

PRECURSORS AND CORRELATES OF WOMEN'S VIOLENCE: CHILD ABUSE TRAUMATIZATION, VICTIMIZATION OF WOMEN, AVOIDANCE COPING, AND PSYCHOLOGICAL SYMPTOMS

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Path modeling assessed (a) the influence of child abuse traumatization on women's use of violence and their experiences of being victimized, (b) the association of these three variables to depressive and posttraumatic stress symptoms, and (c) the indirect pathways from women using violence and their being victimized to psychological symptoms through avoidance coping. Among 108 primarily African American women recruited from the community who used violence with a male partner, women's use of violence, but not their experiences of being victimized, was predicted by child abuse traumatization. Women's use of violence did not directly or indirectly predict symptomatology. In contrast, child abuse traumatization and women's experiences of being victimized were predictive of both depressive and posttraumatic stress symptoms, and being victimized also was related indirectly to depressive symptoms through avoidance coping.

Theory that advances the understanding of women's use of violence in intimate relationships suggests that it should be investigated in a relational context (Swan & Snow, in press), because it is in these same relationships that women are victimized by their partners. A high correlation between women's use of violence and their being victimized is not uncommon, especially among community samples (Johnson, 1995). Among a birth cohort sample of young adults (Magdol et al., 1997), most of the women (95%) and men (86%) reported using verbal aggression against their partner, and many of the women (37%) and men (22%) also

reported using physical violence. Women who were victimized were 10 times more likely to be perpetrators of violence in their intimate relationships than nonvictimized women. Moreover, findings of Archer's (2000) meta-analyses show that physical aggression between partners tends to be reciprocal ($r = .81$; a least squares regression weighted by the reciprocal of the variance showed an even higher association $R = .94$). This co-occurrence should be taken into account by including the two constructs in analytic models that are able to "completely and simultaneously" test all relationships in the model (Tabachnick & Fidell, 2001, p. 656). Doing so permits the determination of the unique prediction of use of violence and having been victimized by precursors, such as child abuse traumatization, and the differential contributions of violence and being victimized to correlates such as psychological symptoms. For example, relationships between women's violence and outcomes such as depression and posttraumatic stress might look very different depending on whether being victimized also is tested simultaneously in the model.

Recent advances in research on women's use of violence have begun to examine in the same analyses women's use of violence and their having been victimized in relation to precursors, correlates, and outcomes. For example, childhood abuse has been examined as a precursor to women's use of violence and their being victimized (Feerick, Haugaard, & Hien, 2002). Results of chi-square analyses showed that women who were sexually abused during childhood were

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This research was supported in part by a grant from the Ethel F. Donaghue Women's Health Investigator Program at Yale. We wish to acknowledge the important contributions of Susan Florio for her assistance in the final preparation of this manuscript.

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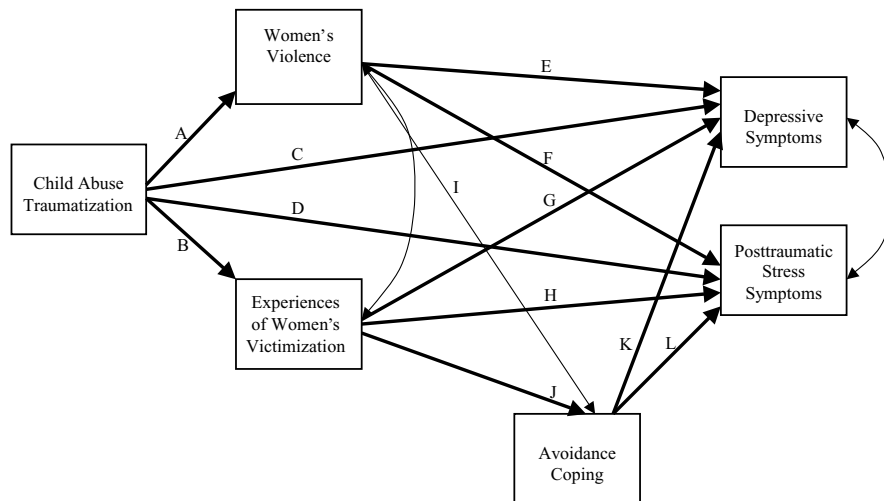


