Cultivating Closeness or Creating Distance: Domestic Violence Exposure and Sibling Relationship Quality

by

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Abstract

Using family systems theory and Johnson's typology of domestic violence (DV) exposure, this study sought to identify differences in sibling relationship quality depending on type of DV exposure (i.e., coercive controlling violence vs. situational couple violence vs. no DV exposure) by examining the experiences of 119 young adults. Additional analyses were conducted to determine if sibling relationship quality moderates the relationship between DV exposure and two internalizing symptoms (i.e., depression, posttraumatic stress symptoms). There were no statistically significant differences in overall sibling relationship quality by type of DV exposure, and sibling relationship quality did not moderate the relationship between DV exposure type, depression, and posttraumatic stress symptoms. However, moderate effect size differences were found between the situational couple violence exposed group and the not DV exposed group (d = 0.53). When comparing DV exposure type groups on each sibling relationship quality measure item, a few notable findings emerged. Young adults exposed to situational couple violence reported less enjoyment in spending time together with their siblings and felt their siblings were not as important in their adult life when compared to their not DV exposed and coercive controlling violence exposed counterparts. Practical implications and treatment options are discussed.

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Introduction

Between 7 and 15.5 million children and adolescents (hereafter referred to as youth) are annually exposed to domestic violence (DV; McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). Youth exposed to DV are at greater risk of a variety of externalizing behaviors (e.g. increased aggression, acting out) and internalizing symptoms (e.g., depression, anxiety, posttraumatic stress symptoms) compared to their non-DV exposed peers (Bourassa, 2007; Jarvis, Gordon, & Novaco, 2005; Kernic, Wolf, Holt, McKnight, Huebner, & Rivara, 2003; Leiberman, Van Horn, & Ozer, 2005; McFarlane, Groff, O'Brien, & Watson, 2003; Zinzow, Ruggiero, Calkins, Keane, & O'Brien, 2009). Risk for maladaptive outcomes increases with exposure to more severe and chronic DV rooted in coercive control (Jouriles & McDonald, 2015). Given the prevalence of these thoroughly documented risks, it is imperative that we better understand the context in which DV often occurs—i.e., within the family—to further examine impacts on family dynamics and relationships.

Family systems theory proposes that family members are interdependent such that the interactions between individuals and subsystems (e.g., parental, marital) will affect other individuals and subsystems (e.g., sibling; Minuchin, 1974). Thus, in the context of DV, we can expect that the violence and abuse inflicted from one partner or spouse to another will impact familial relationships beyond those directly involved in the DV, including the sibling relationship. Though sibling relationships are less studied than the impact of parental DV on youth adjustment, there are substantial bodies of literature on the impact of DV on couple dynamics (e.g., Johnson & Leone, 2005; Sillito, 2012), mother-child relationships (e.g.,

Letourneau, Fedick & Willms, 2007; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003), and increasingly, father-child relationships (e.g., Maddox, 2015). Research on sibling relationships in the context of DV, however, is limited. A few studies have examined the association between parental DV and sibling violence victimization (e.g., Tucker, Finkelhor, Turner, & Shattuck, 2014), and others have examined the potentially protective role of sibling relationship warmth (e.g., Waite, Shanahan, Calkins, Keane, & O'Brien, 2011), indicating that there may be a relationship between adjustment outcomes and sibling relationship quality (i.e., adverse outcomes of DV exposure), but this literature is in its infancy. Considering the sibling relationship is the most common and longest lasting interpersonal relationship (Whiteman, McHale, & Soli, 2011), research is needed to better understand this often-overlooked relationship in the context of DV exposure. This thesis begins addressing this gap in the current literature.

This study also addressed another gap in the DV exposure literature—the lack of measurement of coercive control when examining DV exposure. Over the past few decades, adult DV researchers have documented the central role of coercive control in making distinctions between two main types of DV—situational couple violence and coercive controlling violence (Hardesty, Crossman, Haselschwerdt, Raffaelli, Ogolsky, & Johnson, 2015; Johnson, 2008), yet these distinctions are less common in the DV exposure literature. Coercive control is defined as "the repetitive use of tactics to regulate and dominate an intimate partner's daily life and restrict personal liberties" (Hardesty et al., 2015, p. 2). In contrast, situational couple violence is not rooted in an attempt to control one's partner (i.e., coercive control). Rather, it is a demonstration of a lack of anger regulation and conflict tactic skills, arising from circumstances in which couples struggle to resolve disagreement in healthy ways.

Recently, scholars have begun making distinctions between exposure to situational couple violence versus coercive controlling violence, and coercive control is the central construct that differentiates these two main types (Haselschwerdt, Hlavaty, Carlson, Schneider, Maddox, & Skipper, 2016). Jouriles and McDonald (2015) found that coercive control best explained variations in youth outcomes, beyond physical violence characteristics (e.g., frequency, severity). These studies suggest the essentiality of measuring coercive control when assessing youth exposure. However, no studies to date have examined the sibling relationship in the context of exposure to situational couple violence versus coercive controlling violence and how these distinct exposure experiences may differentially influence sibling relationships and adjustment outcomes during early young adulthood. The current study addressed gaps in the current DV exposure literature by examining the sibling relationship experiences of 119 young adults retrospectively exposed to either situational couple violence, coercive controlling violence, or no DV exposure in their youth, and whether sibling relationship quality influences DV-exposed young adults internalizing symptoms.

Sibling Relationships and Sibling Relationship Quality

Given that roughly 90% of individuals in the United States have a sibling and the sibling relationship is the longest lasting interpersonal relationship in human development, sibling relationships are one of the most common and salient relationships that individuals experience (Whiteman, McHale, & Soli, 2011). Despite the prevalence of these relationships, the amount of research conducted on siblings is quite small when compared to other family relationships, such as the couple relationship or parent-child relationship. Most research on sibling relationships has focused on the association between sibling relationship quality and individual outcomes (e.g., externalizing and internalizing problems; Branje, van Lieshout, Van Aken, & Haselager, 2004; McHale, Updegraff, & Whiteman, 2012), as well as whether certain family contexts (e.g., marital conflict) are associated with sibling relationship quality (McHale, & Crouter, 1996; Waite, Shanahan, Calkins, Keane, & O'Brien, 2011).

Downey and Condron (2004) suggest that siblings provide a foundation for developing positive interaction skills. This is based on the premise that people who grow up with at least one sibling tend to have better skills in perspective taking, empathy, negotiation, persuasion, and problem solving (McHale, Updegraff, & Whiteman, 2012) compared to those who grow up with no siblings. Siblings may also play significant roles in the development of interpersonal skills and overall healthy development (Riggio, 2000). This is supported by research showing that during adolescence, higher levels of sibling support is associated with more positive social adjustment (McHale, Updegraff, & Whiteman, 2012), compared to those with lower levels of sibling support. Kramer (2010) found that, when used for support while going through stressful

life events, sibling affection was associated with less internalizing problems. However, not all sibling relationships promote health and wellbeing. In fact, siblings can also pose a detriment to individual development, particularly when there are limited resources (e.g., money, time, and energy from parents) to be shared between siblings. Siblings in these contexts may feel the need to compete to ensure access to resources that are necessary for healthy development, possibly creating the potential for greater conflict in families experiencing marital conflict or DV since there may be less resources (Downey & Condron, 2004).

