ABSTRACT

MECHANISMS OF INTIMATE PARTNER VIOLENCE REVICTIMIZATION: CONTRIBUTIONS OF IMPAIRED SELF-REFERENCE

by Sarah Barton

One specific area of revictimization research concerning intimate partner violence (IPV) has garnered increasing attention. Although researchers have recently begun to investigate mechanisms between child maltreatment and IPV victimization, interpersonal effects of child maltreatment—specifically on the development of self—have received little attention. Briere (1993) posited that interruption of normal childhood development, caused by trauma, draws attention away from the internal process of developing the self, which in turn leads to impaired self-functions in adulthood increasing risk for revictimization. The current study examined whether impairments in self accounted for the link between child maltreatment and IPV victimization among 546 college women. Impaired self-reference consistently mediated the relationship between all five forms of child maltreatment (sexual, physical, and emotional abuse; physical and emotional neglect) and minor and severe forms of IPV victimization (psychological aggression, physical assault, and sexual coercion). Future directions for research and implications for intervention are discussed.

MECHANISMS OF INTIMATE PARTNER VIOLENCE REVICTIMIZATION: CONTRIBUTIONS OF IMPAIRED SELF-REFERENCE

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Sarah Barton

Miami University

Oxford, OH

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Advisor_____
Terri Messman-Moore, PhD

Reader_____
April Smith, PhD

Reader_____
Margaret O'Dougherty Wright, PhD

Reader_____
Elizabeth Kiel, PhD

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Mechanisms of Intimate Partner Violence Revictimization:

Contributions of Impaired Self-Reference

Violence against women is a global epidemic. Exploration of this topic and attempts to identify its underlying mechanisms date back to the late 70's (Burgess & Holmstrom, 1978; Ellis, Atkeson, & Calhoun, 1982; Frank, Turner, & Stewart, 1980; Herold, Mantle, &Zemitis, 1979; Miller, Moeller, Kaufman, DiVasto, Pathak, & Christy, 1978; Wilson & Durrenberger, 1982). From early on, pioneers in the field such as Herman and Hirschman (1977) and Meiselman (1978) began to notice that many women experienced repeat victimizations. This pattern, later identified as revictimization, became the attention of a large body of research. (Fortier, DiLillo, Messman-Moore, Peugh, DeNardi, & Gaffey, 2009; Mayall and Gold, 1995; Messman-Moore, Brown, & Koelsch, 2005; Messman & Long, 1996; Roodman & Clum, 2001). Revictimization was initially defined as the link between childhood sexual abuse and adult sexual assault. Research has shown that individuals who experience childhood sexual abuse are two to three times more likely to be revictimized in adulthood than those without childhood sexual abuse histories (Arata, 2002). As the field progressed, the definition of revictimization further expanded to include various forms of child maltreatment and adult victimization. (Desai, Arias, Thompson, & Basile, 2002; Dietrich, 2007; Kimerling, R., Alvarez, Pavao, Kaminski, & Baumrind, 2007; Messman & Long, 1996; Parks, Kim, Day, Garza, & Larkby, 2011; Sappington, Pharr, Tunstall, & Rickert, 1997).

IPV Revictimization

One specific area of revictimization research concerning intimate partner violence (IPV) has garnered increasing attention. This extension of revictimization research, focusing primarily on interpersonal relationships, is most likely due to a large body of findings suggesting that the majority of victims are targeted by acquaintances or close relationships rather than strangers (Classen, Palesh, & Aggarwal, 2005; Clemmons, Walsh, DiLillo, & Messman-Moore, 2007; Fisher, Cullen & Turner, 2000; Kearns & Calhoun, 2010; Koss, Dinero, Seibel, & Cox, 1988; McMahon & Schwartz, 2011; Messman-Moore & Brown, 2004; Tjaden & Theonnes, 2000; Tjaden & Thoennes, 2006). Since the identification of IPV as an extension of revictimization research, a number of studies have identified relationships between various forms of child abuse and IPV. For example, child physical and sexual abuse have been shown to increase risk for

various forms of IPV including physical and psychological assault and sexual coercion (Cavanaugh et al., 2012; Friesen, Woodward, Horwood, & Fergusson, 2010; Hetzel-Riggin & Meads, 2011; Jirapramukpitak & Harpham, 2011; Kennedy, Bybee, Kulkarni, & Archer, 2012; Kim, Talbot, & Cicchetti, 2009; Lindhorst, Beadnell, Jackson, Fieland, & Lee, 2009; Maneta, Cohen, Schulz, & Waldinger, 2012; Schafer, Caetano, & Cunradi, 2004). Others have extended this work and supported that child maltreatment, which includes various forms of abuse and neglect, also increases the likelihood of IPV (Gratz, Paulson, Jakupcak, & Tull, 2009; Irwin, 1999; Lang, Stein, Kennedy, & Foy, 2004; Patel, Bhaju, Thompson, & Kaslow, 2011; Renner & Slack, 2006; Valdez, Lim, & Lilly, 2013; White & Widom, 2003).

Models explaining the relationship between CM and IPV

Recently, research had shifted to examining models that explain the relationship between child maltreatment and IPV. Much of this work is based upon previous theories that drove the initial definition of revictimization, which sought to identify factors that increased risk for child sexual abuse victims to be sexually assaulted in adulthood. One such theory, originally proposed by Briere (1996), posits that there are four effects (outcomes) of childhood sexual abuse that later serve as risk factors for adult victimization. These mechanisms include posttraumatic stress (PTS), cognitive distortions, emotional difficulties, and interpersonal issues. According to Briere (1996), exposure to trauma (i.e. abuse) in childhood interrupts normal childhood development leading to maladaptive outcomes, which later become risk factors for revictimization in adulthood. Unfortunately, much of the original research on revictimization, as well as revictimization research on IPV, has focused heavily on the first three mechanisms (PTS, cognitive distortions, and emotional difficulties) as underlying mechanisms (Dietrich, 2007; Friesen et al., 2010; Gratz et al., 2009; Hetzel-Riggin et al., 2011; Irwin, 1999; Kim et al., 2009 Lang et al., 2004; Lindhorst et al., 2009; Maneta et al., 2012; Messman-Moore, Brown, & Koelsch, 2005; Messman-Moore & Long, 2003; Schafer et al., 2004; Valdez et al., 2013; White et al., 2003), while giving much less attention to interpersonal issues. For example, hyperarousal as well as other symptoms of posttraumatic stress have been implicated as both an outcome of child maltreatment and risk factor for the classic model of revictimization and IPV revictimization (Wekerle, Leung, Wall, MacMillan, Boyle, Trocme, & Waechter, 2009). In addition, cognitive distortions, such as reductions in self-esteem and increased psychological distress and shame, as well as emotional effects of abuse (i.e. affect regulation difficulties or

emotion dysregulation) have also been examined as possible contributors to child abuse and IPV revictimization models (Dietrich, 2007; Friesen et al., 2010; Gratz et al., 2009; Hetzel-Riggin et al., 2011; Irwin, 1999; Kim et al., 2009; Maneta et al., 2012; Schafer et al., 2004; White et al., 2003).

Interpersonal Mechanisms

As previously mentioned the interpersonal effects of child maltreatment—specifically on the development of self—have received little attention in the revictimization literature. According to Briere (1996), interpersonal aspects are largely influenced by the development of self and are based upon attachment theory originally proposed by Bowlby (1969/1982) and later extended by Main and Solomon (1986). This integrated theory poses that attachment is a biological bond between a caregiver and child, where the caregiver is seen as a "secure base" to which the child can explore and return, particularly during instances of perceived danger or fear. This model has been widely established in both parent-child and adult relationships (Alexander, 2009; Allen & Hauser, 1996; Bowlby, 1982; Lyons-Ruth, Yellin, Melnick & Atwood, 2003; Main & Goldwyn, 1998; Main & Hesse 1990; Pearlman & Courtois, 2005) with Main and Solomon (1986)'s disorganized/disoriented attachment style being particularly relevant to children who have experienced abuse. This specific attachment style has also been implicated in increasing risk for revictimization (Gidycz, Coble, Latham, & Layman, 1993; Lyons-Ruth, Easterbrooks, & Cibelli, 1997; Main & Hesse, 1990). Based upon this integrated theory, Briere (1996) posed that the interruption of normal childhood development, caused by trauma, can lead to impaired self-functions resulting in an inability to detect boundary violations and reject coercive and or abuse situations, therefore leading to increased vulnerability for revictimization in adulthood.

