VIFs for each of the independent and moderating variables ranged from 1.09 to 2.47. All VIFs were below the most conservative cutoff typically used (i.e., 2.5), thus minimizing concerns about the potential impact of multicollinearity on the results (Allison, 1999).

Table 4

Intercorrelations by Gender

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. C AMI Sexual Abuse	-	.11	.20**	.12	-.06	.06	.11	-.05	.26**	.16*	.20**	.25**	.21**
2. C AMI Physical Abuse	.17*	-	.43**	.22**	.10	.09	.02	.18*	.26**	.31**	.19**	.21**	.21**
3. CAMI Psychological Abuse	.42**	.39**	-	.72**	.08	.18*	.01	.25**	.43**	.36**	.37**	.28**	.40**
4. CAMI Neglect	.38*	.26**	.70**	-	.12	.02	.09	.07	.24**	.15*	.22**	.16*	.23**
5. Received Social Support - Positive	-.04	.05	-.01	-.02	-	-.47**	.39**	-.13	.06	.02	.09	-.15*	-.03
6. Received Social Support - Negative	.18*	.05	.02	.00	-.52**	-	-.19**	.36**	.05	.05	.06	.19**	.15*
7. Provided Social Support - Positive	-.16*	.00	-.06	-.12	.40**	-.13	-	-.53**	.04	-.01	.00	.01	.04
8. Provided Social Support - Negative	.19**	.01	.15*	.11	-.19**	.36**	-.47**	-	.13	.17*	.17*	.07	.11
9. TSI Total Score	.30**	.27**	.38**	.22**	.07	.15*	-.07	.12	-	.75**	.70**	.48**	.60**
10. TSI Anger/Irritability	.10	.22**	.24**	.13	.10	.14	-.07	.21**	.77**	-	.37**	.23**	.59**
11. TSI Defensive Avoidance	.38**	.21**	.36**	.24**	.06	.09	-.05	.07	.75**	.47**	-	.30**	.30**
12. T SI Dysfunctional Sexual Behavior	.11	.08	.17*	.11	.03	.09	-.04	.06	.64**	.44**	.40**	-	.63**
13. T SI Tension Reducing Behavior	.10	.17*	.26**	.11	.12	.06	.02	.08	.78**	.75**	.53**	.71**	-

Note. N = 386 (193 women and 193 men). Correlations for women are below the diagonal; correlations for men are above the diagonal.

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

The Main Effects of Child Maltreatment, Positive Social Support, and Their Interaction in Predicting Total Trauma Symptomatology

As shown in Table 5, results from the entire sample revealed significant main effects for every form of child maltreatment in predicting increased trauma symptomatology: sexual abuse model, $R^2 = .09$, $F(2, 380) = 18.39$, $p < .001$, physical abuse model, $R^2 = .06$, $F(2, 381) = 12.36$, $p < .001$, psychological abuse model, $R^2 = .17$, $F(2, 377) = 37.12$, $p < .001$, and neglect model, $R^2 = .05$, $F(2, 380) = 9.84$, $p < .001$. There was no main effect for positive social support in predicting changes in trauma symptomatology in any of these models. However, the simple effect of positive social support did predict increased trauma symptomatology in the full model testing associations between sexual abuse severity and total trauma symptomatology. Finally, no type of child maltreatment severity interacted with positive social support to predict significant changes in trauma symptomatology.

Table 5

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Trauma Symptom Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	1.95	0.33	.29***
Positive Social Support	11.87	7.03	.08†
Step 2 – Interaction Model			
Sexual Abuse	1.95	0.33	.29***
Positive Social Support	14.13	7.17	.10*
Sexual Abuse x Positive Social Support	-2.51	1.60	-.08

Step 1 – Main Effects Model			
Physical Abuse	1.10	0.23	.24***
Positive Social Support	6.60	7.13	.05
Step 2 – Interaction Model			
Physical Abuse	1.11	0.23	.24***
Positive Social Support	6.70	7.13	.05
Physical Abuse x Positive Social Support	0.74	1.28	.03

Step 1 – Main Effects Model			
Psychological Abuse	0.82	0.10	.40***
Positive Social Support	6.95	6.76	.05
Step 2 – Interaction Model			
Psychological Abuse	0.82	0.10	.40***
Positive Social Support	6.68	6.78	.05
Psychological Abuse x Positive Social Support	0.39	0.55	.03

Step 1 – Main Effects Model			
Neglect	0.57	0.14	.21***
Positive Social Support	7.37	7.17	.05
Step 2 – Interaction Model			
Neglect	0.56	0.14	.21***
Positive Social Support	7.21	7.17	.05

Neglect x Positive Social Support	0.50	0.71	.04

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

As shown in Table 6, for women, results revealed significant main effects of every form of child maltreatment in predicting increased trauma symptomatology: sexual abuse model, R^2 = .11, F(2, 188) = 11.34, p < .001, physical abuse model, R^2 = .07, F(2, 188) = 6.64, p = .002, psychological abuse model, R^2 = .15, F(2, 186) = 16.08, p < .001, and neglect model, R^2 = .05, F(2, 188) = 5.34, p = .006. There was no main effect for positive social support from a male spouse in predicting changes in trauma symptomatology in any of these models. However, the simple effect of positive social support trended towards predicting increased trauma symptomatology in the full model testing associations between sexual abuse severity and total trauma symptomatology. Finally, no type of child maltreatment severity interacted with positive social support to predict significant changes in trauma symptomatology.

Table 6

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Trauma Symptom Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	1.78	0.38	.32***
Positive Social Support	11.65	9.51	.09
Step 2 – Interaction Model			
Sexual Abuse	1.80	0.38	.32***
Positive Social Support	19.29	10.76	.14†

Sexual Abuse x Positive Social Support	-2.82	1.88	-.12
Step 1 – Main Effects Model			
Physical Abuse	1.16	0.33	.25***
Positive Social Support	8.17	9.73	.06
Step 2 – Interaction Model			
Physical Abuse	1.18	0.33	.25***
Positive Social Support	9.52	9.81	.07
Physical Abuse x Positive Social Support	1.82	1.75	.07
Step 1 – Main Effects Model			
Psychological Abuse	0.84	0.15	.38***
Positive Social Support	10.45	9.35	.08
Step 2 – Interaction Model			
Psychological Abuse	0.84	0.15	.38***
Positive Social Support	10.32	9.39	.08
Psychological Abuse x Positive Social Support	0.19	0.84	.02
Step 1 – Main Effects Model			
Neglect	0.66	0.22	.22***
Positive Social Support	10.53	9.78	.08
Step 2 – Interaction Model			
Neglect	0.65	0.22	.22***

Positive Social Support	10.41	9.81	.08
Neglect x Positive Social Support	0.52	1.05	.04

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Similarly, as shown in Table 7, for men, results revealed significant main effects for every form of child maltreatment in predicting increased trauma symptomatology: sexual abuse model, R^2 = .08, F(2, 189) = 7.84, p = .001, physical abuse model, R^2 = .07, F(2, 190) = 6.69, p = .002, psychological abuse model, R^2 = .20, F(2, 188) = 23.02, p < .001, and neglect model, R^2 = .06, F(2, 189) = 5.85, p = .003. There was no main effect of positive social support in predicting changes in trauma symptomatology in any of these models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in trauma symptomatology.

Table 7

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Trauma Symptom Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	3.10	0.81	.27***
Positive Social Support	12.39	10.47	.08
Step 2 – Interaction Model			
Sexual Abuse	2.95	0.84	.26***
Positive Social Support	7.19	12.79	.05
Sexual Abuse x Positive Social Support	-4.11	5.78	-.06

Step 1 – Main Effects Model

Physical Abuse	1.14	0.32	.25***
Positive Social Support	5.89	10.50	.04
Step 2 – Interaction Model			
Physical Abuse	1.14	0.33	.25***
Positive Social Support	6.13	10.62	.04
Physical Abuse x Positive Social Support	-0.32	1.91	-.01
Step 1 – Main Effects Model			
Psychological Abuse	0.84	0.13	.44***
Positive Social Support	4.05	9.81	.03
Step 2 – Interaction Model			
Psychological Abuse	0.84	0.13	.44***
Positive Social Support	3.60	9.83	.02
Psychological Abuse x Positive Social Support	0.61	0.71	.06
Step 1 – Main Effects Model			
Neglect	0.59	0.18	.24***
Positive Social Support	4.96	10.57	.03
Step 2 – Interaction Model			
Neglect	0.57	0.18	.23***
Positive Social Support	4.75	10.60	.03
Neglect x Positive Social Support	0.59	0.95	.05

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

The Main Effects of Child Maltreatment, Negative Social Support, and Their Interaction in Predicting Total Trauma Symptomatology

As shown in Table 8, results from the entire sample revealed significant main effects for every form of child maltreatment in predicting increased trauma symptomatology: sexual abuse model, $R^2 = .09$, $F(2, 380) = 17.79$, $p < .001$, physical abuse model, $R^2 = .07$, $F(2, 381) = 13.49$, $p < .001$, psychological abuse model, $R^2 = .17$, $F(2, 377) = 37.45$, $p < .001$, and neglect model, $R^2 = .06$, $F(2, 380) = 11.38$, $p < .001$. The main effect of negative social support received from a spouse also significantly predicted increased trauma symptomatology in the model testing associations between child neglect severity and total trauma symptomatology, $R^2 = .06$, $F(2, 380) = 11.38$, $p < .001$. However, there was no main effect of negative social support from a spouse in predicting changes in trauma symptomatology in any other model. Moreover, no type of child maltreatment severity interacted with negative social support to predict significant changes in trauma symptomatology.

Table 8

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Trauma Symptom Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	1.86	0.33	.28***
Negative Social Support	15.58	11.83	.07
Step 2 – Interaction Model			
Sexual Abuse	1.86	0.33	.28***
Negative Social Support	15.23	13.12	.06

Sexual Abuse x Negative Social Support	0.15	2.44	.00
Step 1 – Main Effects Model			
Physical Abuse	1.10	0.23	.24***
Negative Social Support	20.56	11.87	.09†
Step 2 – Interaction Model			
Physical Abuse	1.10	0.23	.24***
Negative Social Support	21.00	11.87	.09†
Physical Abuse x Negative Social Support	-2.33	1.95	-.06
Step 1 – Main Effects Model			
Psychological Abuse	0.82	0.10	.40***
Negative Social Support	14.33	11.26	.06
Step 2 – Interaction Model			
Psychological Abuse	0.83	0.10	.41***
Negative Social Support	17.16	11.61	.07
Psychological Abuse x Negative Social Support	-0.76	0.73	-.05
Step 1 – Main Effects Model			
Neglect	0.58	0.13	.22***
Negative Social Support	23.85	11.91	.10*
Step 2 – Interaction Model			
Neglect	0.57	0.13	.21***

Negative Social Support	23.67	11.92	.10*
Neglect x Negative Social Support	0.72	1.14	.03

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

As shown in Table 9, for women, results revealed significant main effects for every form of child maltreatment in predicting increased trauma symptomatology: sexual abuse model, R^2 = .11, F(2, 188) = 11.63, p < .001, physical abuse model, R^2 = .08, F(2, 188) = 8.46, p < .001, psychological abuse model, R^2 = .16, F(2, 186) = 17.97, p < .001, and neglect model, R^2 = .07, F(2, 188) = 7.23, p = .001. The main effect of negative social support received from a male spouse also significantly predicted increased trauma symptomatology in the models testing associations between physical abuse severity, psychological abuse severity, and neglect severity and total trauma symptomatology. The simple effect of negative social support trended towards predicting increases in trauma symptomatology in the model testing associations between sexual abuse severity and total trauma symptomatology. Physical abuse severity interacted with negative social support from a male spouse in the full model, R^2 = .12, F(3, 187) = 8.12, p < .001; ΔR^2 = .03, ΔF(1, 187) = 6.90, p = .009, such that women who experienced low severity physical abuse but received high levels of negative social support reported more trauma symptomatology than did women experienced low severity physical abuse and received lower levels of negative social support. However, as the severity of physical abuse increased, the potentiating effect of negative social support dissipated, such that women who experienced moderate physical abuse reported increased trauma symptomatology regardless of level of social support. Finally, among women experiencing the most severe physical abuse, those who received higher levels of negative social support

actually reported less total trauma symptomatology than did those women who received lower levels of negative social support (see Figure 2; this figure represents the relationship between child physical abuse severity, measured continuously along the x-axis, and total trauma symptomatology, measured continuously along the y-axis, plotted for different levels of negative social support; Aiken & West, 1991).

Table 9

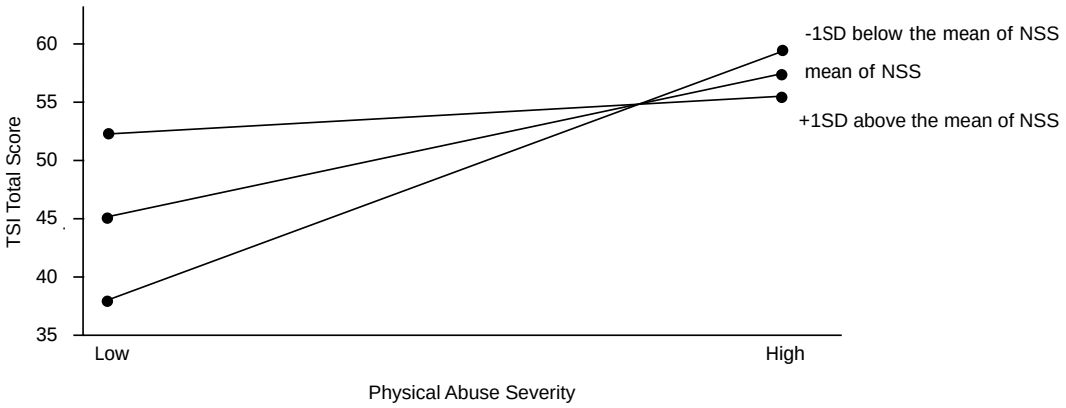
Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Trauma Symptom Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	1.67	0.39	.30***
Negative Social Support	23.18	16.29	.10
Step 2 – Interaction Model			
Sexual Abuse	1.66	0.39	.30***
Negative Social Support	41.74	23.99	.18†
Sexual Abuse x Negative Social Support	-3.72	3.53	-.11
Step 1 – Main Effects Model			
Physical Abuse	1.15	0.33	.24***
Negative Social Support	33.05	16.30	.14*
Step 2 – Interaction Model			
Physical Abuse	1.13	0.32	.24***
Negative Social Support	24.47	16.38	.11
Physical Abuse x Negative Social Support	-7.61	2.90	-.18**

Step 1 – Main Effects Model			
Psychological Abuse	0.83	0.15	.37***
Negative Social Support	33.11	15.62	.14*
Step 2 – Interaction Model			
Psychological Abuse	0.83	0.16	.37***
Negative Social Support	33.16	15.73	.14*
Psychological Abuse x Negative Social Support	-0.09	2.33	.00
Step 1 – Main Effects Model			
Neglect	0.66	0.21	.22***
Negative Social Support	35.71	16.38	.15*
Step 2 – Interaction Model			
Neglect	0.62	0.22	.21***
Negative Social Support	33.08	16.94	.15*
Neglect x Negative Social Support	-1.90	3.04	-.05

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 2. Relationship between Female Physical Abuse Severity and Trauma Symptomatology for Different Levels of Negative Social Support (NSS) From a Male Spouse.



In contrast, as shown in Table 10, for men, results revealed significant main effects for every form of child maltreatment in predicting increased trauma symptomatology: sexual abuse model, $R^2 = .07$, $F(2, 189) = 7.19$, $p = .001$, physical abuse model, $R^2 = .07$, $F(2, 190) = 6.59$, $p = .002$, psychological abuse model, $R^2 = .20$, $F(2, 188) = 23.06$, $p < .001$, and neglect model, $R^2 = .06$, $F(2, 189) = 5.93$, $p = .003$. There was no main effect of negative social support from a spouse in predicting changes in trauma symptomatology in any of these models. Moreover, no type of child maltreatment severity interacted with negative social support received from a female spouse to predict significant changes in trauma symptomatology.