The study of siblings often focuses on the quality of the sibling relationship, as measured by the degree or level of warmth, conflict, hostility, status, power, rivalry and involvement (Buist & Vermande, 2014; Furman & Buhrmester, 1985; Stewart, Verbrugge, & Beilfuss, 1998), with the most commonly studied being warmth and conflict. Differing levels of these specific constructs are indicators of sibling relationship quality and are connected to different outcomes. For example, individuals who rate their sibling relationships as high in warmth and low in conflict tend to report experiencing higher average self-esteem, less loneliness, and higher levels of social competence and prosocial behavior (Buist & Vermande, 2014). In contrast, individuals who rate their sibling relationships as low in warmth and high in conflict are at an increased risk for problems such as anxiety, depression, and aggression when compared to their high-warmth, low-conflict sibling relationship counterparts (Buist & Vermande, 2014).

The Intersection of Family Dynamics, Sibling Relationship Quality, and Internalizing Symptoms

Using a family systems theory approach, siblings are viewed in the context of their surroundings and relationships (Whiteman, McHale, & Soli, 2011), suggesting that the sibling relationship will change in accordance with the overall family dynamics and influence of other

key subsystems, like spousal and parental subsystems. Many aspects of the sibling relationship are simply a reaction and adaptation to the demands of the surroundings, such as differing relationships with parents, sibling rivalry, and parenting tactics that change over time (Jin Yu & Gamble, 2008; McHale, Updegraff, & Whiteman, 2012).

Contrary to the findings of Downey and Condron (2004), McHale and Crouter (1996) explain that "hostility from parents and extreme marital discord may provide the foundation for especially close and supportive sibling relationships in some families" (p. 184), suggesting a connection between the relationship of the parents and the sibling relationship. Some studies propose that adverse circumstances, such as DV exposure, can bring siblings together to compensate for the lack of warmth felt in the family system overall (McHale & Crouter, 1996). For example, Kempton, Armistead, Wierson and Forehand (1991) found that adolescents in adverse family experiences, such as parental divorce, showed greater levels of adjustment as measured by less acting out when they had a sibling versus no sibling, supporting the hypothesis that sibling relationships can be a protective factor and may improve adjustment. This was especially true when the sibling relationship quality/sibling warmth was high. Other studies (e.g., East & Khoo, 2005) have found that sibling warmth can help decrease drug and alcohol use in adolescence as well as risky sexual behaviors. This is most commonly found for sister pairs (Buist & Vermande, 2014; Samek, Rueter, Keyes, McGue, & Iacono, 2015).

Though not as commonly studied as the effect of sibling relationships on externalizing problems, the effect of sibling relationships on internalizing problems is also an area of interest. Specifically, siblings involved in a conflictual relationship tend to experience higher levels of anxiety and depression compared to their high-warmth sibling relationship counterparts (Buist & Vermande, 2014). During stressful or adverse life events (e.g., hostile marital conflict, parental

divorce, or challenges related to being a racial or ethnic minority in a racist society), sibling affection is associated with fewer internalizing problems, indicating that having a positive and supportive relationship with a sibling may help alleviate the negative outcomes of adverse experiences (Kramer, 2010; McHale, Updegraff, & Whiteman, 2012). These outcomes are particularly true for sister pairs, especially when they have higher levels of warmth and closeness (Buist & Vermande, 2014, Stewart, Verbrugge, & Beilfuss, 1998).

Even though research has indicated evidence for adverse experiences bringing siblings closer together, there is also evidence to the contrary. Siblings can also find themselves more at odds when circumstances are challenging. Some studies have found that exposure to more hostile marital discord was associated with lower levels of sibling relationship quality (Kramer, 2010; McHale, & Crouter, 1996). Since parents play an important role in modeling appropriate behavior for their children, creating an environment in which healthy relationships can be formed (Kramer, 2010), it is conceivable that DV exposure could negatively influence sibling bonds and relationship quality and whether it leads siblings to distance or become closer.

Sibling Relationship Quality and Domestic Violence Exposure

Though less is known about the nature of sibling relationships in the context of DV, some studies have documented an association between DV and sibling violence, as well as a decrease in overall sibling relationship quality in the context of DV exposure (Tucker et al., 2014). For example, Conger, Conger and Elder (1994) found that parents who displayed hostile behaviors was significantly associated with greater levels of sibling hostility. However, in their review of sibling relationships and child maltreatment (e.g., DV exposure) literature, Katz and Hamama (2018) documented that siblings from shelter-based populations (i.e., populations with higher

rates of coercive controlling violence exposure) showed no differences in their sibling support or aggression than siblings who were not DV exposed nor residing in a shelter.

Katz and Hamama (2018) described how adjustment in the context of DV exposure is influenced (positively or negatively) depending on the sibling relationship, especially in shelter-based populations. For example, Waite, et al. (2011) found sibling warmth can serve as a protective factor between DV exposure and internalizing problems, such DV-exposed siblings with a positive or supportive sibling relationship reported fewer internalizing problems when compared to DV-exposed siblings with lower levels of support and positivity in their relationship.

Alternatively, Piotrowski, Tailor and Cormier (2013) found that DV-exposed siblings who experienced less warmth reported higher levels of sibling hostility and greater externalizing problems. These less favorable outcomes are possibly more prevalent between brother pairs than sister pairs when considering past research (Buist & Vermande, 2014), suggesting that this could be because sisters are more likely to be open and create emotional connections (McGuire, & Shanahan, 2010), and brothers are more prone to competition and rivalry (Samek, et al., 2015), which can inhibit connection and closeness. Nevertheless, much remains unknown about the influence of DV exposure on sibling relationship quality. Further, within this small body of literature, no studies to date have examined how distinct DV exposure experiences differentially influence sibling relationship quality, as the emphasis on distinct DV experiences is relatively new to the youth DV exposure literature.

Making Distinctions between Types of Domestic Violence

Beginning in 1995, Johnson introduced a new way of conceptualizing and measuring DV, with the goal of bridging a divided field of study. Johnson (1995, 2008) proposed and later

empirically tested whether DV is one large type of interpersonal violence, or whether there are two distinct, main types of DV—situational couple violence and coercive controlling violence—that warrant further empirical study and application to practice. As mentioned earlier, the central, differentiating factor between situational couple violence and coercive controlling violence is the construct of coercive control. In coercive controlling violence, violent and nonviolent abuse tactics (e.g., financial, surveillance and monitoring) are used to gain and maintain ongoing power and control over one's partner. In contrast, partners who engage in situational couple violence are not using violence with the motivation of gaining general power and control over their partner, but rather, one or both partners lack the skills to handle conflict in a nonviolent way; thus, conflict sometimes or often results in the use of physical violence.