The self, which is developed through the attachment process, is comprised of three main parts: identity, which includes personal existence and our conscious awareness; boundaries, which allow us to differentiate between ourselves and others; and affect regulation, which gives us the ability to recognize and manage our emotions. Disruption of the development of the self due to trauma can lead to problems with all three of these areas including difficulties with self-worth and self-esteem, failure to develop a stable map of reality across interpersonal situations, inability to trust personal judgment, problems identifying inappropriate boundary violations, and

affect regulation difficulties leading to engagement in tension reducing behaviors, dissociation, using sex to cope with negative affect, and even disordered eating behaviors (Briere, 1996).

Impaired Self-Reference

Impaired self-reference, one mechanism relevant to interpersonal relationships, was originally proposed by Briere and Runtz (1993). This construct, broadly defined as difficulty in relating to an internal representation or model of self, was first documented in survivors of child sexual abuse and later observed in survivors of other forms of child maltreatment (Alexander, 1992; Briere & Elliott, 2003; Courtois, 1988; Elliott, 1994; Davis, Petretic-Jackson, & Ting, 2001; McCann & Pearlman, 1990; Putnam, 1990). As previously mentioned, this construct is based upon an individual's attachment experiences in childhood. According to Briere (1992b/1993/1996), when a child is confronted with maltreatment experiences, these external demands draw attention away from the internal process of developing the self in order to focus on survival and protection. In turn, many maltreated children are then unable to access this self in adulthood resulting in interferences with "whether or not he or she can refer to and operate from an internal awareness of personal existence that is relatively stable across contexts, experiences, and affects" (Briere & Runtz, 1993, p.323). In accordance with this theory, it is reasonable to assume that interferences related to the development of self, caused by child maltreatment, may adversely affect an individual's ability to access self-awareness in adulthood. Without this internal base, individuals may be prone to identity confusion, boundary issues, and feelings of personal emptiness leading to an inability to soothe and comfort oneself, difficulties in separating self from others, and impairment in abilities to critically evaluated actions or demands of others; thus leading to an increased likelihood of revictimization (Briere & Runtz, 1993).

Impaired Self-Reference as a Contributor to Revictimization

Within a broader context, constructs related to impaired self-reference have been examined as a significant contributor to the overall quality and functioning of adult intimate relationships among individuals who have experienced child abuse. Davis et al. (2001) explored the link between different types of child abuse severity (physical, sexual, and psychological), interpersonal functioning, and symptomology. The authors found that individuals who experienced any type of child abuse scored higher on impaired self-reference (ISR) than non-abused individuals. They also found that higher quality interpersonal relationships in adulthood were significantly negatively correlated with ISR scores, suggesting that ISR impacts the quality

of adult relationships. Focusing more specifically on interpersonal violence, elevations in ISR are associated with child sexual and physical abuse and adult sexual and physical violence within or outside of a relationship (Briere & Elliott, 2003; Myers, 2009), emotional abuse in childhood and adulthood (Myers, 2009), and have even been implicated as contributing factors to increasing risk for adult sexual victimization (Messman-Moore, Coates, Gaffey, & Johnson, 2008). Accordingly, researchers have begun to examine ISR, as well as other constructs related to disturbances of self, as possible contributors to revictimization. Within the revictimization literature the majority of work has focused on how disturbances of self, including ISR, play a role in the relationship between child sexual and physical abuse and sexual revictimization in adulthood (Chu, 1992; Cloitre, Cohen, & Scarvalone, 2002; Messman-Moore et al., 2005).

Study Purpose & Research Aims

Although researchers have begun to explore the impact of ISR on revictimization, there are still a number of gaps in the literature. First, none of the previous studies have examined ISR as a contributor to revictimization that occurs specifically in the context of an intimate relationship (i.e. intimate partner violence, IPV). As shown above, ISR seems to have a significant impact on survivors of child abuse, the quality of relationships, and risk for violence within or outside of a relationship in adulthood; therefore it seems plausible that ISR may significantly impact risk within an intimate relationship. Second, previous models examining disturbances of self have failed to include child emotional and physical neglect, or adult psychological abuse within or outside of a relationship. As childhood neglect has been implicated in increased risk for IPV in adulthood (Alexander, 2009), it is especially important to examine within a model of IPV revictimization. Additionally, previous literature has established that victims of violence often experience more than one type of violence during their lifetime, and may even experience multiple violent acts within the same context (Finkelhor, Ormrod, & Turner, 2007; Finkelhor, Ormrod, Turner, & Hamby, 2005; Turner, Finkelhor, & Ormrod, 2010). As such, it is also important to assess adult psychological abuse as one type of IPV victimization. In order to address the above current gaps within the literature, the primary aim of the current study was to examine impaired self-reference as an underlying mechanism of IPV revictimization. This will be accomplished by testing families of analyses that include all five types of child maltreatment (child emotional abuse, child physical abuse, child sexual abuse, child emotional neglect, and child physical neglect) and three types of minor and severe forms of

IPV (psychological aggression, physical assault, and sexual coercion). By investigating all possible combinations of child maltreatment and IPV victimization experiences, this study may provide insight into possible revictimization patterns.

Hypotheses

To examine this model, the author proposed two hypotheses: 1) There will be differential patterns in relationships between the five forms of child maltreatment and three forms of IPV; 2) ISR will mediate the relationship between these forms of child maltreatment and IPV victimization experiences.

Method

Participants

Data were utilized from a pre-existing dataset consisting of 546 undergraduate women recruited from the Introduction to Psychology subject pool at Miami University. Participants range in age from 17 to 23 years (M = 18.71, SD = 0.84). The sample was primarily European American (92.90%) and reported income indicative of middle to upper-middle class backgrounds (70.60% = income greater than or equal to $75K).

Procedure

Prior to data collection, the study was approved by the university's Institutional Review Board. All participants were recruited via an online service and received course credit upon completion. Prior to participation all participants completed informed consent. In addition to demographic information, the following measures were completed anonymously at a single time point with paper and pencil in group settings, where two female researchers oversaw groups of up to 30 women. Questionnaires within each packet were randomized to account for order effects. Additional measures were collected for other projects.

Materials

Trauma Symptom Inventory (TSI). The TSI (Briere, 1995) evaluates psychological and behavioral effects of traumatic events. The TSI consists of 100 items on a 4-point Likert scale, and includes 10 clinical scales. For the purposes of this study, only the ISR subscale was used as a continuous score. The subscale consists of nine questions that evaluate difficulties related to self and identity. Each participant is asked to indicate how often specific experiences have happened to them in the last six months on a scale from Never (0) to Often (3) with statements such as "feeling empty inside", "needing other people to tell you what to do", and "your feelings

or thoughts changing when you were with other people." The TSI has demonstrated good construct, convergent, and discriminant validity (Briere, 1995). In the current sample $\alpha = .84$ for the ISR subscale.

Childhood Trauma Questionnaire (CTQ). The CTQ (Bernstein & Fink, 1998) is a 28-item inventory that consists of five scales assessing five forms of childhood maltreatment including child emotional abuse (CEA), child physical abuse (CPA), child sexual abuse (CSA), child emotional neglect (CEN), and child physical neglect (CPN). Each scale consists of five items, and responses are made on a 5-point Likert-type scale ranging from (1) Never True to (5) Very Often True. Although respondents' scores can be classified into one of four categories of abuse severity based upon published recommendations, dichotomous scores that included low to extreme child maltreatment experiences were utilized for the present study, where 0 = scores indicating none or minimal maltreatment experiences, and 1 = scores indicating low to extreme maltreatment experiences for each type of child maltreatment. The CTQ has been shown to be internally consistent with a college student sample (Bernstein & Fink, 1998).