Table 10

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Trauma Symptom Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	3.02	0.81	.26***
Negative Social Support	7.34	17.23	.03

Step 2 – Interaction Model			
Sexual Abuse	2.92	0.82	.25***
Negative Social Support	10.62	17.56	.04
Sexual Abuse x Negative Social Support	5.43	5.59	.07
Step 1 – Main Effects Model			
Physical Abuse	1.16	0.32	.25***
Negative Social Support	5.97	17.27	.02
Step 2 – Interaction Model			
Physical Abuse	1.13	0.33	.25***
Negative Social Support	0.82	17.84	.00
Physical Abuse x Negative Social Support	3.09	2.73	.08
Step 1 – Main Effects Model			
Psychological Abuse	0.86	0.13	.45***
Negative Social Support	-7.97	16.25	-.03
Step 2 – Interaction Model			
Psychological Abuse	0.89	0.13	.46***
Negative Social Support	-4.38	17.14	-.02
Psychological Abuse x Negative Social Support	-0.54	0.80	-.05
Step 1 – Main Effects Model			
Neglect	0.60	0.18	.24***

Negative Social Support	10.38	17.27	.04
Step 2 – Interaction Model			
Neglect	0.55	0.18	.22***
Negative Social Support	7.19	17.44	.03
Neglect x Negative Social Support	1.57	1.27	.09

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

The Main Effects of Child Maltreatment, Positive Social Support, and Their Interaction in Predicting Anger/Irritability Symptoms

As shown in Table 11, results from the entire sample revealed significant main effects for every form of child maltreatment in predicting increased anger/irritability symptoms: sexual abuse model, R^2 = .02, F(2, 380) = 4.46, p < .05, physical abuse model, R^2 = .06, F(2, 381) = 11.72, p < .001, psychological abuse model, R^2 = .09, F(2, 377) = 18.57, p < .001, and neglect model, R^2 = .02, F(2, 380) = 3.20, p < .05. There was no main effect of positive social support from a spouse in predicting changes in anger/irritability symptomatology in any of these models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in anger/irritability symptomatology.

Table 11

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Anger/Irritability Symptom Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.16	0.06	.14**
Positive Social Support	1.64	1.26	.07

Step 2 – Interaction Model			
Sexual Abuse	0.16	0.06	.14**
Positive Social Support	1.52	1.29	.06
Sexual Abuse x Positive Social Support	0.13	0.29	.02
Step 1 – Main Effects Model			
Physical Abuse	0.19	0.04	.24***
Positive Social Support	0.95	1.24	.04
Step 2 – Interaction Model			
Physical Abuse	0.19	0.04	.24***
Positive Social Support	0.96	1.24	.04
Physical Abuse x Positive Social Support	0.18	0.22	.04
Step 1 – Main Effects Model			
Psychological Abuse	0.10	0.02	.29***
Positive Social Support	1.13	1.22	.05
Step 2 – Interaction Model			
Psychological Abuse	0.10	0.02	.29***
Positive Social Support	1.03	1.22	.05
Psychological Abuse x Positive Social Support	0.13	0.10	.06
Step 1 – Main Effects Model			
Neglect	0.05	0.02	.12*

Positive Social Support	1.22	1.26	.05
Step 2 – Interaction Model			
Neglect	0.05	0.02	.11*
Positive Social Support	1.22	1.26	.05
Neglect x Positive Social Support	0.08	0.12	.03

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

As shown in Table 12, for women, results revealed significant main effects for the models of physical abuse, R^2 = .05, F(2, 188) = 4.73, p = .01, and psychological abuse, R^2 = .07, F(2, 186) = 6.67, p = .002, in predicting increased anger/irritability symptoms. Results also revealed a trend for the main effect of neglect to predict increased anger/irritability symptoms, R^2 = .03, F(2, 188) = 2.38, p < .10. Sexual abuse did not predict changes in anger/irritability for women. There was no main effect for positive social support in predicting changes in anger/irritability symptomatology in any of the models. However, physical abuse severity did trend towards interacting with positive social support to predict anger/irritability in the full model, R^2 = .07, F(3, 187) = 4.30, p = .06; ΔR^2 = .03, ΔF(1, 187) = 3.33, p = .07, such that women who experienced moderate to severe physical abuse but received higher levels of positive social support reported less anger/irritability than did women who received lower levels of positive social support (see Figure 3).[1]

[1] In the interest of being as comprehensive as possible, all interactions significant at least the p < .05 level and all interactions trending towards significance (i.e., p < .10) are reported and graphed in this section. However, interactions trending towards significance should be interpreted with caution.

Table 12

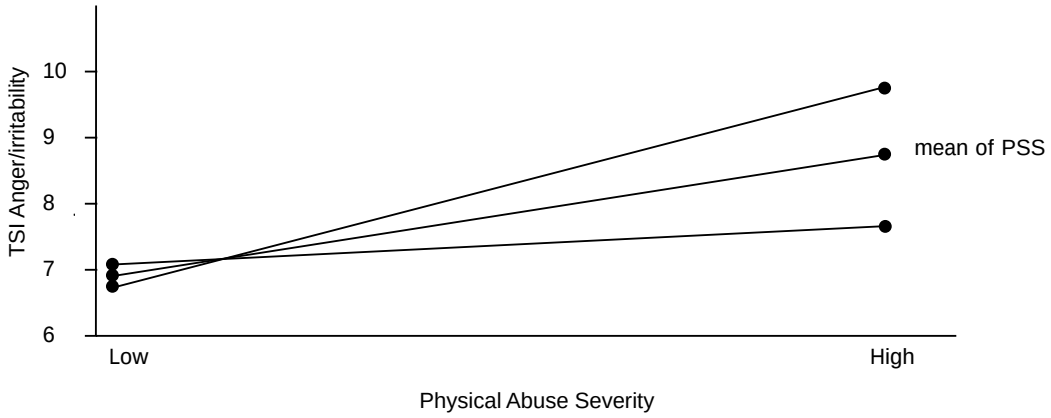
Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Anger/Irritability Symptom Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.11	0.07	.11
Positive Social Support	2.48	1.73	.10
Step 2 – Interaction Model			
Sexual Abuse	0.10	0.07	.11
Positive Social Support	1.99	1.97	.08
Sexual Abuse x Positive Social Support	0.18	0.34	.04
Step 1 – Main Effects Model			
Physical Abuse	0.16	0.06	.20**
Positive Social Support	2.14	1.71	.09
Step 2 – Interaction Model			
Physical Abuse	0.16	0.06	.20**
Positive Social Support	2.55	1.71	.11
Physical Abuse x Positive Social Support	0.56	0.31	.13†
Step 1 – Main Effects Model			
Psychological Abuse	0.09	0.03	.24***
Positive Social Support	2.55	1.69	.11
Step 2 – Interaction Model			

Psychological Abuse	0.09	0.03	.23***
Positive Social Support	2.39	1.69	.10
Psychological Abuse x Positive Social Support	0.24	0.15	.11
Step 1 – Main Effects Model			
Neglect	0.06	0.04	.12†
Positive Social Support	2.43	1.73	.10
Step 2 – Interaction Model			
Neglect	0.06	0.04	.11
Positive Social Support	2.38	1.73	.10
Neglect x Positive Social Support	0.24	0.19	.09

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 3. Relationship between Female Physical Abuse Severity and Anger/Irritability for Different Levels of Positive Social Support (PSS) From a Male Spouse.



In contrast, as shown in Table 13, for men, results revealed significant main effects for the models of physical abuse, R^2 = .09, F(2, 190) = 9.62, p < .001, and psychological abuse, R^2 = .14, F(2, 188) = 15.13, p < .001, in predicting increased

anger/irritability symptoms. However, results also revealed a trend for the main effects of sexual abuse, $R^2 = .03$, $F(2, 189) = 2.58$, $p = .08$, and neglect, $R^2 = .02$, $F(2, 189) = 2.21$, $p = .10$, in predicting increased anger/irritability. There was no main effect for positive social support in predicting changes in anger/irritability symptomatology in any of the models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in anger/irritability symptomatology.

Table 13

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Anger/Irritability Symptom Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.32	0.14	.16*
Positive Social Support	0.81	1.85	.03
Step 2 – Interaction Model			
Sexual Abuse	0.29	0.15	.15*
Positive Social Support	-0.20	2.25	-.01
Sexual Abuse x Positive Social Support	-0.80	1.02	-.07
Step 1 – Main Effects Model			
Physical Abuse	0.24	0.05	.30***
Positive Social Support	-0.28	1.78	-.01
Step 2 – Interaction Model			
Physical Abuse	0.24	0.06	.30***
Positive Social Support	-0.15	1.80	-.01

Physical Abuse x Positive Social Support	-0.17	0.32	-.04
Step 1 – Main Effects Model			
Psychological Abuse	0.12	0.02	.37***
Positive Social Support	-0.40	1.75	-.02
Step 2 – Interaction Model			
Psychological Abuse	0.12	0.02	.37***
Positive Social Support	-0.44	1.75	-.02
Psychological Abuse x Positive Social Support	0.06	0.13	.03
Step 1 – Main Effects Model			
Neglect	0.07	0.03	.15*
Positive Social Support	-0.01	1.85	.00
Step 2 – Interaction Model			
Neglect	0.07	0.03	.15*
Positive Social Support	0.00	1.86	.00
Neglect x Positive Social Support	-0.04	0.17	-.02

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

The Main Effects of Child Maltreatment, Negative Social Support, and Their Interaction in Predicting Anger/Irritability Symptoms

As shown in Table 14, results for the entire sample revealed significant main effects for every form of child maltreatment in predicting increased anger/irritability symptoms: sexual abuse model, R^2 = .03, $F(2, 380) = 4.81$, p = .009, physical abuse

model, R^2 = .06, F(2, 381) = 12.84, p < .001, psychological abuse model, R^2 = .09, F(2, 377) = 19.12, p < .001, and neglect model, R^2 = .02, F(2, 380) = 4.54, p = .01. Results also revealed a trend for the main effect of negative social support received from a spouse to predict increased anger/irritability in models testing physical abuse severity, R^2 = .06, F(2, 381) = 12.84, p < .001, and neglect severity, R^2 = .02, F(2, 380) = 4.54, p = .01. There was no main effect of negative social support received from a spouse in predicting changes in anger/irritability in models of sexual abuse severity or psychological abuse severity. Neglect severity did trend towards interacting with negative social support to significantly predict anger/irritability in the full model, R^2 = .03, F(3, 379) = 3.96, p = .008; ΔR^2 = .01, ΔF(1, 187) = 2.77, p < .01, such that participants with low severity neglect reported lower anger/irritability regardless of level of negative social support. However, for participants with moderate to severe neglect severity, those receiving more negative social support reported higher levels of anger/irritability than did participants receiving lower levels of negative social support (see Figure 4).

Table 14

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Anger/Irritability Symptom Severity for all Participants

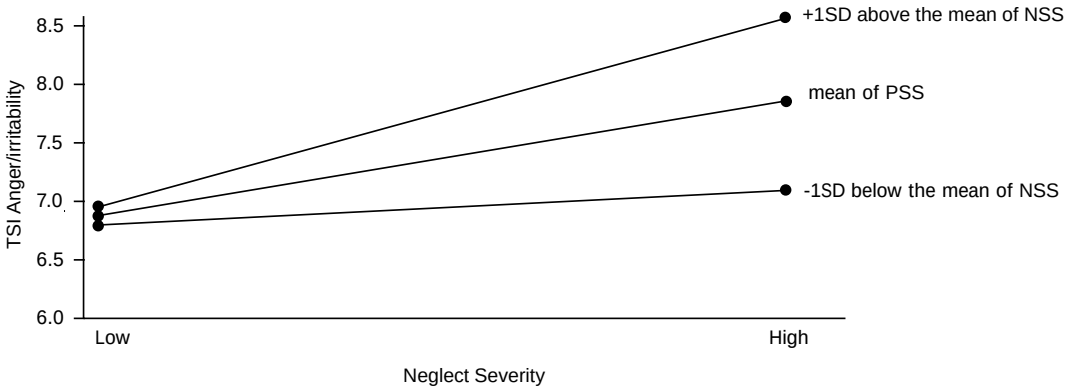
Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.15	0.06	.13*
Negative Social Support	3.31	2.12	.08
Step 2 – Interaction Model			
Sexual Abuse	0.15	0.06	.13*
Negative Social Support	3.83	2.35	.09

Sexual Abuse x Negative Social Support	-0.22	0.44	-.03
Step 1 – Main Effects Model			
Physical Abuse	0.19	0.04	.23***
Negative Social Support	3.39	2.06	.08†
Step 2 – Interaction Model			
Physical Abuse	0.19	0.04	.23***
Negative Social Support	3.42	2.06	.08†
Physical Abuse x Negative Social Support	-0.14	0.34	-.02
Step 1 – Main Effects Model			
Psychological Abuse	0.10	0.02	.29***
Negative Social Support	2.77	2.04	.07
Step 2 – Interaction Model			
Psychological Abuse	0.10	0.02	.29***
Negative Social Support	2.86	2.10	.07
Psychological Abuse x Negative Social Support	-0.02	0.13	-.01
Step 1 – Main Effects Model			
Neglect	0.06	0.02	.12*
Negative Social Support	3.97	2.10	.10†
Step 2 – Interaction Model			
Neglect	0.05	0.02	.11*

Negative Social Support	3.89	2.10	.10†
Neglect x Negative Social Support	0.33	0.20	.08†

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 4. Relationship between Neglect Severity and Anger/Irritability for Different Levels of Negative Social Support (NSS) From a Spouse.



As shown in Table 15, for women, results revealed significant main effects for three of the four types of child maltreatment in predicting increased anger/irritability symptoms: physical abuse model, R^2 = .06 F(2, 188) = 5.65, p = .004, psychological abuse model, R^2 = .07, F(2, 186) = 7.32, p = .001, and neglect model, R^2 = .03, F(2, 188) = 3.26, p < .05. There was no main effect for sexual abuse severity in predicting changes in anger/irritability for women. There was a trend for the main effect of negative social support from a male spouse to predict increased anger/irritability in the models of physical abuse, psychological abuse, and neglect. Moreover, the simple effect of negative social support received from a male spouse significantly predicted increased anger/irritability symptoms in the full sexual abuse model. Finally, sexual abuse severity significantly interacted with negative social support from a male spouse in the full model, R^2 = .06, F(3, 187) = 3.77, p = .01; ΔR^2 = .03, ΔF(1, 187) = 6.23, p = .01, such that women

with low severity sexual abuse and low negative social support reported the lowest level of anger/irritability. As the severity of sexual abuse increased, women who received levels of negative social support one standard deviation below the mean or at the mean reported increased anger/irritability. However, for women who reported the highest levels of negative social support (i.e., 1 SD above the mean), as severity of sexual abuse increased, anger/irritability significantly decreased (see Figure 5). [2]

Table 15

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Anger/Irritability Symptom Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.08	0.07	.08
Negative Social Support	4.99	2.97	.12†
Step 2 – Interaction Model			
Sexual Abuse	0.08	0.07	.08
Negative Social Support	12.88	4.31	.32**
Sexual Abuse x Negative Social Support	-1.58	0.63	-.26*
Step 1 – Main Effects Model			
Physical Abuse	0.16	0.06	.19**
Negative Social Support	5.25	2.87	.13†

[2] Given the finding that female's reporting the most severe sexual abuse and receiving the most negative social support reported decreased trauma symptoms, this interaction was tested for non-linearity in follow-up analyses. However, follow-up analyses revealed linearity.

Step 2 – Interaction Model			
Physical Abuse	0.16	0.06	.19**
Negative Social Support	4.16	2.91	.11
Physical Abuse x Negative Social Support	-0.97	0.52	-.14
Step 1 – Main Effects Model			
Psychological Abuse	0.09	0.03	.23***
Negative Social Support	5.33	2.85	.13†
Step 2 – Interaction Model			
Psychological Abuse	0.08	0.03	.21***
Negative Social Support	5.57	2.86	.14†
Psychological Abuse x Negative Social Support	-0.39	0.42	-.07
Step 1 – Main Effects Model			
Neglect	0.06	0.04	.12†
Negative Social Support	5.61	2.91	.14†
Step 2 – Interaction Model			
Neglect	0.06	0.04	.12†
Negative Social Support	5.66	3.01	.14†
Neglect x Negative Social Support	0.04	0.54	.01

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 5. Relationship between Female Sexual Abuse Severity and Anger/Irritability for Different Levels of Negative Social Support (NSS) From a Male Spouse.

In contrast, as shown in Table 16, for men, results revealed significant main effects for every form of child maltreatment in predicting increased anger/irritability symptoms: sexual abuse, $R^2 = .03$, $F(2, 189) = 2.67$, $p < .05$, physical abuse, $R^2 = .09$, $F(2, 190) = 9.69$, $p < .001$, psychological abuse, $R^2 = .13$, $F(2, 188) = 15.12$, $p < .001$, and neglect, $R^2 = .03$, $F(2, 189) = 2.45$, $p < .10$, in predicting increased anger/irritability. There was no main effect for negative social support from a female spouse in predicting changes in anger/irritability symptoms in any of these models. However, neglect severity did significantly interact with negative social support from a female spouse in the full model, $R^2 = .05$, $F(3, 188) = 3.02$, $p < .05$; $\Delta R^2 = .02$, $\Delta F(1, 188) = 4.09$, $p < .05$, such that men with low severity neglect and low negative social support reported the lowest anger/irritability. However, as the severity of neglect increased, men with the highest levels of negative social support reported the highest levels of anger/irritability (see Figure 6).