Fig. 1. Conceptual model. Predicted paths are drawn with bold lines; exploratory path is drawn with thin line. All paths are labelled alphabetically, and the paths to be examined are referenced in the text by their respective letter.

more likely to use violence and be victimized in their intimate relationships than women who did not experience childhood sexual abuse; however, women who were physically abused as children were no more or less likely to use violence or be victimized in their intimate relationships compared to women who were not physically abused as children (Feerick et al., 2002). Another example of the investigation of both using violence and being victimized in the same analysis is the study of the relationships among women's use of violence, their experiences of being victimized, and depression (Anderson, 2002). Findings of logistic regression analyses showed that the relationship of women's use of violence to depression was weakened when controlling for the effects of being victimized. However, to date, most of the research assessing the role of precursors, correlates, and outcomes of women's violence is based on studies that examine violence independent of the relational context in which it occurs (i.e., without taking into account the co-occurrence of using violence and being victimized in relationships). Moreover, to our knowledge, no research has studied these factors with analytic methods, such as path analysis, that permit the simultaneous examination of the relationship of use of violence and experiences of being victimized variables such as child abuse traumatization, depression, and other symptomatology.

Based on this contextualized view of women's use of violence, three basic research questions guided the present study: (a) Does child abuse traumatization contribute uniquely to both women's use of violence and their being victimized? (b) Are child abuse traumatization, women's use of violence, and their being victimized differentially related to depression and posttraumatic stress symptoms? (c) Does avoidance coping serve as an indirect pathway from women's use of violence and their being victimized to psychological symptoms?

Figure 1 presents the underlying conceptual model for this study and depicts the relationships among study variables to be tested with path analysis. A central basis for this model is the high frequency with which women's use of violence and their being victimized co-occur. The terms "violence" and "victimized" are used as general terms that refer to physical violence as well as psychological and sexual abuse—which are, respectively, composites of all of the violence perpetrated or experienced by a woman in her relationship in the past 6 months. The following sections describe our rationale and related empirical evidence for testing each of the depicted relationships.

Child Abuse Traumatization in Relation to Women's Use of Violence and Their Experiences of Being Victimized

Child abuse traumatization is one precursor that should be central to investigations of women's use of violence. A history of child abuse increases the risk for women's use of violence to resolve conflicts in intimate relationships later in life (Langhinrichsen-Rohling, Neidig, & Thorn, 1995). Although not every child who is abused becomes an adolescent or adult who uses violence in an attempt to resolve conflict or disagreements, many do. According to behavioral theory, having violent behavior in one's armamentarium to deal with conflict can be learned through direct experience, modeling, and/or perceived reinforcement (Rossman, Hughes, & Rosenberg, 2000).

Evidence suggests that a relationship exists between childhood abuse and women's subsequent use of violence in intimate relationships (Langhinrichsen-Rohling et al., 1995). This association has been found in both retrospective studies with, for example, women arrested for domestic violence offenses, as well as prospective studies following women from birth (Feerick et al., 2002; Hamberger

& Potente, 1994; Hendy et al., 2003; Leisring, Dowd, & Rosenbaum, 2003; Magdol, Moffitt, Caspi, & Silva, 1998). These investigations reveal that the prevalence of childhood abuse is high among women who use violence against intimate partners and that women's use of both physical and psychological abuse in their intimate relationships is highly correlated with reports of childhood abuse and the witnessing of parental violence. Therefore, we expected that child abuse traumatization would be positively and significantly related to women's use of violence (Path A).