In the context of opposite-sex relationships, men are disproportionately the perpetrators of coercive controlling violence, whereas women are equally likely to perpetrate situational couple violence (Johnson, 2008), though women are more likely to experience more severe and injurious violence (Sillito, 2012). Though making distinctions between situational couple violence and coercive controlling violence are commonplace in the adult literature (e.g., Hardesty et al., 2015), making these distinctions in the youth exposure literature is quite rare, though becoming increasingly recognized as imperative (see Haselschwerdt et al., 2016; Jouriles & McDonald, 2015). The current study makes these DV type distinctions while examining the impact of DV exposure on sibling relationship quality.

The Current Study

The current study addressed several gaps in the DV exposure literature. First, to date, there is a limited body of literature on the association between DV exposure and sibling relationship quality. Second, within the limited body of literature, no studies have made

distinctions between DV types when examining the association between DV exposure and sibling relationship quality. Only one study (e.g., Jouriles & McDonald, 2015) has examined how coercive control, though not DV types, differentially is associated with adjustment outcomes and none have considered sibling relationship quality as a potential moderator of DV exposure and adjustment outcomes. The current study, guided by a family systems framework (Minuchin, 1974) and Johnson's (2008) typology of violence, contributed to the DV exposure literature by addressing these three gaps.

More specifically, the first aim of the study was to determine if there were significant differences in sibling relationship quality depending on type of DV exposure (e.g. situational couple violence, coercive controlling violence, not DV exposed). Because of the novelty of this area of study and recent emergence of coercive control in the DV exposure literature, this aim was exploratory in nature, with the hypothesis that there would be meaningful differences between DV exposure types and sibling relationship quality, such that siblings that were not exposed to DV would have the highest levels of sibling relationship quality, followed by those that were exposed to coercive controlling violence, and those that were exposed to situational couple violence reporting the lowest levels of sibling relationship quality.

The second aim of the study was to evaluate whether sibling relationship quality moderates the association between DV exposure type and internalizing symptoms during early young adulthood. It is clear that exposure to DV increases the risk of maladaptive outcomes, including internalizing symptoms (Bourassa, 2007; Jarvis, et. al., 2005; Kernic, et al., 2003; Leiberman et. al., 2005; McFarlane et. al., 2003; Zinzow et al., 2009), but whether sibling relationship quality will moderate the relationship between DV exposure and internalizing symptoms remains unknown. It has been found that high warmth/low conflict sibling

relationships can positively impact developmental outcomes, such as prosocial skills, problem solving, and a reduction of internalizing problems (Buist & Vermande, 2014; Downey & Condron, 2004; Kramer, 2010; Sherman, Lansford, & Volling, 2006). It has also been found that low warmth/high conflict sibling relationships are associated with higher greater internalizing problems (e.g., lower self-worth, anxiety, depression; Buist & Vermande, 2014). Based on the reviewed literature, it was hypothesized that sibling relationships would moderate the relationship between DV exposure and internalizing problems, such that higher quality sibling relationships will help buffer against the negative impact of DV exposure on both depressive and posttraumatic stress symptoms, while lower quality sibling relationships would exacerbate the impact of DV exposure on both depressive and posttraumatic stress symptoms.

Methods

Procedure

To test these aims and hypotheses, the current study used data from the Young Adults Live and Learn (Y'ALL) project, a multi-method, multi-phase study of young adults (18-25 years) who were exposed to father-mother perpetrated DV. Data were collected in three phases. Phase one entailed qualitative interviews (see Haselschwerdt et al., 2016 for additional details) with a sample of 25 DV-exposed young adults; phase 2 entailed a quantitative online survey with a sample of 147 young adults, and phase 3 utilized qualitative interviews based on the information gained from phase 1 and phase 2 with a subsample of 15, phase 2 participants. The current study used data from phase two of the Y'ALL project, focusing on the participating young adults' sibling relationships, with an emphasis on the associations between DV exposure, sibling relationship quality, and two commonly studied internalizing symptoms (i.e., depression, posttraumatic stress symptoms). Within this sample (N = 147), a comparison sample of young adults not exposed to DV (n = 47) was obtained and included. Both the DV exposed and not DV exposed comparison sample (hereafter referred to as not DV exposed) were used in this study. All phases were approved by Auburn University's Institutional Review Board.

The DV exposed participants were recruited from flyers and class announcements at a public university and a community college in the southeast United States. Additionally, participants were recruited through public social media posts and through word-of-mouth. Eligible participants were between the ages of 18 and 25, reported exposure to father-mother perpetrated physical violence, lived in or currently reside in Alabama, and have parents who

were either still married or had separated or divorced after participants reached eight years of age. The not DV exposed sample was recruited after obtaining the DV exposed sample, following the same recruitment approaches as the DV exposed sample and utilizing the same inclusion criteria except for the exposure to father-mother perpetrated physical violence criterion.

Both the exposed and non-exposed groups completed an online survey in phase two, consisting of six main topic areas: (1) background and demographic information, (2) exposure and experiences of violence and abuse, (3) family dynamics, (4) peer relationships (5) romantic relationships, and (6) current well-being. Participants responded to items in each of these sections based on their experiences before they turned 18 and their current experiences or their experiences since turning 18. Those in the exposed group were asked about disclosure of and methods for coping with DV exposure. The participants in the not DV exposed group were first screened for DV exposure by responding to the question "How often did your father use physical aggression or violence (e.g., pushing, shoving, grabbing) towards your mother?" The not DV exposed participants who responded that their fathers used physical violence at least once against their mothers were then routed through the same physical violence questions as the DV exposed participants. If participants responded "never" they were not asked any additional questions regarding physical violence, but they were asked about nonphysical abuse tactics. Three participants initially recruited to the not DV exposed sample reported DV exposure experiences and were moved into the DV exposed sample. All participants received a list of community resources and a $15 Amazon gift card as compensation for participation.

Participants

A total of 147 young adults participated in the Y'ALL study, phase two. The DV exposed group consisted of 100 participants with 47 participants in the not DV exposed group. One

hundred and twenty-seven participants had at least one sibling. However, descriptive analyses showed that eight of the participants did not complete the survey questions regarding sibling relationship quality, and therefore, were not included in the analyses. Thus, the analytic sample for this study was 119 participants, with 81 (68%) participants categorized into the DV exposed sample, and 38 (31.9%) categorized into the not DV exposed sample.

The majority of participants in this sample identified as female (74.8%) with 22.8% as male, 1.6% as transgender, and .8% that did not identify as male, female, nor transgender. Participants predominately identified as European American (81.1%) followed by African American (11.8%), Asian or Asian American (5.5%), American Indian (3.9%), Biracial (3.1%) and Middle Eastern (.8%). Almost 45% of participants reported attending college for at least one year (8.2% less than 1 year, 5.4% one year, 12.9% two years, 12.2% three years, 10.2% four years, 3.4% five or more years); 15.7% of participants did not give information regarding their college education. Most (59.2%) reported never receiving public assistance (e.g., free school lunch) while growing up, and recalled that their socioeconomic status was largely middle class (40.1%), followed by working class (21.8%), upper-middle class (19.7%), impoverished (3.4%), and upper class (1.4%); 14.3% failed to provide information on their socioeconomic status. Participants largely grew up in suburban areas (37.4%), followed by rural (21.1%), urban (18.4%), and college towns (8.8%).