Table 16

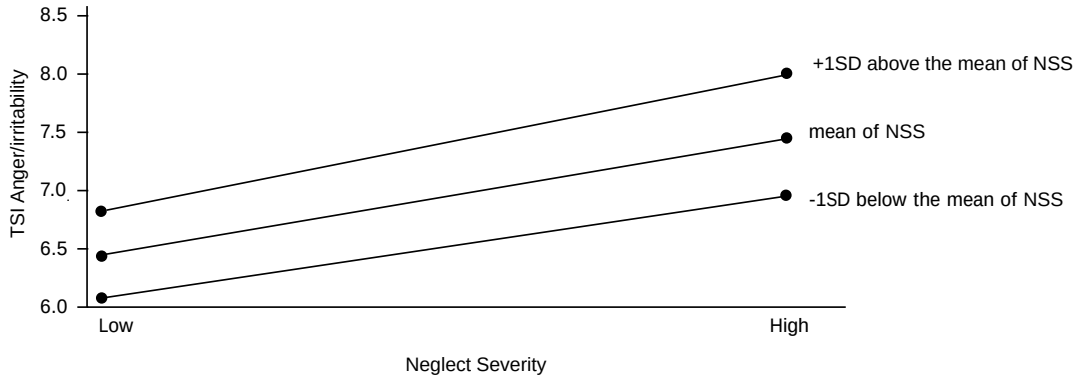
Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Anger/Irritability Symptom Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.32	0.14	.16*
Negative Social Support	1.76	3.03	.04
Step 2 – Interaction Model			
Sexual Abuse	0.28	0.14	.14*
Negative Social Support	2.72	3.07	.07
Sexual Abuse x Negative Social Support	1.60	0.98	.12
Step 1 – Main Effects Model			
Physical Abuse	0.24	0.05	.30***
Negative Social Support	1.11	2.92	.03
Step 2 – Interaction Model			
Physical Abuse	0.23	0.06	.29***
Negative Social Support	-0.04	3.01	.00
Physical Abuse x Negative Social Support	0.69	0.46	.11
Step 1 – Main Effects Model			
Psychological Abuse	0.12	0.02	.37***
Negative Social Support	-0.55	2.90	-.01
Step 2 – Interaction Model			

Psychological Abuse	0.12	0.02	.37***
Negative Social Support	-0.09	3.06	-.02
Psychological Abuse x Negative Social Support	0.05	0.14	.03
Step 1 – Main Effects Model			
Neglect	0.07	0.03	.15*
Negative Social Support	2.08	3.02	.05
Step 2 – Interaction Model			
Neglect	0.05	0.03	.12†
Negative Social Support	1.17	3.03	.03
Neglect x Negative Social Support	0.45	0.22	.15*

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 6. Relationship between Male Neglect Severity and Anger/Irritability for Different Levels of Negative Social Support (NSS) From a Female Spouse.



The Main Effects of Child Maltreatment, Positive Social Support, and Their Interaction in Predicting Defensive Avoidance Symptoms

As shown in Table 17, results for the entire sample revealed significant main effects for every form of child maltreatment in predicting increased defensive avoidance:

sexual abuse model, R^2 = .09, F(2, 380) = 19.22, p < .001, physical abuse model, R^2 = .03, F(2, 381) = 5.66, p = .004, psychological abuse model, R^2 = .13, F(2, 377) = 27.58, p < .001, and neglect model, R^2 = .05, F(2, 380) = 9.67, p < .001. There was no main effect for positive social support received from a spouse in predicting changes in defensive avoidance in any of these models. However, the simple effect of positive social support did predict increased defensive avoidance in the full model testing associations between sexual abuse severity and defensive avoidance. No type of child maltreatment severity interacted with positive social support to predict significant changes in defensive avoidance.

Table 17

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Defensive Avoidance Symptom Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.09	0.01	.30***
Positive Social Support	0.54	0.30	.09†
Step 2 – Interaction Model			
Sexual Abuse	0.09	0.01	.30***
Positive Social Support	0.63	0.31	.10*
Sexual Abuse x Positive Social Support	-0.10	0.07	-.08
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.16**
Positive Social Support	0.36	0.31	.06

Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.16**
Positive Social Support	0.36	0.31	.06
Physical Abuse x Positive Social Support	0.01	0.06	.01
Step 1 – Main Effects Model			
Psychological Abuse	0.03	0.00	.35***
Positive Social Support	0.36	0.30	.06
Step 2 – Interaction Model			
Psychological Abuse	0.03	0.00	.35***
Positive Social Support	0.37	0.30	.06
Psychological Abuse x Positive Social Support	-0.01	0.02	-.01
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.21***
Positive Social Support	0.35	0.31	.06
Step 2 – Interaction Model			
Neglect	0.02	0.01	.21***
Positive Social Support	0.35	0.31	.06
Neglect x Positive Social Support	0.01	0.03	.01

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

As shown in Table 18, for women, results revealed significant main effects for every form of child maltreatment in predicting increased defensive avoidance: sexual

abuse model, R^2 = .15, F(2, 188) = 16.20, p < .001, physical abuse model, R^2 = .06, F(2, 188) = 5.64, p = .004, psychological abuse model, R^2 = .16, F(2, 186) = 17.14, p < .001, and neglect model, R^2 = .07, F(2, 188) = 7.06, p = .001. There was no main effect for positive social support from a male spouse in predicting changes in defensive avoidance in any of these models. However, the simple effect of positive social support did trend towards significantly predicting increased defensive avoidance in the full model testing associations between sexual abuse severity and defensive avoidance. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in defensive avoidance.

Table 18

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Defensive Avoidance Symptom Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.09	0.02	.38***
Positive Social Support	0.43	0.38	.08
Step 2 – Interaction Model			
Sexual Abuse	0.09	0.02	.38***
Positive Social Support	0.73	0.43	.13†
Sexual Abuse x Positive Social Support	-0.11	0.08	-.11
Step 1 – Main Effects Model			
Physical Abuse	0.04	0.01	.23***
Positive Social Support	0.28	0.40	.05

Step 2 – Interaction Model			
Physical Abuse	0.04	0.01	.23**
Positive Social Support	0.25	0.40	.04
Physical Abuse x Positive Social Support	-0.04	0.07	-.04
Step 1 – Main Effects Model			
Psychological Abuse	0.04	0.01	.39***
Positive Social Support	0.35	0.38	.06
Step 2 – Interaction Model			
Psychological Abuse	0.04	0.01	.39***
Positive Social Support	0.37	0.38	.07
Psychological Abuse x Positive Social Support	-0.03	0.03	-.06
Step 1 – Main Effects Model			
Neglect	0.03	0.01	.26***
Positive Social Support	0.37	0.40	.07
Step 2 – Interaction Model			
Neglect	0.03	0.01	.25***
Positive Social Support	0.37	0.40	.07
Neglect x Positive Social Support	0.02	0.04	.03

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

In contrast, as shown in Table 19, for men, results revealed significant main effects for three of the four forms of child maltreatment in predicting increased defensive

avoidance: sexual abuse model, R^2 = .04, F(2, 189) = 4.21, p < .05, psychological abuse model, R^2 = .12, F(2, 188) = 12.58, p < .001, and neglect model, R^2 = .05, F(2, 189) = 4.56, p < .01. There was no main effect of physical abuse severity in predicting changes in defensive avoidance. The was also no main effect for positive social support received from a female spouse in predicting changes in defensive avoidance in any of these models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in defensive avoidance.

Table 19

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Defensive Avoidance Symptom Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.10	0.04	.19**
Positive Social Support	0.67	0.49	.10
Step 2 – Interaction Model			
Sexual Abuse	0.09	0.04	.18**
Positive Social Support	0.49	0.59	.07
Sexual Abuse x Positive Social Support	-0.14	0.27	-.05
Step 1 – Main Effects Model			
Physical Abuse	0.02	0.02	.11
Positive Social Support	0.51	0.49	.08
Step 2 – Interaction Model			
Physical Abuse	0.02	0.02	.11

Positive Social Support	0.46	0.49	.07
Physical Abuse x Positive Social Support	0.07	0.09	.06
Step 1 – Main Effects Model			
Psychological Abuse	0.03	0.01	.33***
Positive Social Support	0.46	0.46	.07
Step 2 – Interaction Model			
Psychological Abuse	0.03	0.01	.33***
Positive Social Support	0.45	0.47	.07
Psychological Abuse x Positive Social Support	0.02	0.03	.03
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.20**
Positive Social Support	0.41	0.48	.06
Step 2 – Interaction Model			
Neglect	0.02	0.01	.20**
Positive Social Support	0.41	0.49	.06
Neglect x Positive Social Support	0.00	0.04	.01

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

The Main Effects of Child Maltreatment, Negative Social Support, and Their Interaction in Predicting Defensive Avoidance Symptoms

As shown in Table 20, results for the entire sample revealed significant main effects of every form of child maltreatment in predicting increased defensive avoidance:

sexual abuse model, R^2 = .09, F(2, 380) = 17.60, p < .001, physical abuse model, R^2 = .03, F(2, 381) = 5.50, p = .004, psychological abuse model, R^2 = .13, F(2, 377) = 26.86 p < .001, and neglect model, R^2 = .05, F(2, 380) = 9.73, p < .001. There was no main effect of negative social support received from a spouse in predicting changes in defensive avoidance in any of these models. Moreover, no type of child maltreatment severity interacted with negative social support to predict significant changes in defensive avoidance.

Table 20

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Defensive Avoidance Symptom Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.08	0.01	.29***
Negative Social Support	0.24	0.51	.02
Step 2 – Interaction Model			
Sexual Abuse	0.08	0.01	.29***
Negative Social Support	0.27	0.58	.03
Sexual Abuse x Negative Social Support	-0.01	0.11	-.01
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.16**
Negative Social Support	0.52	0.52	.05
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.16**

Negative Social Support	0.54	0.52	.05
Physical Abuse x Negative Social Support	-0.10	0.09	-.06
Step 1 – Main Effects Model			
Psychological Abuse	0.03	0.00	.35***
Negative Social Support	0.25	0.50	.02
Step 2 – Interaction Model			
Psychological Abuse	0.03	0.00	.36***
Negative Social Support	0.39	0.51	.04
Psychological Abuse x Negative Social Support	-0.04	0.03	-.06
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.21***
Negative Social Support	0.61	0.52	.06
Step 2 – Interaction Model			
Neglect	0.03	0.01	.21***
Negative Social Support	0.61	0.52	.06
Neglect x Negative Social Support	0.00	0.05	.00

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 21, for women, results revealed significant main effects for every form of child maltreatment in predicting increased defensive avoidance: sexual abuse model, $R^2 = .14$, $F(2, 188) = 15.50$, $p < .001$, physical abuse model, $R^2 = .06$, $F(2, 188) = 5.96$, $p = .003$, psychological abuse model, $R^2 = .16$, $F(2, 186) = 17.38$, $p < .001$,

and neglect model, $R^2 = .06$, $F(2, 188) = 7.36$, $p = .001$. There was no main effect for positive social support in predicting changes in defensive avoidance in any of these models. Moreover, no type of child maltreatment severity interacted with negative social support to predict significant changes in defensive avoidance.

Table 21

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Defensive Avoidance Symptom Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.08	0.02	.37***
Negative Social Support	0.17	0.65	.02
Step 2 – Interaction Model			
Sexual Abuse	0.08	0.02	.37***
Negative Social Support	0.66	0.96	.07
Sexual Abuse x Negative Social Support	-0.10	0.14	-.07
Step 1 – Main Effects Model			
Physical Abuse	0.04	0.01	.23***
Negative Social Support	0.70	0.67	.07
Step 2 – Interaction Model			
Physical Abuse	0.04	0.01	.23***
Negative Social Support	0.46	0.68	.05
Physical Abuse x Negative Social Support	-0.21	0.12	-.13

Step 1 – Main Effects Model			
Psychological Abuse	0.04	0.01	.39***
Negative Social Support	0.71	0.64	.07
Step 2 – Interaction Model			
Psychological Abuse	0.04	0.01	.40***
Negative Social Support	0.67	0.64	.07
Psychological Abuse x Negative Social Support	0.06	0.10	.05
Step 1 – Main Effects Model			
Neglect	0.03	0.01	.26***
Negative Social Support	0.80	0.67	.08
Step 2 – Interaction Model			
Neglect	0.03	0.01	.22***
Negative Social Support	0.51	0.69	.05
Neglect x Negative Social Support	-0.21	0.12	-.13

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

In contrast, as shown in Table 22, for men, results revealed significant main effects for three of the four forms of child maltreatment in predicting increased defensive avoidance: sexual abuse model, $R^2 = .03$, $F(2, 189) = 3.29$, $p < .05$, psychological abuse model, $R^2 = .11$, $F(2, 188) = 12.08$, $p < .001$, and neglect model, $R^2 = .05$, $F(2, 189) = 4.32$, $p < .05$. There was no main effect for physical abuse in predicting changes in defensive avoidance. There was also no main effect of negative social support received from a female spouse in predicting changes in defensive avoidance in any of these

models. Moreover, no type of child maltreatment severity interacted with negative social support to predict significant changes in defensive avoidance.

Table 22

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Defensive Avoidance Symptom Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.09	0.04	.18*
Negative Social Support	0.31	0.80	.03
Step 2 – Interaction Model			
Sexual Abuse	0.09	0.04	.17*
Negative Social Support	0.46	0.81	.04
Sexual Abuse x Negative Social Support	0.24	0.26	.07
Step 1 – Main Effects Model			
Physical Abuse	0.02	0.02	.11
Negative Social Support	0.32	0.81	.03
Step 2 – Interaction Model			
Physical Abuse	0.02	0.02	.11
Negative Social Support	0.28	0.84	.03
Physical Abuse x Negative Social Support	0.02	0.13	.01
Step 1 – Main Effects Model			
Psychological Abuse	0.03	0.01	.34***

Negative Social Support	-0.26	0.77	-.02
Step 2 – Interaction Model			
Psychological Abuse	0.03	0.01	.36***
Negative Social Support	-0.14	0.81	.00
Psychological Abuse x Negative Social Support	-0.04	0.04	-.07
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.21**
Negative Social Support	0.39	0.79	.04
Step 2 – Interaction Model			
Neglect	0.02	0.01	.19**
Negative Social Support	0.29	0.80	.03
Neglect x Negative Social Support	0.05	0.06	.07

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

The Main Effects of Child Maltreatment, Positive Social Support, and Their Interaction in Predicting Dysfunctional Sexual Behavior Symptoms

As shown in Table 23, results for the entire sample revealed significant main effects of every form of child maltreatment in predicting increased dysfunctional sexual behavior: sexual abuse model, $R^2 = .17$, $F(2, 380) = 3.22$, $p < .05$, physical abuse model, $R^2 = .02$, $F(2, 381) = 4.21$ $p < .05$, psychological abuse model, $R^2 = .05$, $F(2, 377) = 10.36$, $p < .001$, and neglect model, $R^2 = .02$, $F(2, 380) = 4.46$, $p < .05$. There was no main effect of positive social support in predicting changes dysfunctional sexual behavior in any of these models. Moreover, no type of child maltreatment severity

interacted with positive social support to predict significant changes in dysfunctional sexual behavior.

Table 23

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Dysfunctional Sexual Behavior Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.03	0.01	.13**
Positive Social Support	-0.11	0.23	-.02
Step 2 – Interaction Model			
Sexual Abuse	0.03	0.01	.13**
Positive Social Support	-0.53	0.23	-.01
Sexual Abuse x Positive Social Support	-0.06	0.05	-.06
Step 1 – Main Effects Model			
Physical Abuse	0.02	0.01	.14**
Positive Social Support	-0.21	0.23	-.05
Step 2 – Interaction Model			
Physical Abuse	0.02	0.01	.14**
Positive Social Support	-0.21	0.23	-.05
Physical Abuse x Positive Social Support	-0.05	0.04	-.06
Step 1 – Main Effects Model			
Psychological Abuse	0.01	0.00	.23***

Positive Social Support	-0.20	0.22	-.05
Step 2 – Interaction Model			
Psychological Abuse	0.02	0.00	.23***
Positive Social Support	-0.19	0.22	-.04
Psychological Abuse x Positive Social Support	-0.02	0.02	-.05
Step 1 – Main Effects Model			
Neglect	0.01	0.00	.15**
Positive Social Support	-0.21	0.22	-.05
Step 2 – Interaction Model			
Neglect	0.01	0.00	.14**
Positive Social Support	-0.21	0.23	-.05
Neglect x Positive Social Support	0.07	.022	.02

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 24, for women, results revealed no significant main effects for any type of child maltreatment severity in predicting changes in dysfunctional sexual behavior. There was no main effect of positive social support received from a male spouse in predicting changes in dysfunctional sexual behavior in any of these models. However, positive social support from a male spouse did significantly interact with sexual abuse severity, $R^2 = .05$, $F(3, 187) = 3.08$, $p < .05$; $\Delta R^2 = .03$, $\Delta F(1, 187) = 4.88$, $p < .05$, such that among women with low severity sexual abuse, those receiving lower levels of positive social support from a male spouse reported increased dysfunctional sexual behavior. However, as the severity of sexual abuse increased, the buffering effects of

positive social support tapered off, such that women experiencing moderate to severe sexual abuse reported increased dysfunctional sexual behavior, regardless of level of positive social support (see Figure 7).