Similar to women's use of violence, childhood abuse increases the risk for women being victimized in adult intimate partner relationships (Carlson, McNutt, & Choi, 2003; Messman-Moore & Long, 2000; Whitfield, Anda, Dube, & Felitti, 2003; Widom, 1999). Women who are abused as children might not experience the use of violence against them as unfamiliar. Being victimized as a child might lead to learned expectations that a loved one (i.e., a parent or partner) would exhibit violent behavior in efforts to resolve conflicts or to assert power and control. Alternatively, perhaps what is learned is that it is safer to comply with the person using violence to reduce harm to oneself. Therefore, child abuse traumatization was expected to be positively related to women's experiences of being victimized (Path B). Empirical evidence supports this prediction. Women who experience abuse as children are at increased risk of being abused in adult relationships (Hendy et al., 2003; Langhinrichsen-Rohling et al., 1995). Women who report being physically abused by their mothers during childhood and witnessing their mothers use violence against their fathers are more likely to be victims of intimate partner violence than women who were not abused or exposed to violence as children (Hendy et al., 2003). Also, young adult women who experienced childhood sexual abuse were more likely than nonvictims to experience adult physical and psychological abuse in intimate relationships (Messman-Moore & Long, 2000).

Child Abuse Traumatization, Women Using Violence and Being Victimized, and Psychological Symptoms as Adults

The effects of childhood abuse are far-reaching and influence both physical health and psychological adjustment into adulthood (Thompson, Arias, Basile, & Desai, 2002). The deleterious effects of childhood abuse on adult mental health are known well by victims of childhood abuse (Widom, 1999). Because of the increased risk for adult psychological symptoms resulting from early abusive experiences, child abuse traumatization is expected to have a direct and positive relationship to adult depressive (Path C) and posttraumatic stress (Path D) symptoms. Therefore, the covariance of these symptoms was taken into account in the model.

Existing research does indicate that childhood physical, sexual, and psychological abuse are related to adult depressive and posttraumatic stress symptoms (Beitchman,

Zucker, Hood, DaCosta, & Akman, 1991; Beitchman et al., 1992; Briere & Runtz, 1990; Trickett & McBride-Chang, 1995; Widom, 1999). Childhood abuse, therefore, puts women doubly at risk, not only for adult intimate partner violence, but also for later psychological difficulties in these relationships (for a review of the literature, see Foa, Cascardi, Zoellner, & Feeny, 2000). Although research documents a significant relationship between men's use of violence in intimate relationships and their psychological symptoms (Pan, Neidig, & O'Leary, 1994), relatively less research exists that examines women's use of violence in relation to psychological symptoms in general, or to depressive and posttraumatic stress symptoms in particular. A small but emerging literature suggests that there may be a relationship between women's use of violence and psychological symptoms. Descriptive statistics show that high and comparable depressive and posttraumatic stress symptom levels were found among two of four groups of women who used violence in their intimate relationships. These two groups of women were labeled *primary aggressors*, who were found to be more physically violent and use more coercive control than their partners, and *victims*, whose partners were more physically violent and coercive than they were (Swan & Snow, 2003). High rates of childhood abuse, the witnessing of parental aggression, being victimized by partners in adulthood, posttraumatic stress disorder (PTSD), suicide attempts, and substance abuse were documented in women mandated to anger management programs for their use of interpersonal aggression, including intimate partner violence (Abel, 2001; Hamberger, 1997; Leisring et al., 2003). Caetano and Cunradi (2003) found that women's use of violence, not their experiences of being victimized, is significantly related to depression. Anderson (2002) examined the relationship of women's perpetration to depression while controlling for their being victimized and also found that perpetration is related to depression, although the relationship is diminished after controlling for being victimized. Limited evidence suggests that women's use of violence will be related to higher levels of depressive (Path E) and posttraumatic stress symptoms (Path F); it is on this basis that these paths were predicted.

Being victimized in adulthood has deleterious effects on psychological adjustment and leads to depressive and posttraumatic stress symptoms in particular (Golding, 1999). Being victimized creates conditions that can lower self-esteem and self-worth and erroneously lead to self-blame (Rossman et al., 2000). These experiences of being victimized as an adult may contribute to depressive symptoms and increase the likelihood that women are in high risk situations and relationships in which they are repeatedly traumatized. To date, studies focusing on the psychological correlates and outcomes of women being victimized have found that victims are significantly more likely than nonvictims to exhibit PTSD (i.e., 40% of abused women), depression (i.e., 50% of abused women), anxiety, and substance abuse (Dansky,

Byrne, & Brady, 1999; Finkelhor & Yllo, 1987; Foa et al., 2000; Golding, 1999; Gondolf, 2000; Kocot & Goodman, 2003; Laffaye, Kennedy, & Stein, 2003). Thus, it was predicted that women's experiences of being victimized would be positively and significantly correlated with depressive (Path G) and posttraumatic stress (Path H) symptoms.