A majority of mothers (90%) and fathers (92%) were born in the United States. Participants' mothers were on average, 50 years (M = 49.28; SD = 5.88). Most mothers (81.9%) had received at least some post-secondary (17.3% some college, 7.9% Associate's degree, 31.5% Bachelor's degree, 2.4% some graduate school, 18.1% Master's degree, 4.7% Doctoral degree). A majority of mothers were reported being employed full-time (57.8%). Participants' fathers

(73.5% biological father, 12.2% stepfather, .7% mother's partner not from marriage) were on average, 52 years (M = 51.71; SD = 6.26). Most fathers (70.1%) had received at least some post-secondary education (13.4% some college, 4.7% Associate's degree, 29.1% Bachelor's degree, 2.4% some graduate school, 11.8% Master's degree, 8.7% Doctoral degree). The majority of fathers were reportedly employed full-time (68.7%). Participants reported on the marital status of their mother and father: 58.3% reported that their parents were still married, 32.3% were divorced, 6.3% were separated, 1.6% that they were in a committed relationship, and 1.6% were widowed.

Measures

Coercive controlling violence exposure vs. situational couple violence exposure.

Participants reported on their exposure to their father's use of coercive control of their mother using a modified version of the Isolation Domination subscale of the Psychological Maltreatment of Women Inventory (Tolman, 1989). Participants were asked to rate how often their fathers would engage in non-physical abuse tactics by responding to the following items: "He monitored her time and made her account for her whereabouts," "He used her money or made important financial decisions without talking to her about it," "He was jealous or suspicious of her friends," "He accused her of having an affair with another man," "He interfered in her relationships with other family members," "He tried to keep her from doing things to help herself," and "He restricted her use of the phone, text messaging, email, and social media." The 5-point response scale ranged from "Never" to "Always" (0 = *Never*, 1 = *Sometimes*, 2 = *Often*, 3 = *Almost always*, 4 = *Always*). Consistent with previous research (Hardesty, et al., 2015), summed frequency scores were created by summing all seven items together ($\alpha = 0.92$). Those with higher scores (range of 19 - 35*; n* = 21) were coded as meeting coercive controlling DV

exposure, and those with lower scores (range of 0 – 19; $n = 60$) were coded as situational couple DV exposure.

Sibling relationship quality. Participants reported on their sibling relationship quality using a shortened version of the Lifespan Sibling Relationship Scale (Riggio, 2000), which originally consists of forty-eight items measuring sibling relationship quality both current and retrospective. A decision was made in the larger study to reduce the number of items from 11 from 48, as the focus of the larger study was not sibling relationship quality. Six items were utilized assessing perceptions of present sibling relationship quality and five items assessing retrospective perceptions of sibling relationship quality. These items included, "My sibling(s) and I were very close when we were children," "My sibling(s) had an important and positive effect on my childhood," "I enjoyed spending time with my sibling(s) when we were children," "My sibling(s) and I often help each other as children," "My sibling(s) and I shared secrets as children," "I was frequently angry at my sibling(s) when we were children," "My sibling(s) are very important in my life," "I believe that I am very important to my sibling(s)," "I enjoy spending time with my sibling(s)," "My sibling(s) frequently makes me very angry," and "My sibling(s) and I are very close." Participant responses ranged from "Disagree strongly" to "Agree strongly" on a 5-point scale (1 = *Disagree strongly*, 2 = *Disagree*, 3 = *Neither agree or disagree*, 4 = *Agree*, 5 = *Agree strongly*). The sibling relationship quality was computed by reverse scoring items "I was frequently angry at my sibling(s) when we were children," and "My sibling(s) frequently makes me very angry" and summing participant scores, with higher scores (range = 15-55) indicating better sibling relationship quality ($\alpha = 0.89$).

Adjustment measures.

Depression. Participants reported on their depressive symptoms in the past year using two items from the Center for Epidemiologic Studies Depression Scale (Radloff, 1977). These two items are, "During the last year, have you had 2 weeks or more in which you felt sad, blue, or depressed, or when you lost all interest or pleasure in things that you usually care about or enjoy" and "Have you felt depressed or sad much of the time in the past year" (Radloff, 1977). Items were scored to indicate the presence or absence of the symptom (0 = *No*, 1 = *Yes*). A total depression score was derived from a sum of the two items, creating a total depression score (α = 0.66).

Posttraumatic stress disorder symptoms. Participants reported on their posttraumatic stress symptoms using the Abbreviated Posttraumatic Stress Disorder Checklist for Civilians (Lang & Stein, 2005). Participants were asked six questions relating to symptoms possibly being experienced, such as "Repeated, disturbing memories, thoughts or images of a stressful experience," "Feeling very upset when something reminded you of a stressful experience," "Feeling distant or cut off from other people," "Feeling irritable or having angry outbursts," and "Having difficulty concentrating." Items were answered using one of five responses (1 = *Not at all*, 2 = *A little bit*, 3 = *Moderately*, 4 = *Quite a bit*, 5 = *Extremely)*. Scores were created by summing all items, with higher scores (range of 6-30) indicating more severe posttraumatic stress symptoms (α = 0.88).

Analytic Strategy

The primary purpose of this study was to examine the relationship between DV exposure experiences and sibling relationship quality, with an emphasis on making distinctions between different types of DV exposure (i.e., coercive controlling violence, situational couple violence,

and no DV exposure). The secondary purpose of this study was to examine whether sibling relationship quality moderated the association between DV exposure type and two adjustment outcomes (i.e., depression and posttraumatic stress symptoms). Before answering the two research questions, descriptive information for all key variables was obtained, and normality of data was assessed. No transformations were necessary.

To address the first question, does sibling relationship quality differ depending on type of DV exposure, a one-way Analysis of Covariance Analysis (ANCOVA) was conducted using SPSS 24 to examine the mean differences between each of these three groups and their sibling relationship quality, with sibling gender composition and social class status included as covariates. These variables bring additional context that is needed when examining the complexity of sibling relationships. Based on prior research (e.g., Branje et al., 2004; Buist & Vermande, 2014; Solmeyer, McHale, & Crouter, 2014) sibling gender composition has been shown to be associated with significant differences in sibling relationship quality. Social class was included as a covariate based on preliminary analyses (*t*-tests) showing significant differences between the exposed and not exposed groups in social class status, with the not DV exposed group reporting higher social class status then both DV exposed groups. Differences were continued to be examined by fitting ANCOVA models for each individual item on the Lifespan Sibling Relationship Scale (Riggio, 2000) in post-hoc analyses, including the same covariates.

To address the second research question, does sibling relationship quality moderate the relationship between DV exposure and internalizing symptoms (i.e., depression and posttraumatic stress symptoms), moderation analyses were tested using multivariate linear regressions in SPSS 24. Only those who were exposed to DV were included in these analyses.