Table 24

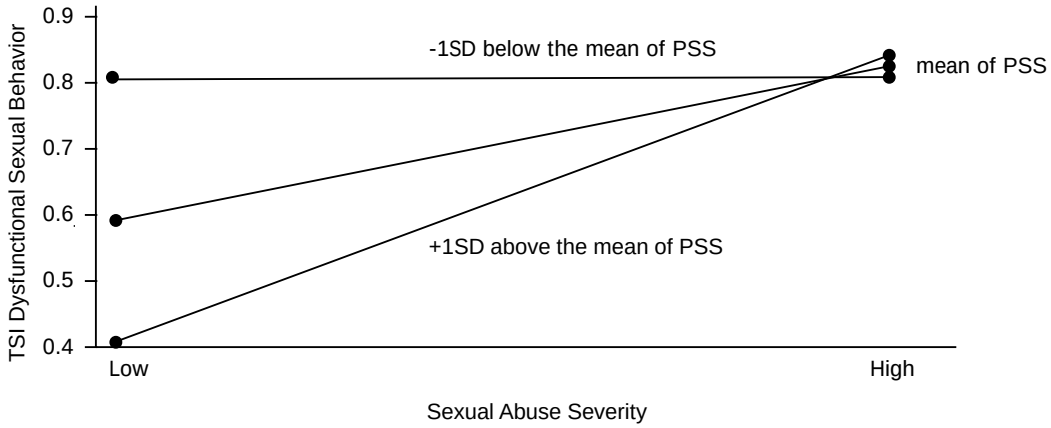
Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Dysfunctional Sexual Behavior Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.03	0.01	.14
Positive Social Support	0.20	0.30	.05
Step 2 – Interaction Model			
Sexual Abuse	0.03	0.01	.15*
Positive Social Support	0.55	0.34	.05†
Sexual Abuse x Positive Social Support	-0.13	0.06	-.18*
Step 1 – Main Effects Model			
Physical Abuse	0.01	0.01	.05
Positive Social Support	0.17	0.30	.04
Step 2 – Interaction Model			
Physical Abuse	0.01	0.01	.05
Positive Social Support	0.14	0.30	.03
Physical Abuse x Positive Social Support	-0.04	0.05	-.06
Step 1 – Main Effects Model			

Psychological Abuse	0.01	0.00	.16
Positive Social Support	0.18	0.30	.04
Step 2 – Interaction Model			
Psychological Abuse	0.01	0.01	.16
Positive Social Support	0.19	0.30	.05
Psychological Abuse x Positive Social Support	-0.02	0.03	-.06
Step 1 – Main Effects Model			
Neglect	0.01	0.01	.13
Positive Social Support	0.19	0.30	.05
Step 2 – Interaction Model			
Neglect	0.01	0.01	.13
Positive Social Support	0.19	0.30	.05
Neglect x Positive Social Support	-0.02	0.03	-.05

Note. † < .10 *p < .05. **p < .01. *** p < .001.

Figure 7. Relationship between Female Sexual Abuse Severity and Dysfunctional Sexual Behavior for Different Levels of Positive Social Support (PSS) From a Male Spouse.



In contrast, as shown in Table 25, for men, results revealed significant main effects for every form of child maltreatment in predicting increased dysfunctional sexual behavior: sexual abuse model, $R^2 = .06$, $F(2, 189) = 5.83$, $p = .004$, physical abuse model, $R^2 = .06$, $F(2, 190) = 6.38$, $p = .002$, psychological abuse model, $R^2 = .09$, $F(2, 188) = 9.52$, $p < .001$, and neglect model, $R^2 = .04$, $F(2, 189) = 4.16$, $p < .05$. The main effect of positive social support received from a female spouse significantly predicted decreased dysfunctional sexual behavior in models of physical abuse severity, psychological abuse severity, and neglect severity. There was no main effect of positive social support, however, in predicting changes in dysfunctional sexual behavior in the model of sexual abuse severity. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in dysfunctional sexual behavior.

Table 25

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Dysfunctional Sexual Behavior Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.08	0.03	.21**
Positive Social Support	-0.49	0.34	-.10
Step 2 – Interaction Model			
Sexual Abuse	0.08	0.03	.21**
Positive Social Support	-0.49	0.41	-.10
Sexual Abuse x Positive Social Support	0.00	0.19	.00

Step 1 – Main Effects Model

Physical Abuse	0.03	0.01	.22**
Positive Social Support	-0.69	0.34	-.14*
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.22**
Positive Social Support	-0.65	0.34	-.14†
Physical Abuse x Positive Social Support	-0.04	0.06	-.05

Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.28***
Positive Social Support	-0.69	0.33	-.15*
Step 2 – Interaction Model			
Psychological Abuse	0.02	0.00	.28***
Positive Social Support	-0.68	0.33	-.14*
Psychological Abuse x Positive Social Support	-0.01	0.02	-.04

Step 1 – Main Effects Model			
Neglect	0.01	0.01	.16*
Positive Social Support	-0.70	0.34	-.15*
Step 2 – Interaction Model			
Neglect	0.01	0.01	.15*
Positive Social Support	-0.71	0.34	-.15*
Neglect x Positive Social Support	0.03	0.03	.07

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

The Main Effects of Child Maltreatment, Negative Social Support, and Their Interaction in Predicting Dysfunctional Sexual Behavior Symptoms

As shown in Table 26, results for the entire sample revealed significant main effects for every form of child maltreatment in predicting increased dysfunctional sexual behavior: sexual abuse model, R^2 = .03, F(2, 380) = 6.36, p = .002, physical abuse model, R^2 = .04, F(2, 381) = 7.49, p = .001, psychological abuse model, R^2 = .07, F(2, 377) = 13.15, p < .001, and neglect model, R^2 = .04, F(2, 380) = 8.28, p < .001. The main effect of negative social support received from a spouse significantly predicted increased dysfunctional sexual behavior in every model of child maltreatment severity. However, no type of child maltreatment severity interacted with negative social support to predict significant changes in dysfunctional sexual behavior.

Table 26

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Dysfunctional Sexual Behavior Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.02	0.01	.11*
Negative Social Support	0.96	0.38	.13*
Step 2 – Interaction Model			
Sexual Abuse	0.02	0.01	.11*
Negative Social Support	1.00	0.42	.13*
Sexual Abuse x Negative Social Support	-0.02	0.08	-.01

Step 1 – Main Effects Model			
Physical Abuse	0.02	0.01	.13**
Negative Social Support	1.01	0.37	.14**
Step 2 – Interaction Model			
Physical Abuse	0.02	0.01	.13*
Negative Social Support	1.00	0.37	.14**
Physical Abuse x Negative Social Support	0.06	0.06	.05

Step 1 – Main Effects Model			
Psychological Abuse	0.01	0.00	.21***
Negative Social Support	0.92	0.37	.12*
Step 2 – Interaction Model			
Psychological Abuse	0.01	0.00	.21***
Negative Social Support	0.92	0.38	.13*
Psychological Abuse x Negative Social Support	0.00	0.02	.00

Step 1 – Main Effects Model			
Neglect	0.01	0.00	.14**
Negative Social Support	1.07	0.37	.15**
Step 2 – Interaction Model			
Neglect	0.01	0.00	.14**
Negative Social Support	1.07	0.37	.15**
Neglect x Negative Social Support	0.01	0.04	.02

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 27, for women, results revealed a significant main effect for only psychological abuse severity, $R^2 = .04$, $F(2, 189) = 3.64$, $p < .005$. The main effects of sexual abuse severity, physical abuse severity, and neglect severity did not predict changes in dysfunctional sexual behavior. There was no main effect of negative social support in predicting changes in dysfunctional sexual behavior in any of these models. Moreover, no type of child maltreatment severity interacted with negative social support to predict significant changes in dysfunctional sexual behavior.

Table 27

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Dysfunctional Sexual Behavior Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.02	0.01	.12
Negative Social Support	0.62	0.51	.09
Step 2 – Interaction Model			
Sexual Abuse	0.02	0.01	.13†
Negative Social Support	0.33	0.75	.05
Sexual Abuse x Negative Social Support	0.06	0.11	.06
Step 1 – Main Effects Model			
Physical Abuse	0.01	0.01	.05
Negative Social Support	0.76	0.51	.11

Step 2 – Interaction Model			
Physical Abuse	0.01	0.01	.05
Negative Social Support	0.70	0.52	.10
Physical Abuse x Negative Social Support	-0.05	0.09	-.04
Step 1 – Main Effects Model			
Psychological Abuse	0.01	0.00	.16**
Negative Social Support	0.75	0.50	.11
Step 2 – Interaction Model			
Psychological Abuse	0.01	0.01	.17**
Negative Social Support	0.73	0.51	.11
Psychological Abuse x Negative Social Support	0.03	0.08	.03
Step 1 – Main Effects Model			
Neglect	0.01	0.01	.13†
Negative Social Support	0.78	0.50	.11
Step 2 – Interaction Model			
Neglect	0.01	0.01	.14
Negative Social Support	0.87	0.52	.12
Neglect x Negative Social Support	0.06	0.09	.05

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

In contrast, as shown in Table 28, for men, results revealed significant main effects for every form of child maltreatment in predicting increased dysfunctional sexual

behavior: sexual abuse model, R^2 = .08, F(2, 189) = 7.63, p = .001, physical abuse model, R^2 = .07, F(2, 190) = 7.00, p = .001, psychological abuse model, R^2 = .09, F(2, 188) = 9.25, p < .001, and neglect model, R^2 = .05, F(2, 189) = 5.29, p = .006. The main effect of negative social support received from a female spouse significantly predicted increased dysfunctional sexual behavior in every model of child maltreatment severity except for psychological abuse severity. However, the simple effect of negative social support predicted increased dysfunctional sexual behavior in the full model testing associations between psychological abuse severity and dysfunctional sexual behavior. Moreover, physical abuse severity trended towards interacting with negative social support from a female spouse, R^2 = .08, F(3, 189) = 5.59, p = .001; ΔR^2 = .01, ΔF(1, 187) = 2.65, p = .10, such that men with low severity neglect reported lower dysfunctional sexual behavior regardless of level of negative social support. However, for participants with moderate to severe physical abuse severity, those receiving more negative social support reported higher levels of dysfunctional sexual behavior than did participants receiving lower levels of negative social support (see Figure 8).

Table 28

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Dysfunctional Sexual Behavior Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.08	0.03	.21**
Negative Social Support	1.29	0.55	.16*
Step 2 – Interaction Model			
Sexual Abuse	0.08	0.03	.21**

Negative Social Support	1.30	0.56	.17*
Sexual Abuse x Negative Social Support	0.02	0.18	.01
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.19**
Negative Social Support	1.28	0.55	.16*
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.18**
Negative Social Support	1.04	0.57	.13†
Physical Abuse x Negative Social Support	0.14	0.09	.12†
Step 1 – Main Effects Model			
Psychological Abuse	0.01	0.00	.24***
Negative Social Support	1.08	0.55	.14†
Step 2 – Interaction Model			
Psychological Abuse	0.02	0.01	.26***
Negative Social Support	1.19	0.58	.15*
Psychological Abuse x Negative Social Support	-0.02	0.03	-.05
Step 1 – Main Effects Model			
Neglect	0.01	0.01	.14*
Negative Social Support	1.41	0.55	.18*
Step 2 – Interaction Model			

Neglect	0.01	0.01	.14†
Negative Social Support	1.41	0.56	.18*
Neglect x Negative Social Support	0.00	0.04	.00

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 8. Relationship between Male Physical Abuse Severity and Dysfunctional Sexual Behavior for Different Levels of Negative Social Support (NSS) From a Female Spouse.

The Main Effects of Child Maltreatment, Positive Social Support, and Their Interaction in Predicting Tension Reducing Behavior Symptoms

As shown in Table 29, results for the entire sample revealed significant main effects for every form of child maltreatment in predicting increased tension reducing behavior: sexual abuse model, R^2 = .03, F(2, 380) = 4.98, p = .007, physical abuse model, R^2 = .03, F(2, 381) = 6.53, p = .002, psychological abuse model, R^2 = .11, F(2, 377) = 23.18, p < .001, and neglect model, R^2 = .03, F(2, 380) = 5.53, p = .004. The was no main effect for positive social support received from a spouse in predicting changes tension reducing behavior in any of these models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in tension reducing behavior.

Table 29

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Tension Reducing Behavior Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.03	0.01	.16***
Positive Social Support	0.17	0.23	.04
Step 2 – Interaction Model			
Sexual Abuse	0.03	0.01	.16***
Positive Social Support	0.17	0.23	.04
Sexual Abuse x Positive Social Support	0.00	0.05	.00
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.18***
Positive Social Support	0.07	0.23	.02
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.18***
Positive Social Support	0.07	0.23	.02
Physical Abuse x Positive Social Support	0.01	0.04	.01
Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.33***
Positive Social Support	0.09	0.22	.02
Step 2 – Interaction Model			

Psychological Abuse	0.02	0.00	.33***
Positive Social Support	0.09	0.22	.02
Psychological Abuse x Positive Social Support	0.00	0.02	.01
Step 1 – Main Effects Model			
Neglect	0.01	0.00	.17***
Positive Social Support	0.07	0.23	.02
Step 2 – Interaction Model			
Neglect	0.01	0.00	.17***
Positive Social Support	0.07	0.23	.02
Neglect x Positive Social Support	0.01	0.02	.02

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 30, for women, results revealed significant main effects for three of the four forms of child maltreatment in predicting increased tension reducing behavior: physical abuse model, $R^2 = .04$, $F(2, 189) = 3.85$, $p < .05$, psychological abuse model, $R^2 = .10$, $F(2, 186) = 10.35$, $p < .001$, and neglect model, $R^2 = .04$, $F(2, 189) = 3.57$, $p < .05$. The main effect of sexual abuse severity also trended towards predicting increases in tension reducing behavior, $R^2 = .02$, $F(2, 189) = 2.30$, $p = .10$. The was no main effect of positive social support from a male spouse in predicting changes in tension reducing behavior in any of these models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in tension reducing behavior.

Table 30

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Tension Reducing Behavior Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.02	0.01	.12†
Positive Social Support	0.46	0.32	.11
Step 2 – Interaction Model			
Sexual Abuse	0.02	0.01	.12†
Positive Social Support	0.53	0.36	.11
Sexual Abuse x Positive Social Support	-0.02	0.06	-.03
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.17*
Positive Social Support	0.41	0.32	.09
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.17*
Positive Social Support	0.44	0.32	.10
Physical Abuse x Positive Social Support	0.04	0.06	.05
Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.30***
Positive Social Support	0.49	0.31	.11

Step 2 – Interaction Model			
Psychological Abuse	0.02	0.01	.29***
Positive Social Support	0.48	0.31	.11
Psychological Abuse x Positive Social Support	0.02	0.03	.06
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.16*
Positive Social Support	0.46	0.32	.10
Step 2 – Interaction Model			
Neglect	0.02	0.01	.16*
Positive Social Support	0.46	0.32	.10
Neglect x Positive Social Support	0.02	0.03	.04

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

In contrast, as shown in Table 31, for men, results revealed significant main effects for every form of child maltreatment in predicting increased tension reducing behavior: sexual abuse model, $R^2 = .04$, $F(2, 189) = 3.73$, $p < .05$, physical abuse model, $R^2 = .05$, $F(2, 190) = 5.22$, $p = .006$, psychological abuse model, $R^2 = .16$, $F(2, 188) = 17.79$, $p < .001$, and neglect model, $R^2 = .05$, $F(2, 189) = 5.30$, $p = .006$. Again, there was no main effect of positive social support from a female spouse in predicting changes in tension reducing behavior in any of these models. Moreover, no type of child maltreatment severity interacted with positive social support to predict significant changes in tension reducing behavior.

Table 31

Positive Social Support as a Moderator of Child Maltreatment Severity in Predicting Tension Reducing Behavior Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.07	0.03	.19**
Positive Social Support	-0.14	0.33	-.03
Step 2 – Interaction Model			
Sexual Abuse	0.06	0.03	.18**
Positive Social Support	-0.28	0.40	-.06
Sexual Abuse x Positive Social Support	-0.11	0.18	-.05
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.23**
Positive Social Support	-0.30	0.32	-.07
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.23**
Positive Social Support	-0.30	0.33	-.07
Physical Abuse x Positive Social Support	0.00	0.06	.01
Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.40***
Positive Social Support	-0.34	0.30	-.08
Step 2 – Interaction Model			

Psychological Abuse	0.02	0.00	.40***
Positive Social Support	-0.34	0.31	-.07
Psychological Abuse x Positive Social Support	-0.01	0.02	-.03
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.23**
Positive Social Support	-0.35	0.32	-.08
Step 2 – Interaction Model			
Neglect	0.02	0.01	.22**
Positive Social Support	-0.35	0.32	-.08
Neglect x Positive Social Support	0.01	0.03	.02

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

The Main Effects of Child Maltreatment, Negative Social Support, and Their Interaction in Predicting Tension Reducing Behavior Symptoms

As shown in Table 32, results for the entire sample revealed significant main effects for every form of child maltreatment in predicting increased tension reducing behavior: sexual abuse model, R^2 = .03, F(2, 380) = 5.35, p = .005, physical abuse model, R^2 = .04, F(2, 381) = 7.38, p = .001, psychological abuse model, R^2 = .11, F(2, 377) = 23.57, p < .001, and neglect model, R^2 = .04, F(2, 380) = 6.71, p = .001. There was no main effect for negative social support received from a spouse in predicting changes in tension reducing behavior in any model of child maltreatment severity. Moreover, no type of child maltreatment severity interacted with negative social support to predict significant changes in tension reducing behavior.