Avoidance Coping

The use of avoidance coping (i.e., trying to avoid thinking about or dealing with a problem) as a strategy to deal with stressful life events, such as intimate partner violence, is of particular concern because avoidance coping typically is related to negative psychological outcomes. Although some research suggests that this type of coping may serve a protective function in the short term (Chaffin, Wherry, & Dykman, 1997; Roth & Cohen, 1986), generally greater use of avoidance coping strategies has long-term negative effects on psychological well-being among women in general (Felsten, 1998; Pisarski, Bohle, & Callan, 1998; Snow, Swan, Raghavan, Connell, & Klein, 2003) and is related to depressive and posttraumatic stress symptoms among victimized women in particular (Brown, Read, & Kahler, 2003; Foa et al., 2000; Mitchell & Hodson, 1983; Valentiner, Foa, Riggs, & Gershuny, 1996). In the context of this study, the question is whether women's use of violence and/or their experiences of being victimized are differentially related to symptoms via a pathway through avoidance coping.

The prediction of avoidance coping from women's use of violence may appear counter-intuitive. In fact, in certain circumstances, one could say that women's use of violence (e.g., when used in self-defense or to protect children) is an active rather than an avoidant strategy. Considered from this perspective, women's use of violence should not be related to avoidance coping. However, because the relationship between women's perpetration of violence and use of avoidance coping has not been tested in multivariate analyses to our knowledge, this path was explored (Path I).

While women who exhibit more violence than their male partners show an elevated use of avoidance coping, this pattern also is true for women who are victimized to a greater extent than they use violence (Swan & Snow, 2002). In both instances, these are relationships in which there is a high level of relationship violence. Therefore, it is unclear whether using violence or being victimized in these relationships is accounting for the increased use of avoidance coping. By contrast, existing evidence clearly documents a relationship between being victimized and avoidance coping (Ferrer, 1998; Sigmon, Greene, Rohan, & Nichols, 1996). Therefore, we predicted that being victimized would be significantly and positively related to avoidance coping (Path J) and that avoidance coping would be significantly and positively related to both depressive (Path K) and posttraumatic stress symptoms (Path L).

Hypotheses

1. Higher levels of child abuse traumatization would predict higher levels of both women's use of violence and their being victimized in intimate partner relationships.
2. Higher levels of child abuse traumatization, women's violence, and being victimized would be related to greater levels of depressive and posttraumatic stress symptoms.
3. Being victimized was predicted to have a positive and indirect relationship to symptoms through avoidance coping.

METHOD

Participants

One hundred eight women were recruited from four locations in a moderate-sized New England city. A sign advertising the study was posted in the waiting rooms of three sites: a large inner-city health clinic for low-income residents ($n = 79$); a division of family court that provides services for people with domestic violence, divorce, and child custody cases ($n = 11$); and a local domestic violence shelter ($n = 1$). Additionally, participants were recruited through the agency where they were court-mandated to attend a family violence education program because they had been arrested for a domestic violence offense ($n = 17$).

The main entrance criterion was that the woman had to have used some form of physical violence against her male intimate partner within the previous 6 months, determined via a phone screen with items from the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Assessments were administered in face-to-face interviews by trained female interviewers. Women were remunerated for participating in the 2-hour interview.

Seventy-one percent of the participants were African American, 14% White non-Latina, 10% Latina, and 5% used other categories (two bicultural, three "other") to describe themselves. The majority of participants (65%) were between the ages of 25 and 40, 18% were below age 25, and 17% were over age 40. Twenty-seven percent of the sample had not completed high school, 42% had completed high school, 7% had graduated from a vocational school, 18% had attended some college, and 6% had earned a college or graduate degree. Overall, the income range of the women was quite low, with 68% earning less than \$10,000 per year, 19% earning between \$10,000 and \$19,999, and 13% earning \$20,000 or more. Seventy-five percent of the sample was unemployed. Eighty-four percent had children. Almost half of the sample had been with their partners between 1 to 5 years, 28% between 5 to 20 years, and 27% less than 1 year.