The Revised Conflict Tactics Scale (CTS2). The CTS2 (Straus, Hamby, McCoy, & Sugarman, 1996) is a 39 item self-report measure consisting of 5 subscales that assess minor and severe forms of three types of partner abuse (physical assault, psychological aggression, and sexual coercion) as well as injury (physical injury from assaults by a partner) and negotiation (actions taken to settle an agreement through discussion). Participants are asked to indicate on the Likert-type scale how frequently each tactic has occurred within their intimate relationship(s) since their 14th birthday. The scale ranges from 0 (This never happened to me) to 6 (This has happened more than 20 times since I turned 14). For the purposes of this study, only the three subscales for partner abuse (physical assault, psychological aggression, and sexual coercion) were used. These subscales were further broken into minor and severe dichotomous categories for a total of six IPV groups. IPV was present if individuals indicated that a minor or severe IPV act occurred one or more times while in an intimate relationship (i.e. 0 = never happened and 1 = happened one or more times). The following are examples of items that would qualify as minor or severe IPV instances: severe psychological aggression (e.g. "my partner threatened to hit or throw something at me"), minor psychological aggression (e.g. "my partner insulted or swore at me"), severe physical aggression (e.g. "my partner beat me up"), minor physical aggression (e.g. "my partner slapped me"), severe sexual coercion (e.g. "my partner used force (like hitting,

holding down, or using a weapon) to make me have sex"), and minor sexual coercion (e.g. "my partner insisted on sex when I did not want to (but did not use physical force)"). All of the CTS2 scales demonstrate good internal consistency ranging from .79 to .95 (Straus et al., 1996).

Results

In order to test the proposed mediation models, all child maltreatment variables (i.e. CSA, CPA, CEA, CPN, & CEN) as measured by the CTQ were computed as dichotomous scores. IPV variables (psychological aggression, physical assault, and sexual coercion) as measured by the CTS2 were broken into minor and severe dichotomous subgroups for analyses, generating a total of six dependent variables. The ISR variable was computed as a continuous variable. Analysis of skew and kurtosis for ISR indicated that skew and kurtosis fell within the acceptable range of ± 2 (Cameron, 2004).

Bivariate correlations among demographics variables, all five child maltreatment variables, ISR, and all six IPV variables were conducted to determine if any of the independent variables shared variance with the demographics variables when predicting the dependent variables (see Table 1). Results indicated that several demographics variables should be incorporated into the model as covariates including marital status, father's education, mother's education, and annual income.

A missing value analysis was conducted to determine the structure of the missing data. Little's MCAR test indicated that the data were missing at random (χ^2 (2, N = 546) = 1.118, p = .572). Further analyses of missingness revealed that 8.06% of cases were missing data. Multiple imputation according to Graham (2009)'s recommendations was utilized to account for biased parameter estimates due to missingness and to retain the overall structure of the data. All variables within the model were imputed including demographic variables, all five child maltreatment variables, ISR, and all six IPV variables. A total of 20 imputations were conducted according to Graham (2007)'s recommendations based on less than 10% of missing cases and a less than 1% power fall off. After imputation was conducted, imputed values were averaged in order to create variables for the Hayes Process Macro (Hayes, 2013). Variables for all five child maltreatment categories and all six IPV categories were then re-dichotomized in order to allow for appropriate interpretation of the results based on the proposed model.

Prevalence of Child Maltreatment and Adult IPV Victimization

Child maltreatment prevalence rates for the sample were generated from responses to the CTQ. Maltreatment was present if the participant reported low to severe levels of abuse and/or neglect (see Table 1). Prevalence rates for adult IPV were generated from responses to the CTS. IPV was present if individuals indicated that a minor or severe IPV act occurred one or more times while in an intimate relationship (see Table 1). In addition, data were examined to identify women who had experienced both child maltreatment and IPV victimization (i.e., revictimized groups). Chi square analyses revealed differential patterns for revictimized women (See Table 2).

Data Analyses

Five sets (families) of regression mediation analyses were conducted to examine whether ISR accounted for the relationship between the five types of child maltreatment and three types of minor and severe forms of IPV utilizing the PROCESS macro (Hayes, 2013; model 4) according to current standards within the literature (Hayes, 2009; Preacher & Hayes, 2004). Within each set, separate analyses were conducted for each of the three minor and severe subgroups of IPV victimization (psychological aggression, physical assault, and sexual coercion). A Bonferroni correction was applied to each set of analyses to control for family-wise alpha inflation, resulting in a significance value of $p < .01$.

Child Emotional Abuse. Six analyses were conducted examining whether ISR mediated the relationship between child emotional abuse (CEA) and each type of IPV. In four of the six models CEA indirectly influenced risk for IPV (severe psychological aggression, minor physical assault, severe sexual coercion, and minor sexual coercion) through its effect on ISR. Individuals who experienced CEA reported higher rates of ISR than those without CEA, and individuals with higher rates of ISR were at increased risk for victimization in the form of IPV severe psychological aggression (b path = .0863), IPV minor physical assault (b path = .0059), IPV severe sexual coercion (b path = .1213), and IPV minor sexual coercion (b path = .1027). Bias-corrected bootstrap confidence internals for the indirect effects (IPV severe psychological aggression: ab path = .2321; IPV minor physical assault: ab path = .1503; IPV severe sexual coercion: ab path = .3261; IPV minor sexual coercion: ab path = .2762) based on 10,000 bootstrap samples were entirely above zero, providing further evidence of mediation. There was no evidence that CEA influenced risk for these four types of IPV victimization independent of its effect on ISR.

There was one model suggesting both direct and indirect effects for the relationship between CEA and IPV minor psychological aggression. CEA indirectly influenced risk for IPV minor psychological aggression through its effect on ISR. Individuals who experienced CEA reported higher rates of ISR than those without CEA (a path = 2.6889), and individuals with higher rates of ISR were at increased risk for victimization in the form of IPV minor psychological aggression (b path = .0642). A bias corrected bootstrap confidence interval for the indirect effect (ab path = .1727) based on 10,000 bootstrap samples was entirely above zero, providing further evidence of mediation. There was also evidence that CEA influenced risk for IPV minor psychological aggression independent of its effect on ISR (c' path = 1.1208, p = .002).

In the last model of this family of analyses (CEA predicting IPV severe physical assault), the overall model was not significant. Although CEA significantly predicted ISR (a path = 2.6889, p <.001), neither indirect nor direct effects were present. For more information on any of these models please see Tables 4 through 6.

Child Physical Abuse. Six analyses were conducted examining whether ISR mediated the relationship between child physical abuse (CPA) and each type of IPV. In four of the six models CPA indirectly influenced risk for IPV (severe psychological aggression, minor psychological aggression, severe sexual coercion, and minor sexual coercion) through its effect on ISR. In contrast to the first family of analyses, the a path (CPA predicting ISR) was significant (a path = 2.3041) for all four of these models, however the overall model for the a path was not significant indicating that the variance accounted for by this model was small. Further examination revealed that the b paths were significant indicating that individuals with higher rates of ISR were at increased risk for victimization in the form of IPV severe psychological aggression (b path = .0879), minor psychological aggression (b path = .0754), severe sexual coercion (b path = .1242), and minor sexual coercion (b path = .1072). According to Hayes (2009; 2013) the patterns of significance or nonsignificance for individual paths are not pertinent to whether the indirect effects are significant in a mediation model. Therefore bias-corrected bootstrap confidence internals based on 10,000 bootstrap samples for the indirect effects were investigated and revealed that all four models contained confidence intervals entirely above zero (IPV severe psychological aggression: ab path = .2025, minor psychological aggression: ab path = .1738, severe sexual coercion: ab path = .2862, minor sexual coercion: ab

path = .2470), providing evidence of mediation. There was no evidence that CPA influenced risk for these four types of IPV victimization) independent of its effect on ISR.