Prior to all analyses data was examined to ensure that it meets assumptions (e.g., normal distribution, homoscedasticity). Appropriate measures were taken to address any assumption violations. Variables were mean centered. Next, the association between DV exposure type (i.e., coercive control violence and situational couple violence) and internalizing symptoms was assessed, with separate models for depression and posttraumatic stress symptoms, by using linear regression analyses. In step two, the interaction variable of DV exposure and sibling relationship quality was added to each model to assess if having higher relationship quality with a sibling weakens or strengthens these outcomes. The interaction between sibling relationship quality and DV exposure was created by multiplying the two variables. The covariates (e.g., gender composition, social class status) were added to both analyses in step three to assess their impact on the relationship between DV exposure and internalization behaviors (i.e., depressive symptoms and posttraumatic stress symptoms), allowing for variance to be assessed first without the controls and then with the controls added.

Results

Descriptive statistics can be found in Table 1. Overall, participants reported high sibling relationship quality, elevated depression scores, and moderate levels of posttraumatic stress symptoms (see Table 1 for details). Just under half of the participants identified as middle class (45.4%). No transformations were warranted for any of the included predictors or outcomes. A Levene's test for equality of variance to assess homogeneity of variance between the three DV-exposure groups. Results showed equality of variance between DV exposure groups ($F = 1.91$, $p = 0.15$)

Domestic Violence Exposure Types and Sibling Relationship Quality

A series of ANCOVAs were conducted to answer research question one: does sibling relationship quality differ depending on type of DV exposure, using DV exposure type (i.e., coercive controlling violence, situational couple violence or no DV exposure) as the predictor and sibling relationship quality as the outcome. As seen in Table 2, there are no significant differences between the DV exposure groups and sibling relationship quality ($F(2, 115) = 2.07$, $p = 0.13$). As the sample size was small and statistically significant differences were difficult to detect, Cohen's *d* analyses were conducted to compare the effect sizes between the three DV exposure groups and their sibling relationship quality. Results showed that there was a moderate effect of closer sibling relationship quality in the not DV exposed compared to the group exposed to situational couple violence. The mean sibling relationship quality scores of the situational couple violence-exposed and the not DV exposed groups yielded the largest effect size ($d = 0.53$) such that those with no DV exposure reported moderately greater sibling

relationship quality. Smaller effect sizes were found when comparing the sibling relationship quality mean scores for the situational and coercive controlling exposure groups (d = 0.27) indicating only smaller levels of greater sibling relationship quality for those exposed to coercive controlling violence then those exposed to situational couple violence. Those that were not exposed to DV reported only smaller levels of greater sibling relationship quality than their coercive controlling exposed counterparts (d = 0.23). These results indicate that, while not statistically significant, it appears that those exposed to situational couple violence experience lower sibling relationship quality than their peers that are not DV exposed and those that are exposed to situational couple violence.

To further explore potential variation in sibling relationship quality by DV exposure groups, an additional ANCOVA analysis for each individual item of the Lifespan Sibling Relationship Scale (Riggio, 2000) to determine differences for each item by DV exposure groups, as shown in Table 3. Pillai's Trace (Morrison, 2005) was used to assess homogeneity of assumptions as it is the best option with smaller sample sizes. No significant differences in variance were found between exposure groups (V = 0.26, F = 1.44, p = 0.10). Two between group differences were found when comparing the individual Lifespan Sibling Relationship Scale items by the three DV exposure groups. Specifically, there were between group differences for the two following items: "*My siblings are very important in my life*" (F(2, 115) = 5.17, p = 0.01) and "*I enjoy spending time with my siblings*" (F(2, 115) = 3.60, p = 0.03). Results from an LSD post-hoc test elucidated a few within group differences. Specifically, participants exposed to situational couple violence reported that their siblings were less important in their lives compared to those who were exposed to coercive controlling violence (ΔM = - 0.71, p = 0.03, d = 0.42) and those who were not exposed to DV (ΔM = - 0.75, p < 0.01; d = 0.76). The situational

couple violence-exposed participants also reported having less enjoyment in time spent with their siblings when compared to the participants who were part of the not DV exposed group (ΔM = - 0.61, p = 0.02; d = 0.68), but there were no significant differences on this item when compared to their coercive controlling violence-exposed peers (d = 0.35).

Effect sizes for these analyses continued to show that the greatest differences in these two items were found between those exposed to situational couple violence and those that were not exposed to DV. Those exposed to situational couple violence reported that siblings were a lot less important in their lives compared to the not DV exposed group. They also reported moderate to large size differences in how much they enjoy spending time with their siblings when compared to those not exposed to DV.

The Potentially Moderating Role of Sibling Relationship Quality

Sibling relationship quality did not significantly moderate the relationship between DV exposure type and the two internalizing symptoms. The main effects of DV exposure on depression (β = 0.01 p = ns) and posttraumatic stress symptoms (β = - 0.49, p = ns) were not significant. The interaction between DV exposure and sibling relationship quality did not moderate the relationship between DV exposure and depression (β = - 0.00, p = ns) nor posttraumatic stress symptoms (β = - 0.11, p = ns). Sibling gender composition was not significantly associated with depression (β = 0.08, p = ns) nor with posttraumatic stress symptoms (β = 0.45, p = ns). Self-reported social class was, however, significantly associated with both depression (β = - 0.28, $p < 0.01$) and posttraumatic stress symptoms (β = - 1.48, $p <$ 0.05), indicating that depression and posttraumatic stress symptoms are more prevalent among participants with lower social status. Taken together, the predictors accounted for 11% of the variance in depression and 9% in posttraumatic stress symptoms.

Discussion

The purpose of this study was to examine sibling relationship quality among a sample of young adults with varying DV exposure experiences, as well as whether sibling relationship quality moderated the relationship between DV exposure and two types of internalizing symptoms (i.e., depression and posttraumatic stress symptoms). Contrary to hypotheses, there were no statistically significant differences when examining differences in sibling relationship quality and DV exposure type, and sibling relationship quality did not moderate the relationship between DV exposure and the maladaptive outcomes of depression and posttraumatic stress symptoms. However, further analyses identified practical differences, lending themselves for discussion with implications for future research and practice. Effect sizes show that there is a moderate sized difference between those exposed to situational couple violence and the not DV exposed group, indicating that situational couple violence exposure is more impactful than the other two groups on sibling relationships. Effect sizes did not show this same effect between those exposed to situational couple violence and those exposed to coercive controlling violence or between coercive controlling violence and those not exposed to DV. This will be discussed further in the implications.

When further testing mean group differences for each individual item of the Lifespan Sibling Relationship Scale (Riggio, 2000), as well as when analyzing effect size between the groups, a few notable differences were identified. Although sibling relationship quality was moderately high across all three DV exposure groups, young adults exposed to situational couple violence reported lower sibling relationship quality on two measured items when compared to

the coercive controlling violence-exposed participants and the not DV-exposed participants, which is further supported by the moderate effect of sibling relationship quality between situational couple violence exposed youth and not DV exposed youth. Situational couple violence-exposed participants reported less sibling relationship enjoyment and lower average scores on the importance of their siblings in their lives when compared to those who experienced no DV exposure and those who were exposed to coercive controlling violence, warranting further discussion on the potentially unique impact of exposure to these two distinct types of DV on sibling relationship quality. These statistically significant findings were also supported by large effect sizes.