Table 32

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Tension Reducing Behavior Severity for all Participants

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.03	0.01	.15**
Negative Social Support	0.44	0.38	.06
Step 2 – Interaction Model			
Sexual Abuse	0.03	0.01	.15**
Negative Social Support	0.67	0.43	.09
Sexual Abuse x Negative Social Support	-0.10	0.08	-.07
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.18***
Negative Social Support	0.50	0.38	.07
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.18***
Negative Social Support	0.50	0.38	.07
Physical Abuse x Negative Social Support	0.02	0.06	.01
Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.33***
Negative Social Support	0.34	0.36	.05
Step 2 – Interaction Model			

Psychological Abuse	0.02	0.00	.33***
Negative Social Support	0.39	0.37	.05
Psychological Abuse x Negative Social Support	-0.01	0.02	-.03
Step 1 – Main Effects Model			
Neglect	0.01	0.00	.17***
Negative Social Support	0.58	0.38	.08
Step 2 – Interaction Model			
Neglect	0.01	0.00	.17***
Negative Social Support	0.58	0.38	.08
Neglect x Negative Social Support	0.02	0.04	.02

Note. † < .10 * $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Table 33, for women, results revealed significant main effects for physical abuse, $R^2 = .03$, $F(2, 189) = 3.23$, $p < .05$, and psychological abuse, $R^2 = .09$, $F(2, 186) = 9.18$, $p < .001$, in predicting increased tension reducing behavior. The main effects of sexual abuse severity and neglect severity did not predict changes in tension reducing behavior. There was no main effect of negative social support received from a male spouse in predicting changes in tension reducing behavior in any of these models. However, the simple effect of negative social support received from a male spouse trended towards predicting increases in tension reducing behavior in the model of sexual abuse severity, $R^2 = .04$, $F(3, 187) = 2.32$, $p < .10$. Moreover, sexual abuse severity interacted with negative social support, $R^2 = .04$, $F(1, 187) = 2.32$, $p < .10$; $\Delta R^2 = .02$, $\Delta F(1, 187) = 3.12$, $p < .05$, such that women with low severity sexual abuse and low

negative social support reported the lowest level of tension reducing behavior. Women who received levels of negative social support one standard deviation below the mean or at the mean reported increased tension reducing behavior as the severity of sexual abuse increased. However, for women who reported the highest levels of negative social support (i.e., 1 SD above the mean) as severity of sexual abuse increased, tension reducing behavior significantly decreased (See Figure 9). Finally, there was a trend for physical abuse severity to interact with negative social support, $R^2 = .05$, $F(3, 187) = 3.18$, $p < .05$; $\Delta R^2 = .02$, $\Delta F(1, 187) = 3.01$, $p < .10$, such that women who experienced low severity physical abuse but received high levels of negative social support reported more tension reducing behavior than did women experienced low severity physical abuse but received lower levels of negative social support. However, as the severity of physical abuse increased, the potentiating effect of negative social support dissipated, such that women who experienced moderate physical abuse reported increased tension reducing behavior regardless of level of negative social support. Among women experiencing the most severe physical abuse, those who received higher levels of negative social support actually reported less tension reducing behavior than did those women who received lower levels of negative social support (see Figure 10).[3]

[3] Given the trending finding that female's reporting the most severe sexual abuse and receiving the most negative social support reported decreased trauma symptoms, this interaction was tested for non-linearity in follow-up analyses. However, follow-up analyses revealed linearity.

Table 33

Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Tension Reducing Behavior Severity for Women

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.02	0.01	.11
Negative Social Support	0.27	0.55	.04
Step 2 – Interaction Model			
Sexual Abuse	0.02	0.01	.11
Negative Social Support	1.48	0.80	.20†
Sexual Abuse x Negative Social Support	-0.24	0.12	-.22*
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.17*
Negative Social Support	0.36	0.54	.05
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.17*
Negative Social Support	0.17	0.54	.02
Physical Abuse x Negative Social Support	-0.17	0.10	-.13†
Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.29***
Negative Social Support	0.36	0.52	.05

Step 2 – Interaction Model			
Psychological Abuse	0.02	0.01	.26***
Negative Social Support	0.43	0.52	.06
Psychological Abuse x Negative Social Support	-0.11	0.08	-.10
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.16*
Negative Social Support	0.42	0.54	.06
Step 2 – Interaction Model			
Neglect	0.01	0.01	.14†
Negative Social Support	0.26	0.55	.04
Neglect x Negative Social Support	-0.11	0.10	-.09

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 9. Relationship between Female Sexual Abuse Severity and Tension Reducing Behavior for Different Levels of Negative Social Support (NSS) From a Male Spouse.

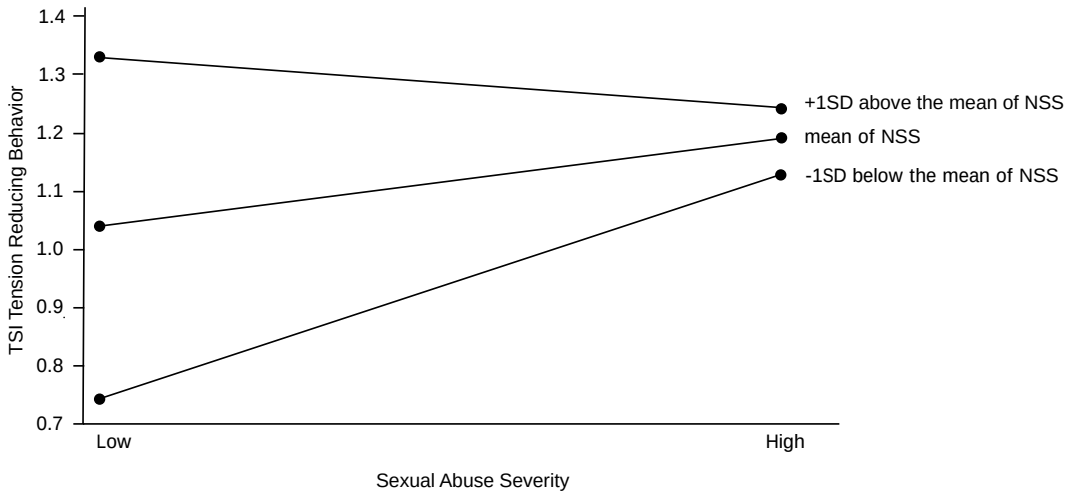
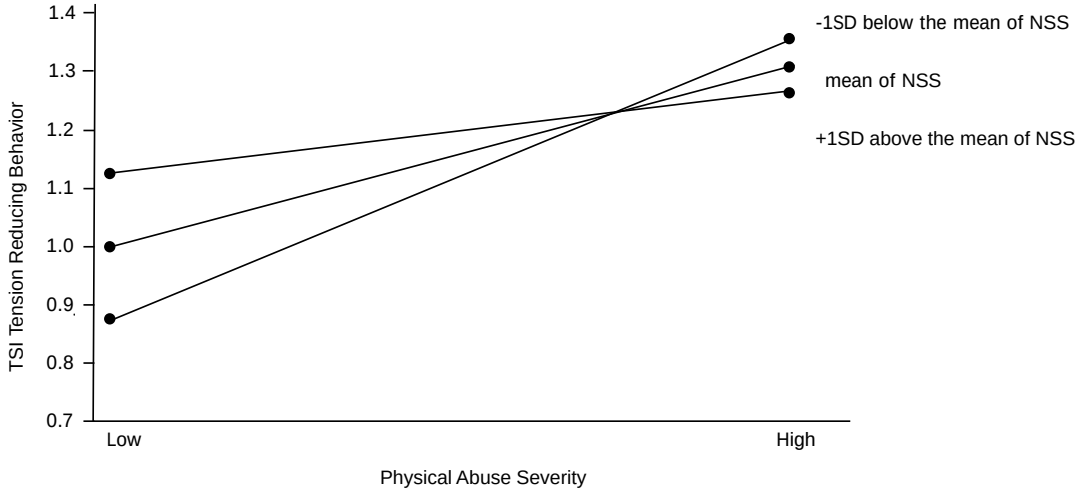


Figure 10. Relationship between Female Physical Abuse Severity and Tension Reducing Behavior for Different Levels of Negative Social Support (NSS) From a Male Spouse.



In contrast, as shown in Table 34, for men, results revealed significant main effects for every form of child maltreatment in predicting increased tension reducing behavior: sexual abuse model, $R^2 = .05$, $F(2, 189) = 4.47$, $p < .05$, physical abuse model, $R^2 = .06$, $F(2, 190) = 5.51$, $p = .005$, psychological abuse model, $R^2 = .16$, $F(2, 188) = 23.57$, $p < .001$, and neglect model, $R^2 = .06$, $F(2, 189) = 5.77$, $p = .004$. There was no main effect for negative social support received from a female spouse in predicting changes in tension reducing behavior in any of child maltreatment severity. However, physical abuse severity did interact with negative social support, $R^2 = .08$, $F(3, 189) = 5.15$, $p = .002$; $\Delta R^2 = .02$, $\Delta F(1, 189) = 4.24$, $p < .05$, such that among those men experiencing low severity physical abuse, those receiving more negative social support actually reported decreased trauma symptoms. However, as the severity of physical abuse experienced increased, men receiving more negative social support reported higher levels of tension reducing behavior than did men who received lower levels of negative social support (see Figure 11).

Table 34

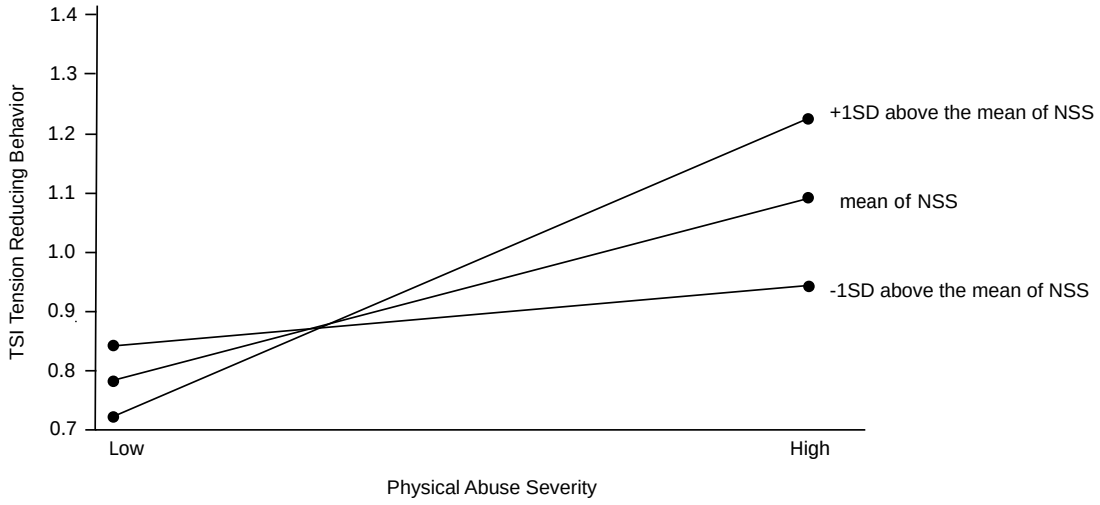
Negative Social Support as a Moderator of Child Maltreatment Severity in Predicting Tension Reducing Behavior Severity for Men

Variable	*B*	*SE B*	β
Step 1 – Main Effects Model			
Sexual Abuse	0.07	0.03	.19**
Negative Social Support	0.68	0.54	.09
Step 2 – Interaction Model			
Sexual Abuse	0.06	0.03	.18**
Negative Social Support	0.79	0.55	.10
Sexual Abuse x Negative Social Support	0.18	0.17	.07
Step 1 – Main Effects Model			
Physical Abuse	0.03	0.01	.21**
Negative Social Support	0.63	0.53	.08
Step 2 – Interaction Model			
Physical Abuse	0.03	0.01	.20**
Negative Social Support	0.34	0.54	.05
Physical Abuse x Negative Social Support	0.17	0.08	.15*
Step 1 – Main Effects Model			
Psychological Abuse	0.02	0.00	.39***
Negative Social Support	0.27	0.51	.04
Step 2 – Interaction Model			

Psychological Abuse	0.02	0.00	.39***
Negative Social Support	0.27	0.53	.04
Psychological Abuse x Negative Social Support	0.00	0.02	.00
Step 1 – Main Effects Model			
Neglect	0.02	0.01	.22**
Negative Social Support	0.76	0.53	.10
Step 2 – Interaction Model			
Neglect	0.02	0.01	.20**
Negative Social Support	0.69	0.53	.10
Neglect x Negative Social Support	0.03	0.04	.06

Note. † < .10 * p < .05. ** p < .01. *** p < .001.

Figure 11. Relationship between Male Physical Abuse Severity and Dysfunctional Sexual Behavior for Different Levels of Negative Social Support (NSS) From a Female Spouse.



Discussion

The first aim of this study was to examine associations between the severity of multiple types of maltreatment (i.e., physical, sexual, emotional abuse; neglect) and the severity of total trauma symptomatology as well as several more specific trauma symptoms hypothesized to be salient to relationship functioning in women and men drawn from a community sample of married couples. The second aim was to examine associations between observationally measured positive and negative social support received from a spouse and trauma symptomatology. The third aim of this study was to replicate prior work examining positive social support as a buffering factor against intrapersonal sequelae of child maltreatment by utilizing observational data and extend work examining negative social support as a risk factor for the development of intrapersonal sequelae associated with child maltreatment. The final aim was to compare the patterns of these associations between women and men. Below, general findings regarding each of these aims, limitations of the current study, and future research directions are discussed.

Characteristics of the Sample

In general, rates of each type of child maltreatment are consistent with previous studies employing retrospective assessment techniques with community-based samples (Binggeli, Hart, & Brassard, 2001; DiLillo et al., 2010; Finkelhor, 1994). Among participants reporting child maltreatment, in general, the acts experienced were relatively low in severity. It is notable that consistent with some previous findings (e,g, Sedlak & Broadhurst, 1996), women in this sample reported more severe sexual abuse than did men, while men reported experiencing more severe levels of physical abuse.

Interestingly, and shedding light on gender differences in severity of less-researched forms of maltreatment, men also reported experiencing more severe child neglect but there were no differences across gender for levels of psychological abuse experienced.

Concerning levels of social support, in general, as would be expected from a sample of newlyweds, spouses received high levels of positive social support and low levels of negative social support. However, levels of positive social support gauged by the observational coding system appeared to be higher and levels of negative social support were lower than levels measured in other studies utilizing a community sample of newlywed spouses (e.g., Pasch & Bradbury, 1998). However, couples in the current sample had been married an average of 11 months at the time of social support measurement compared with an average marriage length of 12 weeks in the sample utilized by Pasch and Bradbury (1998). It is possible that social support levels change as a function of length of marriage. Indeed, and consistent with this theory, levels of positive and negative social support seen here were similar to those detected in a recent study of couples married an average of 17 months at the time of social support measurement (Sullivan, Pasch, Johnson, & Bradbury, 2010).

Finally, consistent with what would be expected from a community sample, reports of trauma symptoms obtained here are consistent with the TSI norming data (Briere, 1995; Elliott, 1993; Elliott & Briere, 1994), and are indicative of relatively low-severity trauma symptoms overall. Regarding gender differences, inconsistent with TSI normative data and previous studies suggesting that women may be at increased risk to experience more severe trauma symptoms (Briere, 1995; Norris, Foster, & Weisshaar, 2002), levels of trauma symptoms within the current sample did not vary as a function of

gender, with the exception of tension reducing behavior, which was reported as more severe by women compared to men.

Predicting Trauma From Child Maltreatment Severity

Consistent with hypotheses and previous literature (Herman, Perry, & van der Kolk, 1989; Polusny & Follette, 1995), child maltreatment severity of every type predicted increased total trauma symptomatology as well as all specific trauma symptoms hypothesized to be salient to relationship functioning. While several prior studies have found similar linkages between sexual and physical abuse severity and increased long-term distress in women (Risser, Hetzel-Riggin, Thomson, & McCanne, 2006), results of this study extend this finding to psychological abuse and neglect severity for both men and women. However, it should be noted that pervasive verbal acts that often characterize psychological abuse, and the acts of omission that make up neglect, while serious, are typically not consistent with the DSM-IV-TR's specification that trauma symptoms result from exposure to an event that "involved actual or threatened death or serious injury, or a threat to the physical integrity of self" (Criterion A1; p. 467). While the current study examined general trauma symptomatology as a sequelae of different forms of child maltreatment severity, a recent study suggests that many trauma symptoms may be better characterized as general psychological distress (Marshall, Schell, & Miles, 2010). Thus, it is possible that child maltreatment severity is predicting increases in general psychological distress within this sample, rather than trauma symptoms, per se.