To determine whether the sample was comparable across recruitment sites, analyses were conducted comparing those in the family violence education program, those

from the health clinic, and those referred via family court combined with the one woman recruited from the domestic violence shelter on the following variables: (a) child abuse traumatization, (b) women's use of violence, and (c) women's experiences of being victimized. No group differences were found on any of these variables and, therefore, the samples were combined for analyses.

Measures

Child abuse traumatization. Seventeen items from the Early Trauma Inventory (ETI; Bremner, Vermetten, & Mazure, 2000) were used to assess experiences of physical, emotional, and sexual abuse before the age of 18. Dating violence during the teenage years and the witnessing of domestic violence between parents were assessed but were not included in the construct of child abuse traumatization in this study. According to standard procedure in the development and validation of the ETI, interviewers were trained to elicit information about the abuse events and rate the magnitude of the stressors along a scale where 0 = event occurred but caused no change in daily living, 1 = low magnitude, 2 = high magnitude, and 3 = extreme changes in daily living. The operational definition of a traumatic event is one for which the magnitude score is 2 or 3 and therefore, values of 1 were recoded to 0. The child abuse traumatization variable was then created by summing those items that were rated either a 2 or 3 on childhood physical, emotional, and sexual abuse. Preliminary psychometric properties of the ETI showed high levels of inter-rater reliability, test-retest reliability, internal consistency, and validity (Bremner et al., 2000). Specific to this study, internal consistency (alpha) was = .85. The mean age at which any type of childhood abuse occurred was 9.86 years.

Women using violence and being victimized. Women's use of violence and their experiences of being victimized were assessed across physical, sexual, and psychological dimensions. A referent time period of 6 months was used to assess a participant's commission of an abusive behavior toward her partner and the partner's commission of each behavior toward her. The response scale included points referring to never, once, twice, 3–5 times, 6–10 times, and more than 10 times in the past 6 months.

Twenty-eight items drawn from the CTS2 (Straus et al., 1996) and Psychological Maltreatment of Women Inventory (PMWI; Tolman, 1989) made up each of the use of violence and being victimized variables. Because of time considerations, it was not feasible to administer the CTS2 and the PMWI scales in their entirety. Items from each scale were selected to represent a diverse range of abusive behaviors and ones of varying levels of severity. Seven items were drawn from the CTS2 physical assault subscale (3 minor and 4 severe items), 2 items from the CTS2 sexual coercion subscale (1 minor and 1 severe item), 2 items from the CTS2 psychological aggression subscale (both severe items), 13 items unique to the PMWI (11 coercive

control and 2 emotional abuse items), and 3 psychological aggression items that are common to both the CTS2 and PMWI (classified as PMWI emotional abuse items or minor CTS2 items). Finally, an additional item was developed as part of the coercive control subscale "Did your partner ever follow you when you were out of the house to check on what you were doing?" For a list of scale items, refer to Swan and Snow (2002). The PMWI was used in addition to the CTS2 to measure psychological abuse because the PMWI assesses coercive control (the CTS2 does not), and because we have found that assessing psychological abuse using both coercive control and emotional/verbal abuse scales provides a more comprehensive and reliable measure of the construct than either measure by itself.

The CTS has been used internationally in hundreds of studies since 1972 with over 70,000 participants of diverse cultural and ethnic backgrounds and has been shown to have good internal consistency and validity (Straus et al., 1996). The PMWI also has been shown to have good reliability and validity with a sample of primarily African American and White women (Tolman, 1999). Individual items were recoded so that the midpoint of the frequency range was the variable's value (i.e., 0 = never, 1 = once, 2 = twice, 4 = 3–5 times, 8 = 6–10 times, 11 = more than 10 times [conservatively coded]). Women's use of violence and being victimized variables were each composite scores so that total use of violence and being victimized in the relationship was measured. In the present study, the internal consistency of the items for women's use of violence was .87; for women's being victimized items, the alpha was .90.