Domestic Violence Exposure Groups and Sibling Relationship Quality

Even though the results of this study were not consistent with the stated hypotheses, namely that sibling relationship quality would exacerbate or dampen the negative outcomes associated with DV exposure, notable findings were found pertaining to within DV-exposure group differences (i.e., research question one). Research has documented how the two main DV types, situational couple and coercive controlling violence, create home environment contexts that are distinct from one another (Hardesty, et al. 2015, Haselschwerdt, et al., 2016; Johnson, 2008). Coercive controlling violence is rooted in one's overarching desire to control their partner through the use of physical violence and insidious, nonphysical tactics (e.g., using and following through on threats, monitoring partner's whereabouts, and isolation) on a regular or daily basis, whereas situational couple violence is described as partners using physical violence as a way to manage anger and conflict (Johnson, 2008). It is important to keep in mind that there is notable diversity within situational couple violence, such that some young adults exposed to situational couple violence may report exposure to, for example, rare instances in which one or both parents

use physical violence during conflicts about money, in comparison to situational couple violence-exposed young adults who are exposed to more chronic physical violence during regular substance misuse, albeit not rooted in coercive control (Haselschwerdt, et al., 2016).

Practical results, supported by the effect size comparisons, suggest that sibling relationship quality may be less positive in the context of situational couple violence when compared to the other two groups (i.e., coercive controlling violence and not DV exposed). Even though these two types fall within the broader category of "DV," the contexts are different and may explain why the situational couple violence group differed from the other two groups on two sibling relationship quality items. These contextual differences create different dynamics for family life and interactions (e.g., Jin Yu & Gamble, 2008, Maddox, 2015; Tunkle, 2016). Situational couple violence may encourage siblings to take sides with their parents in their arguments, creating coalitions between differing family members (Minuchin, 1974). Siblings can be drawn into these coalitions with their parents, sometimes putting them on opposing sides. Being part of opposing coalitions could inhibit the creation and support or positive sibling relationships as they then become rooted in their parents' differing views. This could also encourage siblings to use the same tactics as their parents to resolve conflict. For example, siblings who observe their parents handle conflict through the use of physical violence (i.e., situational couple violence) may then implement the same tactics towards each other and, thus, foster lower quality sibling relationships that lead to less enjoyment over time.

Alternatively, these situational couple violence-exposed siblings may distance themselves physically or emotionally over time from the family members as opposed to taking sides in family coalitions or turning to each other for comfort, support, and friendship. As previous research has shown that sibling relationships have an effect on internalizing problems, such as

anxiety and depression (Bourassa, 2007; Buist & Vermande, 2014), siblings exposed to situational couple violence may choose to distance themselves from their siblings as a way to foster their individual wellbeing and reduce maladaptive internalizing symptoms. In other words, avoiding conflictual or toxic environments may indeed be proactive. Whether this behavior is protective against maladaptive outcomes is yet to be determined.

In contrast to the situational couple violence group, the participants in the coercive controlling violence exposed group did not differ from the not DV exposed group. Though this is contrary to a main hypothes, these findings are consistent with the previous studies that found no differences between siblings exposed to coercive controlling violence and those that were not exposed to DV (Katz & Hamama, 2018). Knowing the pervasive (i.e., chronic part of daily life) and destructive nature of coercive controlling violence (Hardesty, et al., 2015; Johnson, 2008), it is possible that many of the participants relied on their sibling relationship as a source of support and comfort. For example, siblings exposed to coercive controlling violence might form closer bonds to help protect from the toxicity of their environment, taking the role of banding together to protect each other, as possibly seen in other adverse life experiences (Kempton, et al., 1991; Kunz, 2001). Some research suggests that young adults exposed to coercive controlling violence were more likely to take on a protective role over both their mothers and their siblings during childhood when compared to young adults exposed to situational couple violence (Tunkle, 2017). Therefore, these sibling relationships might serve as a "safe haven" and a place to experience some normalcy in their family relationships in an environment that is unpredictable. This would lead the relationship to be higher in affection and caring, which are shown to help decrease internalizing symptoms (Katz & Hamama, 2018; Kramer, 2010; McHale, Updegraff, & Whiteman, 2012).

Relationships created in these contexts could be more positive than those exposed to situational couple violence since coercive control-exposed participants may simply need to rely on each other for safety, security and support in an attempt to take care of one another in difficult circumstances. For these reasons, the sibling relationship quality mean scores logically appear more similar to not DV exposed participants. In contrast, it is also plausible that coercive control exposure may yield even less positive sibling relationship quality since these types of martially-abusive fathers create particularly hostile home and familial relationships (Haselschwerdt et al., 2016; Maddox, 2015; Tunkle, 2017), therefore, future research is needed to unpack the salience of siblings for DV-exposed young adults.

Limitations and Future Research

Despite the contributions of this study, there are a few limitations that warrant consideration for interpretation of results and as suggestions to address in future research. First, considering that situational couple violence is more common in the general population (i.e., community samples that are not agency-specific nor clinical; Johnson, 2008), it was not surprising that there were substantively more participants exposed to situational couple (74%) versus coercive controlling violence (26%) in this sample. Yet, this smaller sample of coercive control exposed participants likely limited our power and ability to detect statistical sibling relationship quality differences by group. Research has consistently identified substantive differences between situational couple and coercive controlling violence in the adult (Hardesty, et al. 2015; Johnson, 2008) and youth exposure literatures (Haselschwerdt, et al. 2016), suggesting that future studies should oversample for young adults exposed to coercive controlling violence to remedy this limitation—potentially identifying clinically and practically relevant, sibling relationship quality differences.

Even though significant results were found when using ANCOVA analyses using each Lifespan Sibling Relationship Quality Scale (Riggio, 2000) item, there was no correction for alpha inflation, meaning there was an increased risk for Type II error. Because of the small sample size, procedures to correct for alpha inflation (e.g., Bonferroni correction) were not feasible. Thus, the results should be interpreted with caution due to possible alpha inflation. Another limitation of this study was the reduction of measures, namely the Center for Epidemiological Studies Depression Scale (Radloff, 1977) and Lifespan Sibling Relationship Quality Scale (Riggio, 200). This study used only two items from the instrument used to measure depression, certainly impacting variability detection across the three groups. Using the full Center for Epidemiological Studies Depression Scale may yield different findings from those presented in this study as these two items proved weak reliability, suggesting that additional items from the full measure should be used in the future. While the project-created, shortened version of the Lifespan Sibling Relationship Quality scale was high in reliability ($\alpha = 0.89$), using the full measure may add a wider spread of sibling relationship quality.