There was one model suggesting both direct and indirect effects for the relationship between CPA and IPV minor physical assault. CPA indirectly influenced risk for IPV minor physical assault through its effect on ISR. Similar to the above models, the a path between CPA and ISR was significant (a path = 2.6889), however the model for the a path was not significant indicating that the variance accounted for by this model was small. The b path was significant indicating that individuals with higher rates of ISR were at increased risk for victimization in the form of IPV minor physical assault (b path = .0567). Examination of a bias corrected bootstrap confidence interval for the indirect effect (ab path = .1307) based on 10,000 bootstrap samples revealed that it was entirely above zero, providing evidence of mediation. There was also evidence that CPA influenced risk for IPV minor physical assault independent of its effect on ISR (c' path = 1.4929, $p < .001$).

In the last model of this family of analyses (CPA predicting IPV severe physical assault), the overall model was not significant. The a path was once again significant (a path = 2.6889, $p = .009$), however the overall model for this path was not. There were neither indirect nor direct effects present. For more information on any of these models please see Tables 7 through 9.

Child Sexual Abuse. Six analyses were conducted examining whether ISR mediated the relationship between child sexual abuse (CSA) and each type of IPV. In four of the six models CSA indirectly influenced risk for IPV (severe psychological aggression, minor psychological aggression, severe sexual coercion, and minor sexual coercion) through its effect on ISR. Neither the a path (CSA predicting ISR; a path = 2.2380, $p = .0185$) nor the overall model for the a path was significant for any of these models, however the b paths were significant indicating that individuals with higher rates of ISR were at increased risk for victimization in the form of IPV severe psychological aggression (b path = .0948), minor psychological aggression (b path = .0788), severe sexual coercion (b path = .1284), and minor sexual coercion (b path = .1084). In accordance with Hayes (2009;2013) recommendations, further examination revealed that bias-corrected bootstrap confidence internals based on 10,000 bootstrap samples for the indirect effects contained confidence intervals entirely above zero (IPV severe psychological aggression: ab path = .2122, minor psychological aggression: ab path = .1764, severe sexual coercion: ab path = .2873, and minor sexual coercion: ab path = .2426), providing evidence of mediation.

There was no evidence that CSA influenced risk for these four types of IPV victimization independent of its effect on ISR.

There was one model suggesting both direct and indirect effects for the relationship between CSA and IPV minor physical assault. CSA indirectly influenced risk for IPV minor physical assault through its effect on ISR. Similar to the above models, neither the a path (a path = 2.2380, p = .0185) between CSA and ISR nor the overall model for the a path were significant, however the b path was significant indicating that individuals with higher rates of ISR were at increased risk for victimization in the form of IPV minor physical assault (b path = .0594). A bias corrected bootstrap confidence interval for the indirect effect based on 10,000 bootstrap samples was entirely above zero (ab path = .1330), providing evidence of mediation. There was also evidence that CSA influenced risk for IPV minor physical assault independent of its effect on ISR (c' path = .9640, $p < .01$).

In the last model of this family of analyses (CSA predicting IPV severe physical assault), the overall model was not significant. Neither the a path (CSA predicting ISR; a path = 2.2380) nor the overall model for the a path were significant, and neither indirect nor direct effects were present. For more information on any of these models please see Tables 7 through 9.

Child Emotional Neglect. Six analyses were conducted examining whether ISR mediated the relationship between child emotional neglect (CEN) and each type of IPV. In four of the six models CEN indirectly influenced risk for IPV (severe psychological aggression, minor psychological aggression, minor physical assault, and minor sexual coercion through its effect on ISR. Individuals who experienced CEN reported higher rates of ISR than those without CEN (a path = 2.5830), and individuals with higher rates of ISR were at increased risk for victimization in the form of IPV severe psychological aggression (b path = .0901), minor psychological aggression (b path = .0705), minor physical assault (b path = .0646), and minor sexual coercion (b path = .1021). Bias-corrected bootstrap confidence internals based on 10,000 bootstrap samples for the indirect effects were investigated and revealed that all four models contained confidence intervals entirely above zero (IPV severe psychological aggression: ab path = .2328, minor psychological aggression: ab path = .1821, minor physical assault: ab path = .1668, minor sexual coercion: ab path = .2637), providing further evidence of mediation. There was no evidence that CEN influenced risk for these four types of IPV victimization independent of its effect on ISR.

There was one model suggesting both direct and indirect effects for relationship between CEN and IPV severe sexual coercion. CEN indirectly influenced risk for IPV severe sexual coercion through its effect on ISR. A bias corrected bootstrap confidence interval for the indirect effect (ab path = .3030) based on 10,000 bootstrap samples was entirely above zero providing further evidence of mediation. There was also evidence that CEN may influence risk for IPV severe sexual coercion independent of its effect on ISR, as c' trended towards significance (c' path = .9356, p =.012).

In the last model of this family of analyses (CEN predicting IPV severe physical assault), the a path between CEN and ISR was significant (a path = 2.5830) indicating that individuals who experienced CEN reported higher rates of ISR than those without CEN, however the b path was not significant (b path = .0566). A bias-corrected bootstrap confidence internal based on 10,000 bootstrap samples for the indirect effects were investigated and revealed the model contained a confidence interval entirely above zero (ab path = .1461), providing evidence of mediation. There was no evidence that CEN influenced risk for IPV severe physical assault indecent of its effect on ISR. For more information on any of these models please see Tables 10 through 12.

Child Physical Neglect. Six analyses were conducted examining whether ISR mediated the relationship between child physical neglect (CPN) and each type of IPV. In five of the six models CPN indirectly influenced risk for IPV (severe psychological aggression, minor psychological aggression, minor physical assault, severe sexual coercion, and minor sexual coercion through its effect on ISR. Similar to the second family of analyses, the a path (CPN predicting ISR) was significant (a path = 2.5185, p = .002) for all five of these models, however the overall model for the a path was not significant indicating that the variance accounted for by this model was also small. Further examination revealed that the b paths were significant indicating that individuals with higher rates of ISR were at increased risk for victimization in the form of IPV severe psychological aggression (b path = .0954), minor psychological aggression (b path = .0761), minor physical assault (b path = .0587), severe sexual coercion (b path = .1254), and minor sexual coercion (b path = .1046). Once again, in accordance with Hayes (2009; 2013) bias-corrected bootstrap confidence internals based on 10,000 bootstrap samples for the indirect effects were investigated and revealed that all five models contained confidence intervals entirely above zero (IPV severe psychological aggression: ab path = .2404, minor

psychological aggression: ab path = .1916, minor physical assault: ab path = .1478, severe sexual coercion: ab path = .3159, and minor sexual coercion: ab path = .2634), providing evidence of mediation. There was no evidence that CPN influenced risk for these five types of IPV victimization independent of its effect on ISR.

In the last model of this family of analyses (CPN predicting IPV severe physical assault), the overall model was not significant. Once again, the a path was significant (a path = 2.5185, p = .002), however the overall model for the a path was not significant. Additionally, neither indirect nor direct effects were present. For more information on any of these models please see Tables 13 through 15.