Coping with relationship stress. Coping with relationship stress was measured with the 33-item Coping Strategy Indicator (Amirkhan, 1990), which consists of three factors with good reliability and validity: problem solving, seeking support, and avoidance coping. Participants were asked to rate each item in relation to an identified relationship problem on a scale from 1 (*not at all*) to 3 (*a lot*). In the present study, only the 11-item avoidance coping subscale (e.g., "I avoided being with people in general," "I tried to distract myself from the problem") was utilized. Internal consistency for this subscale, which was created as a summed scored, was .80.

Depressive symptoms. Depressive symptoms were assessed using the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977). The instrument has established validity and reliability and has been shown to discriminate between samples of psychiatric patients and the general population (Radloff, 1977). The 20-item screening measure assesses depressive symptoms within the past week (e.g., "I felt that I could not shake off the blues even with help from my family and friends," "I felt hopeless about the future"). The response scale ranges from 0 (*experienced symptoms 0 days in the last week*) to 3 (*experienced symptoms 5–7 days in the last week*). All 20 items were summed to created the total score. In

the present study, internal consistency for the measure was .93.

Posttraumatic stress symptoms. Posttraumatic stress symptoms were assessed with 10 items from the Crime-Related PTSD scale for women (Saunders, Kilpatrick, Hanson, Resnick, & Walker, 1999). This scale has been useful in discriminating victims of rape from nonvictims (Saunders, Arata, & Kilpatrick, 1990) as well as sexually harassed and nonharassed women (Schneider, Swan, & Fitzgerald, 1997). Participants were asked to rate "how much discomfort each symptom caused during the past week," (e.g., "feeling hopeless about the future," "temper outbursts you can't control"). Responses ranged from 0 (*no discomfort*) to 4 (*extreme discomfort*) and were summed to create a total posttraumatic stress symptom score. Internal consistency for the scale was .87.

Data Analysis

Study variables were assessed for assumptions of normality. Child abuse traumatization and women's use of violence had a modest degree of skew. Tabachnick and Fidell (2001) describe techniques for addressing skewed variables and recommend transformations to normalize distributions. These methods are preferable to dichotomizing variables, because dichotomizing reduces the informative value. A square root transformation was performed, producing a normal distribution for the two variables. Because women's experience of being victimized was assessed with the same measure as women's violence, being victimized also was transformed by square root to keep it on the same metric.

Missing data was replaced using the SPSS 11.0.1 implementation of the EM algorithm (expectation-maximization; SPSS Inc., 2001), a statistical technique for imputing missing data that uses an iterative estimation procedure to impute missing values using maximum-likelihood estimation (Dempster, Laird, & Rubin, 1977; Little & Rubin, 1987). Expectation-maximization (EM) is recommended for data to be used in structural equation modeling (e.g., path analysis) because it introduces the least bias into the estimate model (Hair, Tatham, Anderson, & Black, 1998). Missing data rates ranged from 0.9% to 9.3% and were imputed using key demographic variables and all other study variables. The resulting data set was then analyzed using complete data methods for the sample of 108 participants. The AMOS 4.0 statistical program (Arbuckle & Wothke, 1999) was employed to analyze the path models, obtain maximum-likelihood estimates of model parameters, and provide goodness-of-fit indices. A model that provides a good fit to the data is generally considered one that has a root mean square of approximation (RMSEA) value of less than .05 with a p test for closeness of fit for RMSEA of .50 or greater, and a model relative chi-square (χ^2/df) of less than 3 (Byrne, 2001). Individual path coefficients, which can be interpreted similarly to regression coefficients, are considered significant at $p < .05$.

RESULTS

Correlations and Descriptive Statistics

Over half of the sample experienced child abuse traumatization with a magnitude score of 2 or greater. The prevalence rates of women's use of violence and women's experiences of being victimized were 100%. Correlations, means, and standard deviations of the study variables are presented in Table 1. Correlations indicate a strong positive association of women's use of violence to being victimized ($r = .46$, $p < .01$). Of note, child abuse traumatization was significantly related to women's violence ($r = .23$, $p < .01$), but was not related to women's victimization. Finally, women's use of violence was not significantly related to avoidance coping.