Lastly, all measures were self-reported during young adulthood. Participant perceptions of retrospective their sibling relationship quality may have been influenced by their current sibling relationship quality, such that more positive, current relationships may gloss over less positive perceptions during childhood or adolescence or while they were more proximally exposed to DV while living at home. This limitation could be influenced by the prompt that asked them to report on their sibling relationships as a whole versus relationships with individual siblings, if more than one. For example, if a participant has two siblings, their perceived sibling relationship quality with one sibling may differ from their relationship with the other; these differences were not detectable within this study. Though the decision to assess sibling

relationship quality as a whole could be seen as an ingenuity of this study, it is not without its flaws. Focusing on sibling relationships of the group suffers from being able to account for variability in the differences between sibling relationships. Future researchers should consider asking about their sibling relationships as a whole and also for specific siblings to compare responses. Further, future research should consider assessing the role of birth order, as birth order is known to impact sibling relationship quality (Buist & Vermande, 2014, Samek, et al., 2015, Stewart, Verbrugge, & Beilfuss, 1998).

Practical Implications

Despite the aforementioned limitations, this study adds to a small, yet growing body of literature documenting the importance of differentiating between types of DV when assessing family dynamics and relationships, as well as commonly studied outcomes (i.e., internalizing behaviors). Given the increased focus on examining coercive control and making distinctions between DV exposure, understanding how these distinct contexts influence sibling relationships can help guide professionals working with families experiencing violence.

This research can be used to help couples that engage in situational couple violence to learn and become more aware of how their interactions do not only affect them, but the rest of the family system (Minuchin, 1974). Even though children and siblings are not included in couple-focused therapy, these findings nevertheless provide professionals with a starting point to help these families create and experience change in their lives. Previous research has indicated that effective treatment for couple violence, especially situational couple violence, focuses on the couple and creating positive interactions between them, teaching healthy communication, conflict resolution and healthy emotional expression (Stith, McCollum, Amanor-Badhu, & Smith, 2012). Not only do couples that participate in treatment geared towards eliminating

violence show improved outcomes compared to those that do not seek treatment, their improvement has been show to last long term (Stith, et al., 2012).

Treatment that focuses on helping the couple relationship improve will increase the quality of relationships throughout the rest of the system as well (Minuchin, 1974). Once couple work has been done, helping them get to a place of increased communication and conflict resolution, work can be done with the family. It is with these families that work can be to help the couple become aware of the effect of their interactions on the rest of the system as well as help heal the damage these interactions have inflicted on other relationships in the same system (e.g., parent-child, sibling). Work can also be done with the sibling relationship itself to help them not only see how the interactions of their parents have affected them, but to help them learn the necessary anger management and conflict resolution skills necessary to decrease the likelihood of continuing the same pattern, which could also encourage the parents to continue with their new-found conflict resolution skills (Gustafsson, Engquist, & Karlsson, 1995). Sibling work can also focus on helping the siblings come together and work together to help change the communication patterns found in their current family system. This could be a natural response in sibling relationship that have experience coercive controlling violence but could be especially prevalent in families that experience situational couple violence as that is the relationship that seems to suffer most from DV exposure. Processing and treatment of depression, posttraumatic stress symptoms and anxiety should also be considered for the whole family to help in the healing process.

These findings can also help professionals working with families who experience coercive controlling violence, though a different approach must be taken. Professionals could help families in these situations continue to utilize their positive relationships as a source of

strength, courage and support. Highlighting for siblings ways that they are a source of protection can encourage them to continue to cultivate the bonds and unity that they experience in such adverse situations, as well as help them to possibly gain motivation to work together to find a way to escape their current circumstances (Gondolf, 1997). Doing so will help the sibling relationship that has already been strengthened through trial to become stronger, more resilient and help with decreasing individual internalizing symptoms.

Conclusion

Overall, findings support an association between being exposed to situational couple violence and lower sibling relationship quality, specifically between those exposed to situational couple violence and those that were not DV exposed. Effect sizes showed a moderate effect between these two groups, indicating that those that were not DV exposed had moderately higher levels of sibling relationship quality compared to those who were exposed to situational couple violence. Those exposed to coercive controlling violence reported smaller size differences of sibling relationship quality when compared to the not DV exposed group, as indicated by a small effect size. The same was found between those exposed to coercive controlling violence and those that were not DV exposed. Because the largest difference centers around whether or not siblings were exposed to situational couple violence, treatment should focus on helping couples and families learn how to better manage their anger and learn positive conflict resolution skills. This could lead siblings to have a better opportunity to create a relationship that is higher in quality.

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Appendix A - Tables

Table 1
Descriptive Statistics for Study Variables by Domestic Violence Exposure Group

	Coercive Controlling Violence Exposed (n = 21)					Situational Couple Violence Exposed (n = 60)				
	M (SD)	Min	Max	Skewness	Kurtosis	*M (SD)*	Min	Max	Skewness	Kurtosis
Sibling Relationship Quality	42.00 (10.83)	22.00	55.00	- 0.54	- 1.12	39.07 (11.06)	15.00	55.00	- 0.42	- 0.64
Depression	3.19 (0.87)	2.00	4.00	- 0.40	- 1.61	3.05 (0.83)	2.00	4.00	0.00	- 1.53
Posttraumatic Stress Symptoms	17.29 (5.97)	8.00	30.00	0.23	- 0.14	13.79 (5.94)	6.00	27.00	0.68	- 0.12
Sibling Gender Composition: Sisters Only	0.14 (0.36)	0.00	1.00	2.20	3.14	0.36 (0.48)	0.00	1.00	0.42	- 1.89
Sibling Gender Composition: Brothers Only	0.38 (0.50)	0.00	1.00	0.53	- 1.91	0.29 (0.46)	0.00	1.00	0.90	- 1.24
Sibling Gender Composition: Sisters and Brothers	0.48 (0.51)	0.00	1.00	0.10	- 2.21	0.35 (0.48)	0.00	1.00	0.90	- 1.24
Social Class	2.38 (0.92)	0.00	4.00	0.81	2.07	2.89 (0.83)	0.00	4.00	0.12	- 0.31

Table 1
Continued

Not Domestic Violence Exposed (n = 38)				
M (SD)	Min	Max	Skewness	Kurtosis
44.29 (8.56)	17.00	55.00	- 1.05	1.29
2.73 (0.82)	2.00	4.00	0.59	- 1.19
13.60 (5.84)	6.00	27.00	0.49	- 0.81
0.23 (0.44)	0.00	1.00	1.29	- 0.36
0.30 (0.46)	0.00	1.00	0.97	- 1.13
0.45 (0.50)	0.00	1.00	0.11	- 2.10
3.28 (0.64)	0.00	3.00	- 0.30	- 0.61

Table 2
ANCOVAs for Domestic Violence Exposure Groups and Sibling Relationship Quality

	Sum of Squares	df	Mean Square	F	Partial Eta Squared
Corrected Model	1036.76	4	259.19	2.49	0.08
Socioeconomic Class	372.14	1	372.14	3.57	0.03
Gender Composition	38.74	1	38.74	0.37	0.00
DV Exposure Groups	430.92	2	215.48	2.07	0.04