Discussion

Results from this study highlight the importance of examining impaired self-reference when studying mechanisms of IPV revictimization. Briere (1993) posited that interruption of normal childhood development, caused by trauma, draws attention away from the internal process of developing the self in order to focus on survival and protection, thus leading to impaired self-functions. In turn, many maltreated children are then unable to access this self in adulthood resulting in an inability to detect boundary violations and reject coercive and or abuse situations; consequentially resulting in increased vulnerability for revictimization in adulthood (Briere, 1993). Results from this study supported this hypothesis, as impaired self-reference consistently mediated the relationship between all five forms of child maltreatment (i.e., child emotional abuse, child physical abuse, child sexual abuse, child emotional neglect, and child physical neglect) and minor and severe forms of IPV victimization (psychological aggression, physical assault, and sexual coercion), with the exception of IPV severe physical assault. Additionally, the lack of consistent direct effects between child maltreatment and IPV victimization experiences provide further support for the importance of examining impaired self-reference as a mechanism. Although this is the first study to examine impaired self-reference as a mediator between child maltreatment and IPV revictimization, findings support previous research examining the impact of impairments in self on various forms of child abuse and adult interpersonal violence (Briere & Elliott, 2003; Messman-Moore, Coates, Gaffey, & Johnson, 2008; Myers, 2009), and further extend the literature by specifically examining IPV revictimization.

In addition to the importance of investigating impaired self-reference, results highlighted differential patterns of revictimization within each set of analyses. Earlier research within the field of revictimization assumed a "matching" between child maltreatment experiences and adult victimization (e.g., CSA would predict adult rape; Lindhorst et al., 2009; Messman & Long, 1996; White & Widom, 2006). However, results from this study demonstrate that the relationships between child maltreatment and IPV victimization experiences are much more complex. For instance, in the family of analyses containing child emotional abuse as a predictor, IPV minor psychological aggression was the only model that contained both direct and indirect effects. In contrast, IPV severe sexual coercion was the only model that revealed both direct (trending) and indirect effects for the family of analyses containing child emotional neglect as a predictor. For the family of analyses containing child physical abuse as a predictor, IPV minor physical assault was the only model that contained both direct and indirect effects. However none of the models containing child physical neglect as a predictor contained any direct effects. These differences in revictimization patterns suggest that not only do abuse and neglect experiences have differential impacts, but also that differences exist when predicting minor and severe IPV revictimization in adulthood. Although this is the first study that the authors are aware of that contain all five types of child maltreatment and minor and severe forms of three types of adult IPV victimization experiences, these results support previous IPV revictimization research that have examined various forms of child abuse and neglect experiences and their relationship with IPV victimization (Gratz, Paulson, Jakupcak, & Tull, 2009; Irwin, 1999; Lang, Stein, Kennedy, & Foy, 2004; Patel, Bhaju, Thompson, & Kaslow, 2011; Renner & Slack, 2006; White & Widom, 2003).

There were also some similarities between families of analyses. Interestingly, results from all five families of analyses (i.e. all five forms of child maltreatment) revealed that the models accounting for the most amount of variance, via indirect effects, were those predicting minor and severe sexual coercion IPV (Nagelkerke R^2 ranged from .11 to .14). Sexual experiences within an intimate partner relationship may be more difficult to navigate, as opposed to situations that include emotionally or physically abusive incidents. This may be attributable to the fact that women are exposed to a society that condones rape culture from a very young age. Within this culture they receive messages regarding their "duty" as women within intimate relationships (i.e. gender stereotypes), that sex is a measurement tool for a woman's self-worth,

and other myths related to the power and oppression of women. In combination with child maltreatment experiences and impairments in self, these messages may cause significant confusion and difficulty when confronted with unwanted sexual experiences within an intimate relationship. As a result women may feel unable to accurately detect and reject unwanted experiences, resulting in increased risk for IPV revictimization, especially in the form of minor and severe sexual coercion.

Interestingly, only one form of child maltreatment, child emotional neglect, predicted severe physical IPV. One possible explanation for this finding may be that other variables, not included within this study, are better predictors of this particular form of IPV victimization. Individuals who are raised within emotionally neglectful environments often feel unsupported, have very few if any close trustworthy relationships, and express feeling unloved by their caregivers. As the development of self is significantly based on the *relationships* between the child and their caregivers, emotional neglect may result in significant impairments in the development of the self, leading to particular difficulty with referring back to previous experiences for guidance in current distressing situations. Within a violently intimate relationship, especially in the form of severe physical assault, the survivor's inability to reject coercive or abusive situations may translate into feelings of self-blame, as they may equate current abuse and lack of previous emotional support as a sign of their worthlessness. Indeed, previous research has established that child emotional neglect can lead to many deleterious outcomes such as depression, which includes feelings of worthlessness and self-blame (Norman, Byambaa, De, Butchart, Scott, & Vos, 2012). Future research should investigate other variables such as depression, worthlessness, and self-blame as possible mechanisms underlying IPV severe physical assault revictimization.

Although these novel findings contribute to our understanding of IPV revictimization, we must temper our conclusions by considering both strengths and limitations of the current study. Due to resources available and the nature of the topic, results from this study were both retrospective and correlational thereby restricting the ability to infer causal relationships between the variables observed. This choice in design also allows for the possibility that IPV victimization experiences caused elevations in impaired self-reference (ISR), rather than the suggested temporal relationship between child maltreatment and ISR, as individuals reported on current levels of ISR and understandings of past child maltreatment and IPV victimization

experiences. Further, child maltreatment experiences were assessed by a screener and were categorized into dichotomous groups. More in-depth measurements may provide detailed information about who the perpetrator was, how many times the maltreatment occurred, and the severity of the experiences. One final limitation is the lack of diversity in the current sample. All participants were women, ages 17 to 23 years, from a predominantly affluent Caucasian population. Although the sample was not nationally representative, evidence of IPV revictimization within a high functioning college population suggests that this may be a particularly important topic to investigate within the general population. Nevertheless, this study provided preliminary evidence for the importance of investigating impaired self-reference as a mechanism and revealed differential patterns between child maltreatment and IPV victimization experiences. Future studies investigating detailed information about these experiences may illuminate more nuanced patterns and effects between impairments in self, child maltreatment experiences, and minor and severe forms of IPV victimization. Additionally, future research should also focus on replicating these findings within other samples and extending this work to include causal evidence for impairments in the self as a mechanism for increasing risk for IPV victimization in survivors of child maltreatment.

In addition to the above limitations, the study also contains a number of strengths. Previous models examining disturbances in self have failed to include child emotional and physical neglect, and adult psychological abuse within or outside of a relationship. As childhood neglect has been implicated in increasing risk for IPV victimization (Alexander, 2009), it is especially important to examine. Additionally, previous literature has established that victims often experience more than one type of violence (Finkelhor, Ormrod, & Turner, 2007; Finkelhor, Ormrod, Turner, & Hamby, 2005; Turner, Finkelhor, & Ormrod, 2010). Therefore, inclusion of adult psychological abuse as one type of IPV victimization is particularly important. As far as the authors are aware this study is the first to investigate all five forms of child maltreatment (emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect) and three types of minor and severe IPV victimization (psychological aggression, physical assault, and sexual coercion). Investigation of the relationships between these different forms of child maltreatment and IPV victimization revealed differential patterns, suggesting that these relationships may be more complex than previously thought. As previously mentioned, prior studies have investigated the impact of impairments in self on the relationship between child

abuse and neglect experiences and adult interpersonal violence (Gratz, Paulson, Jakupcak, & Tull, 2009; Irwin, 1999; Lang, Stein, Kennedy, & Foy, 2004; Patel, Bhaju, Thompson, & Kaslow, 2011; Renner & Slack, 2006; White & Widom, 2003). However, this is the first study to specifically examine impaired self-reference as a mechanism in explaining the relationship between child maltreatment and *intimate partner violence* revictimization. Examination of impaired self-reference is particularly important within the context of an intimate relationship, as awareness and understanding of the self strongly influences an individual's ability to effectively manage interpersonal situations (Learner, Easterbrooks, Mistry, & Weiner, 2013, p.243-264).

Søren Aabye Kierkegaard, a 19th century philosopher and theologian, once stated that the greatest hazard of all was losing one's self (Kierkegaard, 2008). Children who are victims of maltreatment are unfairly subjected to traumatic experiences that interrupt their normal childhood development. These disruptions may draw attention away from the internal process of developing the self, which in turn leads to difficulty accessing the self in adulthood (Briere, 1993). As demonstrated by this study, impairments of self in survivors of child maltreatment may increase risk for revictimization in the form of IPV. Future research and interventions focusing on impairments in self within these populations may be able to target specific aspects of the self in order to reduce the risk for victimization in the future.