Predicting Trauma From Positive Social Support Received

Contrary to hypothesized outcomes, positive social support received from a spouse was generally not associated with less total trauma or specific symptomatology

among participants. These results add to a group of studies suggesting that received positive social support may not contribute to resiliency as much as was originally thought (Lakey & Lutz, 1996; Savage & Russell, 2005). In this case, it appears that, positive social support may not buffer against trauma-related distress associated with a history of maltreatment. Some researchers have postulated that even though a specific instance of social support provided has the power to alleviate emotional distress experienced in the moment, it may not have lasting effects beyond the acute period of intense feeling (Cohen & Wills, 1985; Savage & Russell, 2005). If this is the case, what may be a more salient predictor of long-term distress is not how much social support one receives (as assessed through objective observation), but rather how much social support one perceives (i.e., perceived social support). Perceived social support refers to the *cognitively appraised* level of connectivity a person feels to important others within their social network (Fincham & Bradbury, 1990; Procidano & Heller, 1983; Sarason et al., 1987). Indeed, some researchers have argued that the *perception* of available social support may be the true buffer against emotional distress by contributing to an individuals' belief that he or she can fulfill a need for support should that individual need it (Cohen & Wills, 1985; Holt & Espelage, 2005; Procidano & Heller, 1983; Wethington & Kessler, 1986).

Predicting Trauma From Negative Social Support Received

Consistent with hypotheses, and adding to the knowledge of the potential influence of social support on psychological outcomes, negative social support received from a spouse was generally associated with greater overall trauma symptomatology as well as anger/irritability and dysfunctional sexual behavior. However, contrary to

hypotheses, negative social support was not predictive of increased defensive avoidance or tension-reducing behavior. Results of this study suggest that negative social support received from a spouse may serve as an independent risk factor for the development of general psychological distress, including symptoms hypothesized to be indicative of trauma, regardless of whether one has been the victim of a previous traumatic experience (i.e., child maltreatment). However, as this is the first study to examine the influence of low quality interpersonal support on intrapersonal functioning, additional research is needed to replicate and extend this finding.

Associations Between Child Maltreatment Severity, Quality of Social Support, and Trauma Symptoms

Finally, contrary to hypothesized outcomes, few significant interactions were found between child maltreatment severity and social support in predicting trauma symptomatology. Among the whole sample, neither type of social support interacted with child maltreatment to predict changes in total trauma symptomatology or specific trauma symptoms hypothesized to be salient to marital interactions. Taken as a whole, results of this study indicate that while child maltreatment severity may serve as a predictor of long-term adult symptomatology, observationally measured received social support from a spouse, does not influence the amount of distress in victims of any form of maltreatment, regardless of the severity of maltreatment previously experienced. However, there are a few alternative explanations for why social support did not moderate associations between child maltreatment severity and adult trauma symptoms in this study. First, within the quantitative psychology literature, some researchers have asserted that there is far more difficult to detect moderator relationships in non-

experimental settings, resulting in the need for very large sample sizes (*cf.* McClelland & Judd, 1993). Moreover, these researchers demonstrated that differences in measurement error between experiments and field research, combined with different residual variances between the two settings after partialing out the variance, accounted for by main effects results in extreme difficulty detecting interactive effects using quantitative variables in non-experimental settings. Given these assertions, it is possible that the design of the current study resulted in measurement error and a lack of sufficient power to detect moderating effects.

Additionally, as previously alluded to in the discussion of positive social support as a predictor of trauma, perceived social support may be a more salient predictor of long-term distress than is the observationally measured received social support utilized in the analyses within current study. It is possible that the presence of psychological symptoms influenced a victim's perception, and thus the buffering effects, of the social support that was objectively judged to be positive by the researchers. In other words, individuals experiencing severe distress may have difficulty recognizing, and thus, benefiting from received positive social support. Supporting this, other data collected within the same sample utilized in the current study reveals that self-reported perceived social support from family and friends does moderate associations between child maltreatment and trauma symptoms (Evans & DiLillo, 2010). Given those contrasting findings, it is possible that the objective measure of social support provided by the observational data that is coded by an independent source may not be as salient a factor in predicting the long-term psychological functioning of survivors as are individuals' *own perceptions* of the support being received from others.

Finally, although this study sought to examine the moderating role of received social support in the relationship between child maltreatment severity and trauma symptomatology, it is plausible that the utilization of observational data collected at only one time point did not capture the essence of the complex relationship between the intrapersonal and interpersonal sequelae of child maltreatment. More specifically, the design of this study may have merely provide a "snap-shot" of the social support being received by newlywed spouses at this point in their marriages. Given that this study was conducted within the context of the evolution of a marital relationship, an alternative conceptualization of the relationship between social support and trauma symptoms could be that increased trauma symptomatology displayed victims of child maltreatment serves to deflect attempts by a partner to support a victimized spouse. Indeed, research of veterans diagnosed with PTSD that symptoms such as avoidance and emotional suppression may result in difficulty in interpersonal relationships, including in the realms of perceiving social support (Laffaye, Cavella, Drescher, Rosen, 2008; Riggs, Byrne, Weathers, & Litz, 1998). If this is the case within the current sample, genuine attempts by one partner to provide positive social support that are met with mistrust, defensiveness, or avoidance related to the trauma symptoms of the other partner, may result in feelings of increased frustration and negative emotions within the partner attempting to provide support. These feelings may then influence the quality of the intimate relationship, and thus the quality of social support received by the spouse experiencing the symptoms, setting in motion a cyclical process in which provided support becomes increasingly negative. Longitudinal studies utilizing similar observational measurement techniques to follow couples several years into their marriage

as well as more sophisticated statistical analyses are recommended to better elucidate the complex and evolving nature of the relationship between intimate partner social support and intrapersonal outcomes.

Gender Considerations

Regarding gender patterns in the ability for child maltreatment severity to predict changes in trauma symptomatology, physical and psychological abuse severity appear to be more salient in predicting various trauma symptoms for women than do sexual abuse and neglect severity. In contrast, physical abuse severity does not appear to be as salient a predictor of trauma symptomatology for men as do the other forms of abuse severity. These findings were somewhat unexpected, especially given results that men generally reported more severe physical abuse than did women. It is also notable that although child maltreatment severity was generally associated with increases in all trauma symptoms for both men and women, it was typically unrelated to women's dysfunctional sexual behavior levels. One exception, which is consistent with some previous findings (Kinzl, Traweger, & Biebl, 1995; Najman, Dunne, Purdie, Boyle, & Coxeter, 2005), was that sexual abuse severity was associated with increases in women's dysfunctional sexual behavior. Despite these subtle differences, it appears that child maltreatment severity may be just as salient a predictor of long-term distress for men as it has been found to be for women.

Regarding the quality of social support as a predictor of trauma symptomatology, contrary to hypotheses, among women, positive social support received from a spouse did not predict in total or specific trauma symptomatology. Among men, positive social support did predict decreased dysfunctional sexual behavior but otherwise did not predict

changes in any trauma symptomatology. Despite the lack of significant interactions in the overall sample, the few significant and trending interaction results with regard to gender and the moderating influence of social support paint an interesting picture. The most salient pattern with regard to gender, which was consistent with hypothesized outcomes, was that physical abuse severity and negative social support consistently interacted such that women with the most severe maltreatment who received the highest levels of negative social support reported higher levels of various trauma symptoms. This suggests that among female child physical abuse victim the reception of high levels of negative social support from partners has to potential to exacerbate symptomatology. Results also revealed the somewhat counterintuitive finding that female victims of severe sexual abuse who receive high levels of negative social support actually endorsed lower levels of anger/irritability symptoms and tension reducing behavior than did female victims of severe abuse who received less negative social support. It is possible that among these victims, negative social support is simply perceived less negatively because high levels of these disparaging and invalidating behaviors from a loved one are consistent with the same behaviors displayed towards them during previous family interactions in which abuse was present.

The "Marriage Support Gap" Revisited

Findings that levels of social support provided and received do not vary between husbands and wives were inconsistent with the "marriage support gap" theory, which holds that women may provide more positive social support to their spouses than their spouses provide to them (Belle, 1992; Cutrona, 1996a; Neff & Karney, 2005). Rather, results of this study converge with recent findings by Verhofstadt et al. (2007) that

suggest that women and men receive similar levels of positive social support. These findings that the amount of quality social support provided does not vary as a function of gender suggest the need for an alternative explanation for why women and men do not benefit similarly from the buffering effects of social support in the presence of stress. It is plausible that the cognitive perception of the usefulness of the support varies by gender, which, in turn, influences the impact the support has on intrapersonal functioning (i.e., increased or decreased trauma symptoms). Moreover, in populations prone to experience psychological distress, such as victims of child maltreatment, the level of distress may vary by gender, which may in turn influence the impact of social support on that distress. However, levels of trauma symptoms in the current study did not significantly vary as a function of gender, with the exception of women reporting higher levels of tension reducing behavior than did men.

Limitations and Future Directions

While results of this study shed light on some risk and protective factors that may be associated with long-term outcomes of child maltreatment, several limitations should be acknowledged. First, reflective of the geographic area in which data were collected, the sample was 94% European American. Thus, the results of this study may not generalize to ethnic minorities. To determine whether the current findings generalize more broadly, future studies should utilize more ethnically diverse samples.

An additional limitation of the current study was the use of a retrospective, self-report measure of child maltreatment. While self-report measures are often utilized to assess prior instances of child maltreatment, this method is potentially limited by problems of inadequate recall and socially desirable response bias (Widom & Morris,

1997). Moreover, as would be expected in a community-based sample of married couples, most participants in the current sample reported experiencing no child maltreatment and among those who did experience maltreatment, victimization experiences tended to be relatively low in severity. This limited variance provided by a relatively small number of victims, particularly concerning child sexual and physical abuse, may have hindered abilities to detect hypothesized relationships among variables. While one approach to the limited variance issue would be to dichotomize participants into victims and non-victims, this technique would further reduce variance among victims and precludes the ability to factor in the role of abuse characteristics in predicting variability in victim functioning. To address this limitation, future studies should examine the predictive utility of abuse characteristics using a sample of known child maltreatment victims.

Third, while analyzing husbands' and wives' data separately was useful in the current study to elucidate gender-specific patterns, given the previously mentioned difficulty of detecting interactive effects using quantitative variables in non-experimental conditions (McClelland & Judd, 1993), running these models separately further reduced the power that may be needed to detect significant effects. In addition to striving to utilize larger samples of women and men, future studies should incorporate recent recommendations regarding statistical analyses of moderated multiple regressions for non-experimental designs (see O'Connor, 2006; Shieh, 2009) to increase the probability of detecting moderating relationships among quantitative variables.

Finally, as previously mentioned, while results of this study suggest that social support is not moderating associations between child maltreatment severity and trauma

symptoms, this study only examined one type of social support (i.e., observationally measured received social support from a spouse). The nature of the social support data utilized in this study raises two issues. First, while previous studies using observationally measured social support have found that it buffers against problems within interpersonal relationships (e.g. Pasch & Bradbury, 1998), it is unverifiable whether the observational interactions videotaped during data collection are representative of the same dyadic interaction processes as they occur in a couple's everyday environment. Additionally, as previously noted in detail above, objectively measured received positive social support may not have as much potential to buffer against distress as was originally hypothesized. Confirming this, other data collected using self-report measures within this same sample suggest that perceived social support from family and friends does moderate associations between child maltreatment and trauma symptoms (Evans & DiLillo, 2010).

It should be noted that to date, few studies have utilized observational measures of social support such as the SSICS (i.e., Cobb, Davila, & Bradbury, 2001; Dehle & Landers, 2005; Pasch & Bradbury, 1998). Moreover, the studies using more sophisticated means of measuring the effects of received social support have examined social support primarily as it relates to marital outcomes. Within this body of literature, received social support is consistently found to buffer against the negative effects of relationship conflict as it relates to decreased marital satisfaction and increased relationship dissolution (Pasch & Bradbury, 1998; Sullivan, Pasch, Johnson, & Bradbury, 2010). Thus, future research examining the buffering effects of received social support should continue to use observational measures of social support to further examine whether received social support has positive effects on intrapersonal functioning in the

same way that it seems to buffer against relationship distress. Additionally, such studies should consider employing longitudinal designs to test whether the presence of psychological symptoms related to child maltreatment or other stressors may results in a cyclical process in which support provided by a spouse becomes increasingly negative.

Clinical Implications

Researchers within the family violence field continue to attempt to tease apart the risk and protective factors that explain the variability in the long-term intrapersonal functioning of child maltreatment victims. A driving force behind this research is the desire to inform clinicians about factors that are most salient to victim functioning so that these clinicians can make more informed treatment decisions and develop treatments that are more effective. Results of this study underscore the importance of clinicians' adaptation of treatments based on not only client characteristics such as age and gender, but also based on individual risk factors such as the severity of the acts to which a child was exposed. While previous studies have documented the links between the severity of CSA and increased subsequent maladjustment (Risser et al, 2006), results of this study suggest that clinicians should also consider the severity of physical and psychological abuse as well as neglect. Moreover, as studies such as this one continue to suggest that male victims of maltreatment may experience distress levels similar to that of female victims, clinicians should take care to thoroughly assess levels of symptomatology, bearing in mind that even mild to moderate symptoms that do not meet DSM-IV-TR criteria for PTSD may still influence overall functioning. Similarly, this study reinforces the need for clinicians to conduct thorough assessments aimed at teasing out the nuances in a victim's symptomatology. While the Trauma Symptom Inventory is not designed to

be a diagnostic tool, it does assess broad symptoms indicative of trauma. Thus, while re-experiencing may have been less common in the community-drawn sample utilized in this study, it is possible that other symptoms indicative of numbing (i.e., emotional detachment, lack of interest in socializing) and increased arousal (i.e., sleep disturbance, irritability) were more common. As previously mentioned, recent research suggests that low severity trauma symptoms may be better characterized as general psychological distress (Marshall, Schell, & Miles, 2010).

While an abundance of literature has examined the associations between intimate partner conflict and relationship satisfaction, and intrapersonal distress (Kim, Capaldi, & Crosby, 2007; Pasch & Bradbury, 1998; Sullivan, Pasch, Johnson, & Bradbury, 2010), this may be the first study to examine associations between *negative* social support received by a spouse in response to a personal problem and its relation to intrapersonal distress. In general, results of this study suggest that, similar to relationship conflict, negative social support received from a spouse may independently contribute to increased trauma symptomatology or general psychological distress. In light of these findings, it is important for researchers and clinicians alike to be mindful that the quality of social support, particularly from an intimate partner, may be just as important in one's intrapersonal functioning, if not more important, than the quantity. That is, while the absence of positive social support may not be associated with long-term distress, the presence of significant negative social support may serve as a risk factor to developing psychological distress, in much the same way as it appears to be a risk factor for relationship strain and dissolution (Sullivan, Pasch, Johnson, & Bradbury, 2010).

While the primary aim of this study was to investigate the associations between marital behaviors and individual intrapersonal functioning, results of this study also converge with some recent studies of marital functioning to shed light on problem solving processes, such as the provision of social support, that may influence the trajectory of adult romantic relationships (Pasch & Bradbury, 1998; Sullivan, Pasch, Johnson, & Bradbury, 2010. However, the current study extends this work to adult survivors of child maltreatment. Given the finding that severity of all subtypes of maltreatment were associated with increased distress, and that both child maltreatment and psychological distress have been repeatedly linked to decreased relationship satisfaction (Furgusson, Boden, & Horwood, 2008; Whisman, 2007), clinicians are encouraged to consider the impact that child maltreatment may have no only on the adult victim's intrapersonal functioning, but also on the relationship functioning of the victim.

Conclusion

In conclusion, this study sought to extend the previous work examining social support as a resiliency factor against the intrapersonal sequelae of child maltreatment by utilizing observational data. Moreover, this study is the first study that we know of to examine the role of negative social support received from a spouse in relation to psychological distress among victims of various forms of child maltreatment. Consistent with hypothesized outcomes as well as previous literature, the severity of every form of child maltreatment was a predictor of increases in trauma symptomatology. Contrary to hypothesized outcomes, positive social support received from a spouse was not found to buffer against trauma symptomatology. However, negative social support received from a spouse was generally associated with increased trauma symptomatology, although

significant moderation was not found. Future research should continue to examine characteristics of abuse that may predict differential long-term outcomes in adult survivors of child maltreatment. Finally, negative social support received from important others should continue to be explored to further determine the degree to which it may be a risk factor for intrapersonal and interpersonal distress.

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Appendix A

Child Maltreatment Measure Used in the Study

CAMI – SF

Subject #_____ **Date _____/_____/_____**

Please circle the number before the most appropriate answer and/or write in the requested information.

---

1. Age _____

2. Gender:

(1) Male
(2) Female

3. What is your ethnicity?

(1) Caucasian/Euro-American
(2) African American
(3) Hispanic/Latino American
(4) Asian American
(5) Native American
(6) Hawaiian Islander
(7) Other
If other, please explain_____

CSA

It is now commonly known that many people have sexual experiences during childhood or adolescence. These experiences may occur with other children, adolescents, or adults and can include a wide range of behaviors including witnessing sexual activity, touching or being touched in a sexual way, and sexual intercourse.