* $p \leq 0.05$, ** $p \leq 0.01$
Note. DV = Domestic violence

Table 3
Item ANCOVA Results by Domestic Violence Exposure Groups

	Sum of Squares	df	Mean Square	F	Partial Eta. Squared
My siblings and I were very close when we were children	3.62	2	1.81	1.12	0.02
My siblings had an important and positive effect on my childhood	3.77	2	1.89	1.41	0.02
I enjoyed spending time with my siblings when we were children	3.18	2	1.59	1.13	0.02
My siblings and I often helped each other as children	0.95	2	0.48	0.39	0.01
My siblings and I shared secrets as children	5.17	2	2.58	1.49	0.03
I was frequently angry at my siblings when we were children	1.98	2	0.99	0.76	0.01
My siblings are very important in my life	15.21	2	7.61	5.17**	0.08
I believe that I am very important to my siblings	6.18	2	3.09	2.24	0.04
I enjoy spending time with my siblings	9.36	2	4.68	3.60*	0.06
My siblings frequently make me very angry	4.99	2	2.49	1.80	0.03
My siblings and I are very close	3.97	2	1.98	1.37	0.02

* $p \leq 0.05$, ** $p \leq 0.01$

Table 4

Sibling Relationship Quality as a Moderator Between Domestic Violence Exposure and Internalizing Symptoms

	Depression				Posttraumatic Stress Symptoms			
	B(*SE*)	β	R^2	ΔR^2	B(*SE*)	β	R^2	ΔR^2
Step 1								
DV Exposure Groups	0.03(0.20)	0.02	0.01	0.01	-0.33(1.33)	-0.03	0.02	0.02
Sibling Relationship Quality	-0.01(0.01)	-0.12			-0.07(0.06)	-0.12		
Step 2								
DV Exposure Groups	0.02(0.20)	0.01	0.02	0.01	-0.41(1.33)	-0.03	0.03	0.02
Sibling Relationship Quality	-0.01(0.01)	-0.12			-0.06(0.06)	-0.12		
SRQ x DV Exposure Groups	-0.01(0.02)	-0.07			-0.16(0.12)	-0.13		
Step 3								
DV Exposure Groups	0.01(0.19)	0.00	0.11	0.09*	-0.49(1.31)	-0.04	0.09	0.05
Sibling Relationship Quality	-0.01(0.01)	-0.07			-0.05(0.06)	-0.09		
SRQ x DV Exposure Groups	-0.00(0.02)	-0.02			-0.11(0.12)	-0.10		
Sibling Gender Composition	0.08(0.10)	0.08			0.45(0.72)	0.07		
Social Class Status	-0.28(0.10)*	-0.28			-1.48(0.70)*	-0.22		
Total R^2				0.11				0.09

*$p < 0.05$

Note. SRQ = sibling relationship quality; DV = domestic violence. DV exposure groups includes those that have been exposed to coercive controlling violence and situational couple violence.

Appendix B - Measures

Coercive Control/Non-Physical Abuse

Psychological Maltreatment of Women Inventory (Tolman, 1989) + additional author created items at the end

Thinking about your father's non-physical behavior toward your mother, please indicate how often he did the following.

	Never	Sometimes	Often	Almost always	Always
PMWI1. He monitored her time and made her account for her whereabouts.	1	2	3	4	5
PMWI2. He used her money or made important financial decisions without talking to her about it.	1	2	3	4	5
PMWI3. He was jealous or suspicious of her friends.	1	2	3	4	5
PMWI4. He accused her of having an affair with another man.	1	2	3	4	5
PMWI5. He interfered in her relationships with other family members.	1	2	3	4	5
PMWI6. He tried to keep her from doing things to help herself. *(Anything that would help her improve herself or situation, like having a job or gaining more education.)*	1	2	3	4	5
PMWI7. He restricted her use of the phone, text messaging, email, and social media.	1	2	3	4	5
PMWI8. He called her names.	1	2	3	4	5
PMWI9. He swore at her.	1	2	3	4	5
PMWI10. Her yelled and screamed at her.	1	2	3	4	5
PMWI11. He treated her like an inferior.	1	2	3	4	5
PMWI12. He told her that her feelings were irrational or crazy.	1	2	3	4	5
PMWI13. He blamed her for his problems.	1	2	3	4	5
PMWI14. He tried to make her feel crazy.	1	2	3	4	5

PMWI15. He restricted her from having access to money or other financial resources.	1	2	3	4	5
PMWI16. He threatened her with a weapon (e.g., gun).	1	2	3	4	5
PMWI17. He threatened to kill her.	1	2	3	4	5
PMWI18. He threatened to take me or my sibling(s) away from her.	1	2	3	4	5
PMWI19. He physically harmed our pet(s).	1	2	3	4	5

Lifespan Sibling Relationship Scale (Riggio, 2005)

These next questions ask about your relationship with your siblings during childhood.

	Disagree Strongly	Disagree	Neither Agree or Disagree	Agree	Agree Strongly
LSRS1. My sibling(s) and I were very close when we were children.	1	2	3	4	5
LSRS2. My sibling(s) had an important and positive effect on my childhood.	1	2	3	4	5
LSRS3. I enjoyed spending time with my sibling(s) when we were children.	1	2	3	4	5
LSRS4. My sibling(s) and I often helped each other as children	1	2	3	4	5
LSRS5. My sibling(s) and I shared secrets as children	1	2	3	4	5
LSRS6. I was frequently angry at my sibling(s) when we were children.*	1	2	3	4	5

The next few questions ask about your relationships with your siblings at the current time, how much do you agree with the following statements?

	Disagree Strongly	Disagree	Neither Agree or Disagree	Agree	Agree Strongly
LSRS7. My sibling(s) are very important in my life.	1	2	3	4	5
LSRS8. I believe that I am very important to my sibling(s).	1	2	3	4	5
LSRS9. I enjoy spending time with my sibling(s).	1	2	3	4	5
LSRS10. My sibling(s) frequently makes me very angry.*	1	2	3	4	5
LSRS11. My sibling(s) and I are very close.	1	2	3	4	5

Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977); CES-D12 Short Form (Andresen, 1994)

CESD11. During the **last year**, have you had 2 weeks or more in which you felt sad, blue, or depressed, or when you lost all interest or pleasure in things that you usually care about or enjoy?	0____No 1____Yes
CESD12. Have you felt depressed or sad much of the time **in the past year?**	0____No 1____Yes

PTSD Checklist Short Form (PCL; Blanchard et al., 1996)

This is a list of problems or complaints that people sometimes have in response to stressful experiences. Please indicate how much you have been bothered by each problem in the <u>last month.</u>

	Not at All	A Little Bit	Moderately	Quite a Bit	Extremely
PCL1. Repeated, disturbing memories, thoughts, or images of a stressful experience?	1	2	3	4	5
PCL2. Feeling very upset when something reminded you of a stressful experience?	1	2	3	4	5
PCL3. Avoiding activities or situations because they remind you of a stressful experience?	1	2	3	4	5
PCL4. Feeling distant or cut off from other people?	1	2	3	4	5
PCL5. Feeling irritable or having angry outburst?	1	2	3	4	5
PCL6. Having difficulty concentrating?	1	2	3	4	5