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Table 1

Prevalence rates for Child Maltreatment and Minor and Severe IPV

Type of Child Maltreatment	*N*	Prevalence %	Type of minor/severe IPV	*N*	Prevalence %
Child Emotional Abuse	116	22.1	Severe Psychological Aggression	100	19.9
Child Physical Abuse	41	7.8	Minor Psychological Aggression	422	78.9
Child Sexual Abuse	34	6.5	Severe Physical Assault	51	9.6
Child Emotional Neglect	89	17.0	Minor Physical Assault	152	28.3
Child Physical Neglect	52	9.9	Severe Sexual Coercion	40	7.5
			Minor Sexual Coercion	200	37.7

Table 2

Correlations of Predictor and Outcome Variables

Measure	*M*	*SD*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.CEA	.23	.42	--	0.358**	0.177**	0.530**	0.361**	0.248**	0.160**	0.167**	0.066	0.141**	0.138**	0.129**
2.CPA	.08	.27		--	0.125**	0.284**	0.355**	0.115**	0.157**	0.062	0.132**	0.230**	0.088*	0.066
3.CSA	.06	.24			--	0.118**	0.146**	0.093*	0.011	-0.045	0.085	0.120**	0.054	0.022
4.CEN	.17	.38				--	0.394**	0.227**	0.081	0.122**	-0.020	0.034	0.172**	0.184**
5.CPN	.10	.29					--	0.128**	0.025	0.048	0.070	0.127**	0.080	0.110*
6.ISR	0	5.38						--	0.208**	0.143**	0.079	0.156**	0.215**	0.271**
7.IPV Sev Psyc	.19	.40							--	0.268**	0.441**	0.442**	0.287**	0.283**
8.IPV Min Psyc	.79	.41								--	0.138**	0.285**	0.113**	0.278**
9.IPV Sev Phy	.09	.29									--	0.374**	0.222**	0.209**
10.IPV Min Phy	.28	.45										--	0.167**	0.255**
11.IPV Sev Sex	.07	.26											--	0.317**
12.IPV Min Sex	.38	.49												--

Table 3

Chi-Square analyses to determine revictimization patterns of child maltreatment and minor and severe forms of IPV

	Endorsed IPV		χ^2 (df =1)	Φ		Endorsed IPV		χ^2 (df = 1)	Φ
	Yes %/ (Res)	No %/ (Res)				Yes % / (Res)	No % / (Res)		
CEA (BR =22%)			N=546		CEA (BR = 22%)			N=546	
IPV Sev Psyc	32%/ (2.8)	16%/ (-1.5)	12.39**	.16	IPV Min Psyc	91%/ (1.6)	75% / (-.8)	14.32**	.17
IPV Sev Phy	13.2%/ (1.3)	9%/ (-.7)	2.26	.07	IPV Min Phy	41%/ (2.4)	25% / (-1.3)	10.40**	.14
IPV Sev Sex	14.2%/ (2.7)	6%/ (-1.4)	9.79*	.14	IPV Min Sex	50%/ (2.0)	34% / (-1.1)	8.60*	.13
CPA (BR = 8%)			N=546		CPA (BR = 8%)			N=546	
IPV Sev Psyc.	42%/ (3.0)	18%/ (-.8)	11.97**	.16	IPV Min Psyc	87%/ (.6)	78%/ (-.2)	1.96	.06
IPV Sev Phy	23%/ (2.7)	8%/ (-.2)	8.98*	.13	IPV Min Phy	65%/ (4.2)	26%/ (-1.2)	27.48**	.23
IPV Sev Sex	15%/ (1.8)	6.7%/ (-.5)	3.96	.08	IPV Min Sex	49%/ (1.1)	37%/ (-.3)	2.21	.07
CSA (BR = 6%)			N=546		CSA (BR = 6%)			N=546	
IPV Sev Psyc	21%/ (.2)	20%/ (-.1)	.06	.01	IPV Min Psyc	71%/ (-.5)	79%/ (.1)	1.06	-.05
IPV Sev Phy	19%/ (1.8)	9%/ (-.4)	3.71	.09	IPV Min Phy	50%/ (2.2)	28%/ (-.6)	7.43*	.12
IPV Sev Sex	13%/ (1.1)	7%/ (-.3)	1.48	.05	IPV Min Sex	42%/ (.4)	38%/ (-.1)	.247	.02
CEN (BR = 17%)			N=546		CEN (BR = 17%)			N=546	
IPV Sev Psyc	27%/ (1.5)	18%/ (-.6)	3.18	.08	IPV Min Psyc	90%/ (1.2)	76%/ (-.5)	7.67*	.12
IPV Sev Phy	8%/ (-.4)	10%/ (.2)	.20	-.02	IPV Min Phy	32%/ (.6)	28%/ (-.3)	.597	.03
IPV Sev Sex	17%/ (3.4)	5%/ (-1.5)	15.30**	.17	IPV Min Sex	58%/ (3.0)	34%/ (-1.3)	17.41**	.18
CPN (BR = 10%)			N=546		CSA (BR = 40%)				
IPV Sev Psyc	23%/ (.5)	19%/ (-.1)	.295	.03	IPV Min Psyc	84%/ (.5)	78%/ (-.2)	1.21	.05
IPV Sev Phy	16%/ (1.4)	9%/ (-.5)	2.50	.07	IPV Min Phy	16%/ (2.3)	27%/ (-.8)	8.37*	.13
IPV Sev Sex	14%/ (1.7)	7%/ (-.6)	3.34	.08	IPV Min Sex	14%/ (1.9)	36%/ (-.6)	6.17*	.11

Table 4

Child Emotional Abuse Models for IPV Psychological Aggression

Consequent								
		M (ISR)				Y (IPV Severe Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEA)	*a*	2.689	.540	.000	*c'*	.444	.252	.078
M(ISR)		--	--	--	*b*	.086	.021	.000
Constant	i_1	.645	1.117	.564	i_2	-1.613	.599	.007

R^2 = .049 Nagelkerke = .087

F(5,540) = 5.600, p < .001 -2LL = 506.827, Model LL = 30.622

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.444	1.765	.078	.252	-.0491	.9366
Indirect (*ab*)	.232	--	--	.076	.1108	.4077

Consequent								
		M (ISR)				Y (IPV Minor Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEA)	*a*	2.689	.540	.000	c'	1.121	.357	.002
M(ISR)		--	--	--	*b*	.064	.023	.005
Constant	i_1	.645	1.117	.564	i_2	.256	.660	.698

R^2 = .049 Nagelkerke = .108

F(5,540) = 5.600, p < .001 -2LL = 517.633, Model LL = 39.178

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	1.121	3.144	.002	.357	.4420	1.8196
Indirect	.173	--	--	.077	.0495	.3514

Table 5

Child Emotional Abuse Models for IPV Physical Assault

Consequent								
		M (ISR)				Y (IPV Severe Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEA)	*a*	2.689	.540	.000	*c'*	.325	.339	.338
M(ISR)		--	--	--	*b*	.043	.028	.116
Constant	i_1	.645	1.117	.564	i_2	-3.728	.657	.000

R^2 = .049 Nagelkerke = .0375

F(5,540) = 5.600, p < .001 -2LL = 329.341, Model LL = 9.561

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.325	.958	.338	.339	-.3395	.9891
Indirect (*ab*)	.116	--	--	.087	-.0356	.3114

Consequent								
		M (ISR)				Y (IPV Minor Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEA)	*a*	2.689	.540	.000	*c'*	.455	.226	.044
M(ISR)		--	--	--	*b*	.056	.018	.002
Constant	i_1	.645	1.117	.564	i_2	-1.870	.483	.000