In this section we would like to ask you about some of the sexual experiences you may have had before you turned 18. First, read through the list of sexual experiences below. Then, answer the following three questions.

- **Someone intentionally exposed his or her genitals to you or masturbated in front of you.**
- **Someone kissed, touched, or fondled your body in a sexual way or you touched or fondled them.**
- **Someone attempted to have sexual intercourse with you (oral, anal, or vaginal).**
- **You and another person actually had sexual intercourse (oral, anal, or vaginal).**

1. Before you were 18, did ANY of the above ever happen with anyone against your will or when you did not want it to happen?

(1) Yes
(2) No

2. Before you were 18, did ANY of the above ever happen with an immediate family member or other relative? (Please EXCLUDE any voluntary sexual play that may have occurred with a similar age peer—for example "playing doctor.")

(1) Yes
(2) No

3. Before you were 18, did ANY of the above ever happen with anyone who was more than 5 years older than you? (Please EXCLUDE any VOLUNTARY activities that occurred with a dating partner.)

(1) Yes
(2) No

If you answered YES to ANY of the questions above (1-3) please continue to the next page.

If you answered NO to all of these questions please skip to page 9.

If you said YES to any of the questions on the previous page, please select up to 3 people with whom the activities you reported occurred. (Please write the number for each person in the blanks below).

First Person: _____ Second Person: _____ Third Person: _____

(1)	Father	(15)	Male acquaintance	(29)	Grandmother
(2)	Stepfather	(16)	Male friend of the family	(30)	Step Grandmother
(3)	Foster father	(17)	Male babysitter	(31)	Aunt
(4)	Brother	(18)	Male teacher	(32)	Female cousin
(5)	Half brother	(19)	Male neighbor	(33)	Other female relative
(6)	Step brother	(20)	Male stranger	(34)	Female friend of yours
(7)	Foster brother	(21)	Other male (non-family)	(35)	Female acquaintance
(8)	Grandfather	(22)	Mother	(36)	Female friend of the family
(9)	Step Grandfather	(23)	Stepmother	(37)	Female babysitter
(10)	Uncle	(24)	Foster mother	(38)	Female teacher
(11)	Male cousin	(25)	Sister	(39)	Female neighbor
(12)	Other male relative	(26)	Step sister	(40)	Female stranger
(13)	Male religious leader	(27)	Half sister	(41)	Other female (non-family)
(14)	Male friend of yours	(28)	Foster sister		

Please continue to the next page.

Thank you for responding to the previous questions. We would now like to ask you more detailed questions about the experiences that occurred with each of the individuals you mentioned.

Using the scale below, please indicate how many times (if at all) each of the following activities occurred with each person you mentioned on the previous page.

	First Person	Second Person	Third Person
1. He/she kissed you in sexual way.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
2. He/she intentionally showed you his or her sexual body parts (genitals, breasts, buttocks)	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
3. You undressed or showed him/her your sexual body parts (genitals, breasts, buttocks)	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
4. He/she masturbated in front of you.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

5. He/she touched or fondled your breasts, buttocks, or genitals on the outside of your clothing, under your clothing, or when undressed.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
6. You touched or fondled his or her breasts, buttocks, or genitals on the outside of their clothing, under their clothing, or when they were undressed.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
7. He/she put his or her mouth on your breasts.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

	First Person	Second Person	Third Person
8. He/she touched your genitals or anus with his or her mouth, or you put your mouth on his or her genitals or anus.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
9. He/she inserted a finger or object in your vagina or anus, or you inserted a finger or object in his or her vagina or anus.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
10. He/she *attempted* to have vaginal or anal intercourse with you.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
11. He/she *actually* had vaginal or anal intercourse with you.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

12. How old were you when the sexual activities began?

First Person	Second Person	Third Person
Age: _____	Age: _____	Age: _____

13. How old do you think the other individual(s) was when these activities began?

First Person	**Second Person**	**Third Person**
Age: _____	Age: _____	Age: _____

14. How old were you the last time these activities occurred?

First Person	**Second Person**	**Third Person**
Age: _____	Age: _____	Age: _____

15. Why did these activities end?

First Person	**Second Person**	**Third Person**
_____	_____	_____

(1) Activities have not ended
(2) You moved away or left the household
(3) The other person moved away or left the household
(4) The other person stopped the activities voluntarily
(5) The activities became known by another family member or friend
(6) You confronted or resisted the other person
(7) The other person became involved with someone else
(8) You became involved with someone else
(9) The activities came to the attention of authorities
(10) Other (please explain below)

_____

Please indicate if any of the following were used to get you to participate in these sexual activities.

	First Person	Second Person	Third Person
16. Were you promised things like money, gifts, or special treatment?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
17. Did he/she threaten to tell your parents or someone else?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
18. Were you told that you would be physically hurt?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
19. Were you held down or was some other type of physical force was used?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
20. Were you led to believe there was nothing wrong with these activities or that it was a game?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
21. Were you told that the activities would benefit you in some way (e.g. would teach you about sex)?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
22. Were you told that you would be punished in some way?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
23. Were you continually pestered or pressured verbally?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
24. Did you become intoxicated voluntarily and then were unable to resist?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**

25. Were you was promised alcohol or drugs in exchange for sexual activities?	**(1) Yes** **(2) No**	**(1)Yes** **(2) No**	**(1) Yes** **(2) No**

	First Person	Second Person	Third Person
26. Were you given alcohol or drugs without your knowledge and became unable to resist?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
27. Were you threatened that someone or something that you cared about? would be hurt?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
28. Did someone use his/her status or authority to get you to do these things?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**
29. Did this person tell you not to tell anyone about these activities?	**(1) Yes (2) No**	**(1)Yes (2) No**	**(1) Yes (2) No**

30. In 3-4 sentences, please describe what happened with:

Person 1 _____

_____

_____

_____

Person 2 _____

_____

_____

_____

Person 3 _____

_____

_____

_____

CPA

Parents do different things to discipline their children. We are interested in the things your parents may have done to discipline you as a child. Whether these things happened only once or repeatedly, or are things you believe your parents feel bad about now, we are interested in learning about them. By "parent" we mean any parent, stepparent, foster parent, or any other primary caregiver who helped raise you.

Before you were 18, did either parent or any other adult caregiver ever discipline you by:

1. . . . grabbing or shaking you?	**(1) Yes**	**(2) No**
2. . . . hitting or slapping you?	**(1) Yes**	**(2) No**
3. . . . spanking you hard?	**(1) Yes**	**(2) No**
4. . . . hitting you with an object or fist?	**(1) Yes**	**(2) No**
5. . . . kicking you?	**(1) Yes**	**(2) No**
6. . . . throwing or knocking you down?	**(1) Yes**	**(2) No**
7. . . . grabbing you around the neck and choking you?	**(1) Yes**	**(2) No**
8. . . . burning or scalding you on purpose?	**(1) Yes**	**(2) No**
9. . . . threatening you with a weapon such as a gun or knife?	**(1) Yes**	**(2) No**
10. . . . use a weapon like a gun or knife to hurt you?	**(1) Yes**	**(2) No**

If you answered YES to ANY of these questions please continue to the next page.

If you answered NO to all of the above, skip to page 14.

You indicated that one or more of your parents had disciplined you as a child using one of the activities mentioned above. Please indicate up to 3 individual(s) who disciplined you in this way. Leave blank if you responded "No" to all of the above questions.

	First Person	**Second Person**	**Third Person**
	_____	_____	_____

(1)	Father	(5)	Foster father	(9)	Uncle	(14)	Father's girlfriend
(2)	Mother	(6)	Foster mother	(10)	Aunt	(15)	Mother's girlfriend
(3)	Stepfather	(7)	Grandfather	(11)	Male babysitter	(16)	Father's boyfriend
(4)	Stepmother	(8)	Grandmother	(12)	Female babysitter	(17)	Neighbor or other non-relative
				(13)	Mother's boyfriend	(18)	Other

Thank you for responding to the previous questions. We would now like to ask you more detailed questions about the experiences that occurred with each of the individuals you mentioned. The following list contains items from the previous page along with additional activities that may have occurred. Please respond to each statement by telling us how many times each activity occurred.

	First Person	**Second Person**	**Third Person**
1. He/she grabbed and shook me.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
2. He/she slapped me with an open hand, on the face, head or ears.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

3. He/she pinched me hard or they dug their fingernails into my skin.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
4. He/she spanked me so that it left a bruise or other mark.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
5. He/she spanked me on the bottom with a belt, hairbrush, or other object that could cause minor injury.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

	First Person	Second Person	Third Person
6. He/she hit me on a part of my body other than my bottom with an object that could cause minor injury.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
7. He/she punched me with their fist.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
8. He/she kicked me.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
9. He/she threw or knocked me down.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
10. He/she threw a hard object like a shoe or a wrench at me.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

11. He/she grabbed me around the neck or choked me.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
12. He/she hit me with an object that could cause major injury, such as a baseball bat or wrench.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
13. He/she beat me by slapping, hitting, and/or punching me repeatedly.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**
14. He/she burned me or scalded me on purpose.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

	First Person	Second Person	Third Person
15. He/she threatened me with a weapon like a gun or a knife.	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**	**(1) Never happened** **(2) 1-2 times** **(3) 3-5 times** **(4) 6-10 times** **(5) more than 10 times**

16. Did he/she do any other things that I have not mentioned? (Please explain)

First Person:_____

_____

Second Person:_____

_____

Third Person:_____

_____

Please indicate whether any of the following injuries occurred as a result of the activities mentioned above.

	First Person	Second Person	Third Person
17. Cuts or scratches	(1)Yes (2)No	(1)Yes (2)No	(1)Yes (2)No
18. Bruises or a red mark	(1)Yes (2)No	(1)Yes (2)No	(1)Yes (2)No
19. Black eye	(1)Yes (2)No	(1)Yes (2)No	(1)Yes (2)No
20. Bloody nose or lip	(1)Yes (2)No	(1)Yes (2)No	(1)Yes (2)No

21.	Broken or fractured bones	(1)Yes	(2)No	(1)Yes	(2)No	(1)Yes (2)No
22.	Internal injuries	(1)Yes	(2)No	(1)Yes	(2)No	(1)Yes (2)No
23.	Burns	(1)Yes	(2)No	(1)Yes	(2)No	(1)Yes (2)No
24.	Other (Please explain below)	(1)Yes	(2)No	(1)Yes	(2)No	(1)Yes (2)No

	First Person	**Second Person**	**Third Person**
25. Did you receive medical treatment for any injuries that may have occurred?	(1) Yes (2) No	(1) Yes (2) No	(1) Yes (2) No

26. How old were you the first time these activities occurred?

First Person	**Second Person**	**Third Person**
Age: _____	Age: _____	Age: _____

27. How old were you the last time these activities occurred?

First Person	**Second Person**	**Third Person**
Age: _____	Age: _____	Age: _____

28. Why did these activities end?

		First Person	**Second Person**	**Third Person**
(1)	Activities have not ended			
(2)	You left the household			
(3)	The other person left the household			
(4)	The other person stopped the activities voluntarily			
(5)	You resisted or fought back			
(6)	The activities came to the attention of the authorities			
(7)	Other (Please explain) _____			

PA

The following statements reflect a wide range of parental behaviors. Please indicate by using the scale below how much you agree or disagree with each statement. By "parents" we mean any parent, stepparent, or dating partner of a parent, even if that person was not living with you at the time.

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree or Disagree
(4) Agree
(5) Strongly Agree

		SD	D	N	A	SA
1.	Being second best was never good enough for my parents.	(1)	(2)	(3)	(4)	(5)
2.	My parents put me in situations that frightened me.	(1)	(2)	(3)	(4)	(5)
3.	My parents didn't really care when I did things that were wrong.	(1)	(2)	(3)	(4)	(5)
4.	My parents often made me cry for no good reason.	(1)	(2)	(3)	(4)	(5)
5.	My parents were very controlling.	(1)	(2)	(3)	(4)	(5)
6.	My parents threatened to leave me somewhere so that I could never come home.	(1)	(2)	(3)	(4)	(5)
7.	I used illegal drugs with my parents before I was 18 years old.	(1)	(2)	(3)	(4)	(5)

8.	My parents often asked me about my day.	(1)	(2)	(3)	(4)	(5)
9.	I felt like my parents used me to meet their own emotional needs.	(1)	(2)	(3)	(4)	(5)
10.	My parents often sent me to bed without dinner.	(1)	(2)	(3)	(4)	(5)
11.	I saw my parents do illegal things like use drugs or steal.	(1)	(2)	(3)	(4)	(5)
12.	My parents liked spending time with me.	(1)	(2)	(3)	(4)	(5)
13.	When I was in school, only A's were good enough for my parents.	(1)	(2)	(3)	(4)	(5)
14.	My parents sometimes got angry and destroyed things that were mine.	(1)	(2)	(3)	(4)	(5)

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree or Disagree
(4) Agree
(5) Strongly Agree

		SD	D	N	A	SA
15.	My childhood achievements were acknowledged by my parents.	(1)	(2)	(3)	(4)	(5)
16.	My parents punished me by confining me to a closet or other small place.	(1)	(2)	(3)	(4)	(5)
17.	My parents paid attention to me when I talked to them.	(1)	(2)	(3)	(4)	(5)
18.	My parents showed a lot of interest in me as a child.	(1)	(2)	(3)	(4)	(5)
19.	My parents threatened to leave me and never come back.	(1)	(2)	(3)	(4)	(5)
20.	My parents purposely embarrassed me in front of my friends.	(1)	(2)	(3)	(4)	(5)
21.	My parents encouraged me to do things that some might consider illegal or immoral.	(1)	(2)	(3)	(4)	(5)
22.	I was cursed or sworn at as a child by my parents.	(1)	(2)	(3)	(4)	(5)

23.	My parents threatened to hit or physically hurt me when I was a child.	(1)	(2)	(3)	(4)	(5)
24.	As a child I felt loved by my parents.	(1)	(2)	(3)	(4)	(5)

Please continue to the next page.

NEG

Please indicate by using the scale below how much each statement describes how you were cared for as a child. By "parents" we mean any parent, stepparent, or dating partner of a parent, even if that person was not living with you at the time.

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree or Disagree
(4) Agree
(5) Strongly Agree

	SD	D	N	A	SA
1. Bedding and towels were washed regularly when I was a child.	(1)	(2)	(3)	(4)	(5)
2. The dishes were washed on a daily basis when I was growing up.	(1)	(2)	(3)	(4)	(5)
3. My parents did not like it if I skipped school or was late to classes.	(1)	(2)	(3)	(4)	(5)
4. As a child I was left in unsafe situations without supervision.	(1)	(2)	(3)	(4)	(5)
5. When I was a child, my parents left me with babysitters or at places like parks or swimming pools for long periods of time.	(1)	(2)	(3)	(4)	(5)
6. When I was growing up, the garbage was taken out regularly.	(1)	(2)	(3)	(4)	(5)

7. My parents took me to the doctor when I needed to go.	(1)	(2)	(3)	(4)	(5)
8. I had enough to eat as a child.	(1)	(2)	(3)	(4)	(5)
9. The places I lived in as a child contained fire hazards such as frayed wiring, objects too close to heat sources, or other things that could catch on fire.	(1)	(2)	(3)	(4)	(5)
10. My parents sometimes threw me out of the house after disagreements.	(1)	(2)	(3)	(4)	(5)
11. I went to the dentist regularly as a child.	(1)	(2)	(3)	(4)	(5)
12. Sometimes my parents forgot about me when I stayed overnight with a friend or relative.	(1)	(2)	(3)	(4)	(5)

(1) Strongly Disagree
(2) Disagree
(3) Neither Agree or Disagree
(4) Agree
(5) Strongly Agree

	SD	**D**	**N**	**A**	**SA**
13. My parents made sure I got all of my immunizations (shots) as a child.	(1)	(2)	(3)	(4)	(5)
14. I had a curfew when I was growing up.	(1)	(2)	(3)	(4)	(5)
15. My parents didn't make me go to school if I didn't want to.	(1)	(2)	(3)	(4)	(5)
16. My parents followed doctors' instructions carefully when medication was prescribed to me.	(1)	(2)	(3)	(4)	(5)
17. As a child my clothes and shoes didn't fit me.	(1)	(2)	(3)	(4)	(5)
18. As a child I was expected to tell my parents what I was doing when I wasn't home.	(1)	(2)	(3)	(4)	(5)
19. As a child, my parents left me in the care of people I didn't know.	(1)	(2)	(3)	(4)	(5)
20. I wore clean clothes as a child.	(1)	(2)	(3)	(4)	(5)

Appendix B

CAMI Sexual Abuse and Physical Abuse Severity Indicator Scoring Criteria

Scoring of Abuse Severity Indicators on the CAMI Sexual Abuse and Physical Abuse Subscales (adapted from DiLillo et al., 2010)

	Child Sexual Abuse	**Child Physical Abuse**
Perpetrator	1 = non family 2 = family non-parent 3 = parent	1 = non family 2 = family non-parent 3 = parent
Frequency	1 = 1-2 times 2 = 3-10 times 3 = > 10 times	1 = 1-2 times 2 = 3-10 times 3 = > 10 times
Nature of Acts	1 = non-contact 2 = contact/no penetration 3 = penetration	1 = grabbed, shook, slapped, pinched, spanked on bottom with/without object 2 = punched, kicked, knocked down, hard object thrown 3 = hit with hard object, choked, beaten, burned, threatened with weapon
Duration	1 = less than 1 year 2 = 1-2 years 3 = >2 years	1 = less than 1 year 2 = 1-2 years 3 = >2 years
Force/Manipulation	0 = none 1 = verbal tactics 2 = threats of physical harm 3 = physically held down	___
Injury/Medical Attention	___	1 = bruises, bloody nose or lip, cuts or scratches 2 = broken or fractured bones, burns 3 = internal injuries, paralysis
Number of Perpetrators	1 = one 2 = two 3 = three	1 = one 2 = two 3 = three
Scoring Range	5-18	6-18

Appendix C

Social Support Coding Materials Used in the Study

Couple ID #: _____ Participant ID #: _____

SSCIS

Below is a list of personal issues that other people have indicated that they wanted to change about themselves. Please choose 1 issue that you would like to change about yourself by circling the item or by writing in your own at the bottom of the page.