Path Models

A preliminary path model of women's use of violence and their experiences of being victimized incorporating all study variables was run. This model was identical to that shown in Figure 1. The path from women's use of violence to avoidance coping (Path I) was nonsignificant ($\beta = .00$, $p > .10$). Removal of this path resulted in measurable improvement in model fit; it was therefore removed from subsequent analyses. When the other nonsignificant paths were removed, the model fit was affected negligibly; these paths were therefore retained in the final model.

The final path model (see Figure 2) provided a good fit to the data, with a nonsignificant chi-square, $\chi^2(2, N = 108) = 0.52$, $p = .77$, a $\chi^2/df = .26$, GFI = .99, Adjusted GFI = .98, RMSEA = .00, a confidence interval of .00 to .13, and a p for test of close fit of .82.

The first hypothesis explored the direct relationships of child abuse traumatization to both women's use of violence and being victimized and was partially supported. Higher levels of child abuse traumatization predicted higher levels of women's use of violence ($\beta = .23$, $p = .01$). However, contrary to the hypothesis, higher levels of child abuse traumatization were not related to women's experiences of being victimized.

The second hypothesis pertained to the direct relationships of child abuse traumatization, women's use of violence, and experiences of being victimized to depressive and posttraumatic stress symptoms. Consistent with this hypothesis, higher levels of child abuse traumatization predicted greater levels of both depressive ($\beta = .30$, $p < .01$) and posttraumatic stress ($\beta = .25$, $p < .01$) symptoms. Significant and positive relationships were also observed between being victimized and depressive ($\beta = .41$, $p < .01$) and posttraumatic stress ($\beta = .26$, $p < .01$) symptoms. However, contrary to the hypothesis, women's use of violence was not directly related to depressive or posttraumatic stress symptoms.

The final hypothesis was that women's experiences of being victimized would have a positive and indirect

Table 1
Means, Standard Deviations, and Intercorrelations of Study Variables

Variable	M	SD	Range	1	2	3	4	5	6
1. Child abuse traumatization	5.8	7.5	0-28	—					
2. Women's use of violence	53.3	36.8	4-168	.23**	—				
3. Women's experiences of being victimized	68.6	48.5	2-222	.04	.46**	—			
4. Avoidance coping	23.2	5.0	11-32	.08	.15	.30**	—		
5. Posttraumatic stress symptoms	12.3	9.0	0-38	.29**	.27**	.34**	.24*	—	
6. Depressive symptoms	20.6	12.6	0-52	.35**	.33**	.51**	.42**	.73**	—

Note. N = 108. Means and standard deviations are for untransformed scores. Correlations are based on transformed scores.
*p < .05. **p < .01.

relationship to symptoms through avoidance coping. As hypothesized, an indirect effect of being victimized to depressive symptoms via avoidance coping was observed. Being victimized significantly predicted the use of avoidance coping ($\beta = .30, p < .01$) and avoidance coping was significantly related to depressive symptoms ($\beta = .27, p < .01$). However, the relationship between avoidance coping and posttraumatic stress symptoms was nonsignificant. Women's violence did not affect avoidance coping, and therefore no indirect effects emerged regarding either depressive or posttraumatic stress symptoms.

To illustrate the point that findings differ if women's experiences of being victimized is not included in the same path model as women's violence, two path models were analyzed that were identical to the final model except that each model contained only use of violence or only being victimized. The violence-only model (see Figure 3) provided a reasonable fit to the data, had a nonsignificant chi-square, $\chi^2(2, N = 108) = 2.49, p = .29$, a $\chi^2/df = 1.25$, GFI = .99, Adjusted GFI = .93, RMSEA = .05, a confidence interval of .00 to .20, and a p for test of close fit of .38. The

victimized-only model (see Figure 4) provided a good fit to the data, with a nonsignificant chi-square, $\chi^2(2, N = 108) = 0.50, p = .48$, a $\chi^2/df = .50$, GFI = .99, Adjusted GFI = .97, RMSEA = .00, a confidence interval of .00 to .23, and a p for test of close fit of .53. Results for the violence-only and victimized-only models show that when examined separately, women's use of violence is significantly and positively associated with higher levels of depression ($\beta = .21, p < .01$) and posttraumatic stress symptoms ($\beta = .19, p < .05$). However, when violence is examined in a model including experiences of being victimized, as is seen in the full model, violence is not related to symptomatology.