R^2 = .049 Nagelkerke = .065

F(5,540) = 5.600, p < .001 -2LL = 626.186, Model LL = 25.283

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.455	2.014	.044	.226	.0123	.8980
Indirect	.150	--	--	.059	.0541	.2847

Table 6
Child Emotional Abuse Models for IPV Sexual Coercion

Consequent								
		M (ISR)				Y (IPV Severe Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEA)	*a*	2.689	.540	.000	*c'*	.617	.364	.090
M(ISR)		--	--	--	*b*	.121	.030	.000
Constant	i_1	.645	1.117	.564	i_2	-2.240	.911	.014
R^2 = .049					Nagelkerke = .123			
F(5,540) = 5.600, p < .001					-2LL = 257.99, Model LL = 28.103			
Direct & Indirect Effects								
	Effect	Z	P	SE	LLCI	ULCI		
Direct	.617	1.696	.090	.364	-.0960	1.3297		
Indirect (*ab*)	.326	--	--	.118	.1338	.6017		
Consequent								
		M (ISR)				Y (IPV Minor Sexual. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEA)	*a*	2.689	.540	.000	*c'*	.290	.222	.193
M(ISR)		--	--	--	*b*	.103	.018	.000
Constant	i_1	.645	1.117	.564	i_2	-.743	.473	.117
R^2 = .049					Nagelkerke = .124			
F(5,540) = 5.600, p < .001					-2LL = 671.807, Model LL = 51.885			
Direct & Indirect Effects								
	Effect	Z	P	SE	LLCI	ULCI		
Direct	.290	1.303	.193	.222	-.1456	.7233		
Indirect	.276	--	--	.077	.1460	.4414		

Table 7

Child Physical Abuse Models for IPV Psychological Aggression

Consequent								
		M (ISR)				Y (IPV Severe Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPA)	*a*	2.304	.876	.009	*c'*	.885	.371	.017
M(ISR)		--	--	--	*b*	.088	.020	.000
Constant	i_1	1.564	1.139	.170	i_2	-1.332	.605	.028

R^2 = .018 Nagelkerke = .094

F(5,540) = 2.012, p = .075 -2LL = 504.487, Model LL = 32.963

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.885	2.384	.017	.371	.1573	1.6122
Indirect (*ab*)	.203	--	--	.115	.0250	.4817

Consequent								
		M (ISR)				Y (IPV Minor Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPA)	*a*	2.304	.876	.009	*c'*	.354	.506	.485
M(ISR)		--	--	--	*b*	.075	.023	.001
Constant	i_1	1.564	1.139	.170	i_2	.484	.660	.464

R^2 = .018 Nagelkerke = .077

F(5,540) = 2.012, p = .075 -2LL = 529.250, Model LL = 27.561

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.354	.699	.002	.506	-.6380	1.3450
Indirect	.174	--	--	.101	.0232	.4276

Table 8

Child Physical Abuse Models for IPV Physical Assault

Consequent								
		M (ISR)				Y (IPV Severe Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPA)	*a*	2.304	.876	.009	*c'*	.789	.439	.072
M(ISR)		--	--	--	*b*	.042	.027	.116
Constant	i_1	1.564	1.139	.170	i_2	-3.481	.661	.000

R^2 = .018 Nagelkerke = .046

F(5,540) = 2.012, p = .075 -2LL = 327.298, Model LL = 11.604

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.444	1.765	.078	.252	-.0491	.9366
Indirect (*ab*)	.232	--	--	.076	.1108	.4077

Consequent								
		M (ISR)				Y (IPV Minor Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPA)	*a*	2.304	.876	.009	*c'*	1.493	.355	.000
M(ISR)		--	--	--	*b*	.057	.019	.002
Constant	i_1	1.564	1.139	.170	i_2	-1.501	.498	.003

R^2 = .018 Nagelkerke = .101

F(5,540) = 2.012, p = .075 -2LL = 611.743, Model LL = 39.725

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	1.493	4.208	.000	.355	.7975	2.1883
Indirect	.131	--	--	.077	.0192	.3274

Table 9

Child Physical Abuse Models for IPV Sexual Coercion

Consequent								
		M (ISR)				Y (IPV Severe Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPA)	*a*	2.304	.876	.009	*c'*	.712	.535	.183
M(ISR)		--	--	--	*b*	.124	.030	.000
Constant	i_1	1.564	1.139	.170	i_2	-1.916	.915	.036

R^2 = .018 Nagelkerke = .118

F(5,540) = 2.012, p = .075 -2LL = 259.135, Model LL = 26.960

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.712	1.331	.183	.535	-.3363	1.7604
Indirect (*ab*)	.286	--	--	.163	.0327	.6780

Consequent								
		M (ISR)				Y (IPV Minor Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPA)	*a*	2.304	.876	.009	*c'*	-.006	.360	.987
M(ISR)		--	--	--	*b*	.107	.018	.000
Constant	i_1	1.564	1.139	.170	i_2	-.692	.476	.146

R^2 = .018 Nagelkerke = .120

F(5,540) = 2.012, p = .075 -2LL = 673.492, Model LL = 50.200

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.006	-.016	.987	.360	-.7114	.7001
Indirect	.247	--	--	.123	.0325	.5256

Table 10

Child Sexual Abuse Models for IPV Psychological Aggression

Consequent								
		M (ISR)				Y (IPV Severe Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CSA)	*a*	2.238	.947	.019	*c'*	-.208	466	.656
M(ISR)		--	--	--	*b*	.095	.020	.000
Constant	i_1	1.153	1.131	.309	i_2	-1.528	.598	.011

R^2 = .016 Nagelkerke = .079

F(5,540) = 1.742, p = .123 -2LL = 509.650, Model LL = 27.799

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.208	-.446	.656	.466	-1.1219	.7059
Indirect (*ab*)	.212	--	--	.118	.0220	.4940

Consequent								
		M (ISR)				Y (IPV Minor Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CSA)	*a*	2.238	.947	.019	*c'*	-.589	.424	.165
M(ISR)		--	--	--	*b*	.079	.023	.001
Constant	i_1	1.153	1.131	.309	i_2	.452	.658	.492

R^2 = .016 Nagelkerke = .081

F(5,540) = 1.742, p = .123 -2LL = 527.971, Model LL = 28.841

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.589	-1.389	.165	.424	-1.4190	.2420
Indirect	.176	--	--	.112	.0130	.0130

Table 11

Child Sexual Abuse Models for IPV Physical Assault

Consequent								
		M (ISR)				Y (IPV Severe Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CSA)	*a*	2.238	.947		*c'*	.627	.491	.201
M(ISR)		--	--	--	*b*	.045	.027	.096
Constant	i_1	1.153	1.131		i_2	-3.684	.657	.000

R^2 = .016 Nagelkerke = .040

F(5,540) = 1.742, p = .123 -2LL = 328.760, Model LL = 10.142

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.627	1.278	.201	.491	-.3347	1.5885
Indirect (*ab*)	.100	--	--	.090	-.0120	.3648

Consequent								
		M (ISR)				Y (IPV Minor Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CSA)	*a*	2.238	.947		*c'*	.964	.370	.009
M(ISR)		--	--	--	*b*	.059	.018	.001
Constant	i_1	1.153	1.131		i_2	-1.801	.482	.000

R^2 = .016 Nagelkerke = .072

F(5,540) = 1.742, p = .123 -2LL = 623.478, Model LL = 27.991

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.964	2.608	.009	.370	.2395	1.6884
Indirect	.133	--	--	.086	.0138	.3609

Table 12

Child Sexual Abuse Models for IPV Sexual Coercion

Consequent								
		M (ISR)				Y (IPV Severe Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CSA)	*a*	2.238	.947		*c'*	.356	.603	.555
M(ISR)		--	--	--	*b*	.128	.030	.000
Constant	i_1	1.153	1.131		i_2	-2.064	.909	.023