Losing weight
Changing eating habits
Quitting smoking
Exercising
Working on appearance
Drinking less

Having more energy
Handling stress better
Being more assertive
Being more sensitive
Improving self-image
Learning to trust others more

Learning to accept others more
Having more self-confidence or self-respect
Changing negative attitudes toward people
Having more self-control
Learning to control temper or mood at work
Being more responsible

Being more optimistic
Being less aggressive
Being more patient
Being more outgoing
Communicating better with others
Feeling less guilty about things

Learning to worry less
Being more organized and efficient
Being able to manage time better
Learning to make better decisions
Do more reading or writing
Making decisions involving school

Improving study habits
Clarifying career decisions and goals
Taking work less seriously
Staying motivated at work, pursuing goals
Being more committed to projects at work
Being more focused in career

Being a better communicator at work
Making more money
Setting personal priorities
Improving relationships with family
Forming new friendships
Corresponding more with friends and family

Other:_____

Social Support Coding Data Sheet

Couple # ___________ **Coder name/#**____
Interaction: 1/Wife is Helpee 2/Husband is Helpee **Coding Date** ________________

Helper Circle One: Wife/Husband					**Helpee** Circle One: Wife/Husband				
Time	**PS**	**NG**	**NT**	**OT**	**Time**	**PS**	**NG**	**NT**	**OT**
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4
	1	2	3	4		1	2	3	4

Social Support Interaction Coding System Manual (adapted from Pasch & Bradbury, 1997; 1998)

Coding Rules

- ✓ **The order/precedence of the codes: negative, off-task, neutral, positive.**
- ✓ Take the tone of the speaker very seriously. In order for a code to be positive, the tone of the speaker must be somewhat positive. In order for a code to be negative, the tone of the speaker must be somewhat negative. However, in order to code a speaking turn as such, you must have a code to back up this choice.
- ✓ It is considered a new speaking turn if:
  - o The other partner responds to the comment.
  - o There is an obvious pause in the speaking turn (regardless if they change topics or not).
- ✓ Start out assuming that each code is neutral, then go look for codes that can make the speaking turn positive, negative, etc.
- ✓ When thinking about whether a response is humorous or sarcastic, remember back to Eckman's smile, a true smile shows crinkles near the eyes.
- ✓ Do not code a speaking turn based on an elaboration of the turn before; code on a speaking turn by speaking turn basis.

Helper Codes

1. **Positive:** Positive includes behaviors such as reassuring, consoling, providing genuine encouragement, conveying that helpee is loved, cared for, or esteemed and encouraging expression or clarification of feelings. Positive includes behaviors such as making specific suggestions, giving helpful advice, and offering to assist in the development or enactment of a plan of action. Positive includes all positive speaking turns that do not fall specifically into the first two categories, including general analysis or summary of the problem.
   a. Tries to bolster spouse's self-esteem.
   b. Reassures or consoles spouse.
   c. Conveys understanding of spouse's concerns and difficulties.
   d. Provides genuine, appropriate encouragement (e.g. comments on recent improvements regarding the problem).
   e. Expresses affection, or information to suggest that helpee is loved, cared for, or esteemed.
   f. Expresses commitment to helping the spouse in general – says he/she will always be there for helpee.
   g. Validates spouse as a person.
   h. Expresses concern about spouse.
   i. Helps spouse to be optimistic.
   j. Joins with spouse in expressing feelings (even negative ones) about the problem, reveals own feelings in a helpful way.

k. Is accepting of spouse's difficulties and shortcomings.
l. Comments on value or strength of relationship.
m. Suggests a specific plan of action (can be hypothetical).
n. Gently suggests a new way of handling the problem (this could include one word suggestions).
o. Emphasizes need for a specific plan, or demonstrates willingness to prepare one with helpee.
p. Offers to assist in any way that shows willingness to help.
q. Asks helpee what would be most helpful for him/her (helper) to do.
r. Asks helpee specific questions about the next steps to take.
s. Suggests strategies for managing feelings or other aspects of the problem.
t. Helps to define what he or she can do that will and won't be helpful.
u. Offers a specific, clear analysis of the problem.
v. Summarizes in a helpful way what has been said (this may include summarizing suggestions that were already given or feelings expressed).
w. Assists spouse in defining problem (through asking questions or offering own personal analysis of the problem).
x. Helps spouse reframe problem in a useful way (except when giving advice or making a specific suggestion).
y. Recognizes humor in situation, helps spouse see humor, uses humor in a useful way (as long as partner's reaction is not negative).
z. Reveals own experience in a helpful way (except when giving specific advice or suggestions, which would be Positive Instrumental, or when expressing feelings, which would be Positive Emotional).
aa. Refocuses discussion after it is off-task. (includes bringing the discussion on-task in any way during the beginning of the conversation).
bb. Encourages helpee to continue speaking.

2. **Negative:** Negative includes behaviors such as criticizing or blaming the spouse, offering inconsiderate advice, and insisting that the helpee employ his or her approach to the problem.
    a. Criticizes spouse, spouse's approach to the problem, or spouse's behavior.
    b. Blaming, accusing, criticizing spouse, pointing out spouse's weaknesses (these are negative even when they bring the discussion back on-task or point out important problems).
    c. Uses sarcasm, humiliation, or sarcastic humor (when helper laughs/jokes at something that helpee does not view as humorous).
    d. Asks an insulting, inappropriate, or pointed question with a negative tone.
    e. Gives useless advice.
    f. Expresses boredom or lack of interest in helpee and the problem.
    g. Withdraws from discussion, acts very passive.
    h. Tells spouse what they should do to improve situation (rather than suggesting).
    i. Demands that helpee consider his/her recommendations.

j. Offers analysis of problem without consideration of partner's views or comments.
k. Talks about self and own problems in an unproductive way.
l. Discounts significance of problem or denies problem.
m. Expresses doubt or pessimism about helpee's chances of improving or changing (can include reminders of past failures).
n. Expresses negative affect (anger, contempt, whining).
o. When helper is asked for help, he or she explicitly does not try to provide support, a solution, or an analysis.
p. Acts defensively.
q. Eye rolling or other negative facial expressions.

3. **Neutral:** Neutral includes all other behaviors relating to the problem under consideration or closely related issues.
    cc. Descriptive information about the problem that does not meet criteria for positive, negative or off-task (a detail or fact that does not help solve the problem).
    dd. Repeated analyses of the problem that do not further contribute to understanding or solutions to the problem.
        i. Making a specific suggestion that has already been suggested.
    ee. Use NT for on-task speech that is difficult to understand or too ambiguous to be coded as positive or negative.
        i. Use NT if you have to listen to a speaking turn more than three times.
    ff. NT is used when a given speech turn contains elements of positive or negative codes but does not meet threshold criteria. NT may also be used when a given speech turn contains sub-threshold elements of both positive and negative codes.
    gg. Use NT if the speaking turn is cut off by the end of the conversation.

4. **Off-Task:** Off-task includes all behaviors involving matters not relevant to the problem under consideration. Off-task is reserved for situations in which the conversation has clearly departed from the task at hand. Speech that strays from the topic but seems to follow from the interaction is coded based on its content.
    hh. Spouse talks about matters not relevant to the problem under discussion (make sure there is NO clear connection to the topic).
    ii. Spouse continues to talk about irrelevant material, regardless of who originally took the discussion off-task.

Helpee Codes

1. **Positive:** Positive includes behaviors such as offering a specific, clear analysis of the problem, expressing feelings related to the problems, and asking for help or stating needs in a useful way.

a. Offers a specific, clear analysis of the problem (this has to be more than a simple description).
b. Responds to helper's question with thoughtful response, showing that he/she is using spouse as an aid (May sometimes include disagreement with spouse, as long as they are positive).
c. Recognizing how good things will be when problem is resolved, using this recognition as motivation or to emphasize value or relationship.
d. States needs in a clear, useful way.
e. Expresses feelings about the problem (even negative ones), especially in response to partner's inquiry in a productive way.
f. Solicits support or information from spouse (asking questions to use spouse as an aid).
g. Gives self benefit of the doubt or lowers expectations in a productive way.
h. Asks spouse to play a role in implementing the proposed change (without sounding demanding).
i. Asks for specific feedback or assistance.
j. Comments on value of support from spouse and appreciation of support.
k. Refocuses the discussion after it is off-task (includes bringing the discussion on-task in any way during the beginning of the conversation).
l. Agreement or validation of suggestion from spouse.
    i. Acknowledges helpfulness of spouse in some way; may disagree, as long as they are still appreciative of spouse's help.
m. Gaining strength from past, reflecting on the past in some productive way (also includes optimism of the future).
n. Recognizing humor in situation (as long as partner's reaction is not negative).
o. Comments positively on process of conversation.
p. Comments on value or strength of relationship, expresses affection.
q. Makes a specific and sincere statement of changes he/she will make.
r. Comes up with a solution to the problem.
s. Clarifies what the helper said or defines a miscommunication.

2. **Negative**: Negative includes behaviors such as making demands for help, criticizing or accusing the helper, and whining or complaining.
    a. Expects spouse to take charge of problem.
    b. Rejects help (Remember, the helpee may disagree with helper sincerely and not receive a negative code, as long as he or she acknowledges helpfulness of spouse in some way).
    c. Pleads with partner to help.
    d. Denies problem or responsibility for the problem.
    e. Makes excuses for why the problem persists, acts defensively.
    f. Criticizes spouse for not helping, now or in the past.
    g. Accuses partner of not giving appropriate help, information, or revealing feelings.
    h. Makes demands for support or change.

i. Becomes glum, withdrawn, or pessimistic about future change.
j. Expresses negative affect (anger, contempt, whining) unproductively.
k. Asks a question but does not allow partner to answer.
l. Blames partner for problem, holds him/her responsible.
m. Focuses negatively on the process.
n. Criticizes partner's behavior.
o. Eye rolling or other negative facial expressions.

3. **Neutral:** Neutral includes all other behaviors relating to the problem under consideration or closely related issues.
   a. Descriptive information about the problem that does not meet criteria for positive, negative or off-task (a detail or fact that does not help solve the problem)..
   b. Repeated analyses of the problem that do not further contribute to understanding or solutions to the problem.
      i. Making a specific suggestion that has already been suggested.
   c. Use NT for on-task speech that is difficult to understand or too ambiguous to be coded as positive or negative.
      i. Use NT if you have to listen to a speaking turn more than three times.
   d. NT is used when a given speech turn contains elements of positive or negative codes but does not meet threshold criteria. NT may also be used when a given speech turn contains sub-threshold elements of both positive and negative codes.
   e. Use NT if the speaking turn is cut off by the end of the conversation.

4. **Off-task:** Off-task includes all behaviors involving matters not relevant to the problem under consideration. Off-task is reserved for situations in which the conversation has clearly departed from the task at hand. Speech that strays from the topic but seems to follow from the interaction is coded based on its content.
   a. Spouse talks about matters not relevant to the problem under discussion (make sure there is NO clear connection to the topic).
   b. Spouse continues to talk about irrelevant material, regardless of who originally took the discussion off-task

Coding Rules to Standardize Data for Proposed Study

1. "Mmm Hmm's"

Overall, they will not be coded. However, there are some instances in which it will be appropriate to code them. For example:

a. ***The perpetual "mmm hmm"***: This type of "mmm hmm" is used constantly during the conversation. Because of its frequent use, this

"mmm hmm" *usually* just means the partner is listening rather than showing sincere validation. Therefore, this type of "mmm hmm" will not be considered a speaking turn (meaning it also will not be coded).

b. The validating "mmm hmm": This "mmm hmm" is used by a partner to indicate that s/he is listening in an affirmative fashion. This type of "mmm hmm" is often accompanied by head nods or other physical/vocal assenting behaviors. This type of "mmm hmm" needs to seem/feel sincere. Therefore, this type of "mmm hmm" will be considered a speaking turn and should be coded Positive or positive other.

c. The negative "mmm hmm": In some cases, an "mmm hmm" may have a really negative tone (e.g., sarcastic; "validation" of something really negative or self-deprecating the other partner says). In these (probably) rare instances, determine what "flavor" the "mmm hmm" has, count it as a speaking turn and code it as negative.

2. Two Codes During One Speaking Turn

Sometimes speaking turns are long and involve several codes within the speaking turn. Here's the rule: *Negative* takes precedence, then *off-task*, then *neutral*, and last is *positive*. So, if a negative code is present (even if there is some validation or something neutral), use the negative code.

3. Head Nods and Such

Head nods, flailing of hands in the air, and other bodily movements (while interesting) are not considered a speaking turn. However, definitely use these physical movements to help you best determine what code to assign the verbal content. Remember, facial expression, head nods, etc. all help you ascertain what's going on with the couple, which in turn, helps the clinical judgment portion of coding.

4. Other Person Doesn't Speak but There is a Pause

If there is an obvious pause and the speaker switches topics, then code this as a new speaking turn. If there is a pause but the speaker just continues what they are saying then count it as one speaking turn.

5. Speaking Over Each Other

If one spouse keeps talking over the other spouse with the same train of thought and does not acknowledge what their spouse is saying, code it as one speaking turn. If they don't stop speaking but respond to what their spouse says, then code it as a separate speaking turn.

6. Sarcasm vs. Humor

If you can't tell whether someone is being sarcastic or using light-hearted humor then code it as neutral

7. **Helper is on-task yet talking about themselves**

   If the Helper is on-task but talking about themselves in an unproductive way then code it as *negative* versus *off-task* (negative trumps off-task in the code order). If they are not on-task then code it as *off-task* instead.

8. **If you are absolutely not sure about a code, code it neutral**

Appendix D

University of Nebraska – Lincoln

Institutional Review Board Approval Letters

University of Nebraska Lincoln

November 10, 2008

Sarah Evans
Department of Psychology
820 Rutland Dr #607 Lincoln, NE 68512

David DiLillo
Department of Psychology
216 BURN UNL 68588-0308

IRB Number: 2002-08-395 FB
Project ID: 5733
Project Title: Associations Between Childhood Experiences & Adults Marital Functioning

Dear Sarah:

This is to officially notify you of the approval of your project's Continuing Review by the Institutional Review Board for the Protection of Human Subjects. It is the committee's opinion that you have provided adequate safeguards for the rights and welfare of the subjects in this study based on the information provided. Your proposal is in compliance with DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Date of FB Review: 11/09/2008

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
• Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
• Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
• Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
• Any breach in confidentiality or compromise in data privacy related to the subject or others; or
• Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

It is the responsibility of the principal investigator to provide the Board with a review and update of the research project each year the project is in effect. This approval is valid until 09/19/2009.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,
Mario Scalora, Ph.D.
Chair for the IRB

University of Nebraska Lincoln

August 10, 2009

Sarah Evans
Department of Psychology

David DiLillo
Department of Psychology
216 BURN UNL 68588-0308

IRB Number:200208395FB
Project ID: 5733
Project Title: Associations Between Childhood Experiences & Adults Marital Functioning

Dear Sarah:

This is to officially notify you of the approval of your project's Continuing Review by the Institutional Review Board for the Protection of Human Subjects. It is the committee's opinion that you have provided adequate safeguards for the rights and welfare of the subjects in this study based on the information provided. Your proposal is in compliance with DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Date of FB Review:

1. Enclosed is the IRB approved Informed Consent form for this project. Please use this form when making copies to distribute to your participants. If it is necessary to create a new informed consent form, please send us your original so that we may approve and stamp it before it is distributed to participants.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
• Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
• Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
• Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
• Any breach in confidentiality or compromise in data privacy related to the subject or others; or
• Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

It is the responsibility of the principal investigator to provide the Board with a review and update of the research project each year the project is in effect. This approval is valid until 09/18/2010.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

Mario Scalora, Ph.D.
Chair for the IRB

Full Accreditation