R^2 = .016 Nagelkerke = .113

F(5,540) = 1.742, p = .123 -2LL = 260.428, Model LL = 25.667

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.356	.590	.555	.603	-.8256	1.5370
Indirect (*ab*)	.287	--	--	.165	.0261	.6888

Consequent								
		M (ISR)				Y (IPV Minor Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CSA)	*a*	2.238	.947	.019	*c'*	-.281	.396	.478
M(ISR)		--	--	--	*b*	.108	.018	.000
Constant	i_1	1.153	1.131	.309	i_2	-.690	.472	.144

R^2 = .016 Nagelkerke = .121

F(5,540) = 1.742, p = .123 -2LL = 672.980, Model LL = 50.712

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.281	-.709	.478	.396	-1.0559	.4949
Indirect	.243	--	--	.133	.0149	.5461

Table 13

Child Emotional Neglect Models for IPV Psychological Aggression

Consequent								
		M (ISR)				Y (IPV Severe Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEN)	*a*	2.583	.598	.000	*c'*	.248	.280	.376
M(ISR)		--	--	--	*b*	.090	.021	.000
Constant	i_1	.732	1.123	.515	i_2	-1.572	.598	.009

R^2 = .039 Nagelkerke = .081

F(5,540) = 4.374, p < .001 -2LL = 509.089, Model LL = 28.361

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.248	.886	.376	.280	-.3011	.7972
Indirect (*ab*)	.233	--	--	.085	.0981	.4300

Consequent								
		M (ISR)				Y (IPV Minor Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEN)	*a*	2.583	.598	.000	*c'*	.708	.361	.050
M(ISR)		--	--	--	*b*	.071	.023	.002
Constant	i_1	.732	1.123	.515	i_2	.334	.662	.614

R^2 = .039 Nagelkerke = .087

F(5,540) = 4.374, p < .001 -2LL = 525.428, Model LL = 31.384

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.708	1.959	.050	.361	-.0005	1.4157
Indirect	.182	--	--	.080	.0596	.3750

Table 14

Child Emotional Neglect Models for IPV Physical Assault

Consequent								
		M (ISR)				Y (IPV Severe Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEN)	*a*	2.583	.598	.000	*c'*	-.554	.443	.211
M(ISR)		--	--	--	*b*	.057	.027	.039
Constant	i_1	.732	1.123	.515	i_2	-3.639	.664	.000

R^2 = .039 Nagelkerke = .087

F(5,540) = 4.374, p < .001 -2LL = 506.827, Model LL = 30.622

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.554	-1.252	.211	.443	-1.4221	-1.4221
Indirect (*ab*)	.146	--	--	.087	.0032	.3465

Consequent								
		M (ISR)				Y (IPV Minor Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEN)	*a*	2.583	.598	.000	*c'*	-.088	.260	.735
M(ISR)		--	--	--	*b*	.065	.018	.000
Constant	i_1	.732	1.123	.515	i_2	-1.770	.481	.000

R^2 = .039 Nagelkerke = .055

F(5,540) = 4.374, p < .001 -2LL = 630.048, Model LL = 21.421

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.088	-.339	.735	.260	-.5986	.4220
Indirect	.167	--	--	.064	.0648	.3203

Table 15

Child Emotional Neglect Models for IPV Sexual Coercion

		Consequent						
		M (ISR)				Y (IPV Severe Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEN)	*a*	2.583	.598	.000	*c'*	.936	.373	.012
M(ISR)		--	--	--	*b*	.117	.030	.000
Constant	i_1	.732	1.123	.515	i_2	-2.375	.909	.009

R^2 = .039 Nagelkerke = .136

F(5,540) = 4.374, p < .001 -2LL = 254.879, Model LL = 31.215

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.936	2.510	.012	.373	.2049	1.6662
Indirect (*ab*)	.303	--	--	.129	.1072	.6041

		Consequent						
		M (ISR)				Y (IPV Minor Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CEN)	*a*	2.583	.598	.000	*c'*	.427	.244	.080
M(ISR)		--	--	--	*b*	.102	.018	.000
Constant	i_1	.732	1.123	.515	i_2	-.766	.473	.106

R^2 = .039 Nagelkerke = .127

F(5,540) = 4.374, p < .001 -2LL = 670.454, Model LL = 53.238

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.427	1.750	.080	.244	-.0513	.9053
Indirect	.264	--	--	.083	.1249	.4484

Table 16

Child Physical Neglect Models for IPV Psychological Aggression

Consequent								
		M (ISR)				Y (IPV Severe Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPN)	*a*	2.519	.785	.001	*c'*	-.209	.384	.587
M(ISR)		--	--	--	*b*	.095	.021	.000
Constant	i_1	1.148	1.127	.308	i_2	-1.524	.599	.011

R^2 = .024 Nagelkerke = .080

F(5,540) = 2.693, p =.020 -2LL = 509.553, Model LL = 27.897

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	-.209	-.543	.587	.384	-.9619	.5447
Indirect (*ab*)	.240	--	--	.105	.0716	.4797

Consequent								
		M (ISR)				Y (IPV Minor Psych. Agg.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPN)	*a*	2.519	.785	.001	*c'*	.049	.415	.906
M(ISR)		--	--	--	*b*	.076	.023	.001
Constant	i_1	1.148	1.127	.308	i_2	.442	.656	.501

R^2 = .024 Nagelkerke = .076

F(5,540) = 2.693, p =.020 -2LL = 529.759, Model LL = 27.053

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.049	.118	.906	.415	-.7641	.8616
Indirect	.192	--	--	.092	.0538	.4260

Table 17

Child Physical Neglect Models for IPV Physical Assault

Consequent								
		M (ISR)				Y (IPV Severe Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPN)	*a*	2.519	.785	.001	*c'*	.404	.438	.356
M(ISR)		--	--	--	*b*	.045	.027	.093
Constant	i_1	1.148	1.127	.308	i_2	-3.668	.652	.000

R^2 = .024 Nagelkerke = .037

F(5,540) = 2.693, p =.020 -2LL = 329.430, Model LL = 9.472

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.404	.923	.356	.438	-.4541	1.2625
Indirect (*ab*)	.114	--	--	.088	-.0163	.3354

Consequent								
		M (ISR)				Y (IPV Minor Phys. As.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPN)	*a*	2.519	.785	.001	*c'*	.645	.310	.038
M(ISR)		--	--	--	*b*	.059	.018	.001
Constant	i_1	1.148	1.127	.308	i_2	-1.790	.479	.000

R^2 = .024 Nagelkerke = .066

F(5,540) = 2.693, p =.020 -2LL = 625.952, Model LL = 25.517

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.645	2.080	.038	.310	.0372	1.2535
Indirect	.148	--	--	.072	.0387	.3241

Table 18

Child Physical Neglect Models for IPV Sexual Coercion

Consequent								
		M (ISR)				Y (IPV Severe Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPN)	*a*	2.519	.785	.001	*c'*	.614	.482	.202
M(ISR)		--	--	--	*b*	.125	.030	.000
Constant	i_1	1.148	1.127	.308	i_2	-2.098	.905	.020

R^2 = .024 Nagelkerke = .118

F(5,540) = 2.693, p =.020 -2LL = 259.260, Model LL = 26.834

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.614	1.275	.202	.482	-.3300	1.5578
Indirect (*ab*)	.316	--	--	.148	.0886	.6715

Consequent								
		M (ISR)				Y (IPV Minor Sex. Coer.)		
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (CPN)	*a*	2.519	.785	.001	*c'*	.418	.315	.185
M(ISR)		--	--	--	*b*	.105	.018	.000
Constant	i_1	1.148	1.127	.308	i_2	-.702	.471	.136

R^2 = .024 Nagelkerke = .124

F(5,540) = 2.693, p =.020 -2LL = 671.742, Model LL = 51.950

Direct & Indirect Effects						
	Effect	Z	P	SE	LLCI	ULCI
Direct	.418	1.326	.185	.315	-.2000	1.0359
Indirect	.263	--	--	.106	.0830	.5006