DISCUSSION

The present study provides additional evidence that women who use violence in their intimate relationships are also highly victimized (Abel, 2001) and helps to further explain previous findings regarding women's use of violence (Swan & Snow, 2002, 2003). When women's violence has been examined in a relational context, accounting for both use

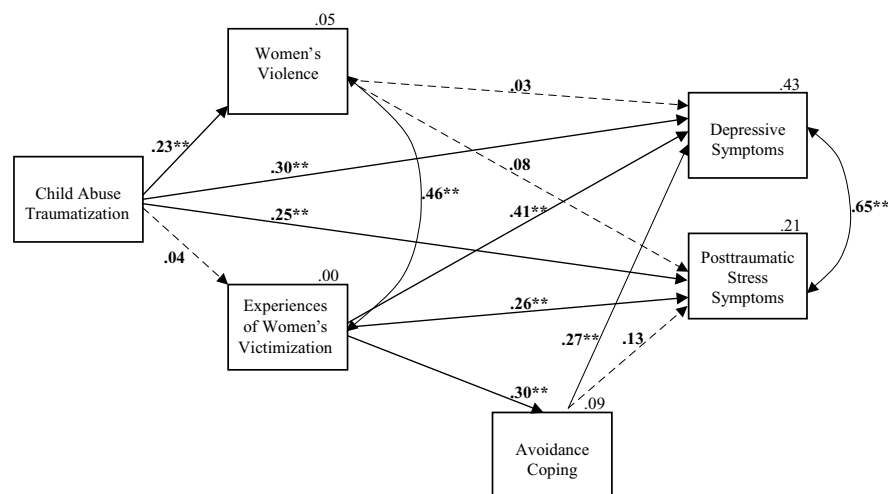


Fig. 2. Model of women's violence and experiences of being victimized. Broken paths indicate $p > .10$. R^2 are noted above each variable. * $p < .05$. ** $p < .01$.

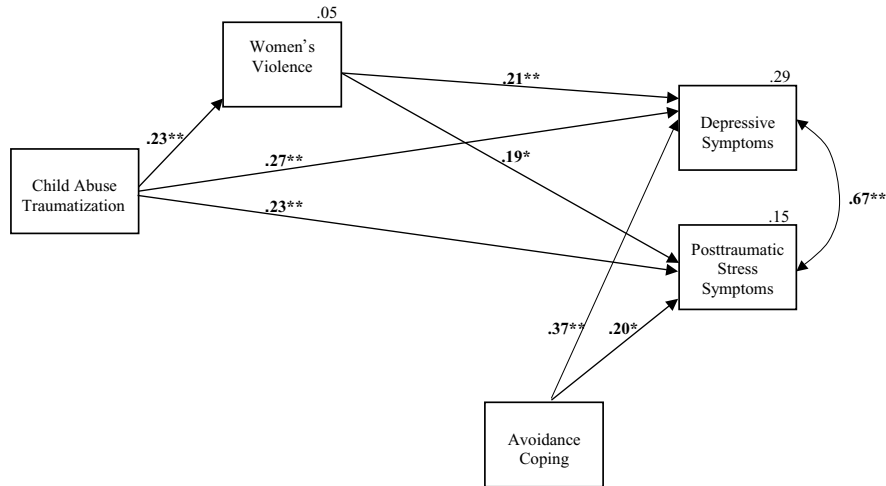


Fig. 3. Violence-only model.

Note. R^2 are noted above each variable.
 $*p < .05$. $**p < .01$.

of violence and being victimized, women’s violence has not contributed to psychological symptoms or avoidance coping. In the present study, when women’s violence was considered separately, it was positively associated with symptoms, whereas, when use of violence and being victimized were considered in the same equation, it was being victimized that was predictive of symptoms. One interpretation of these findings is that use of violence may not be related to psychological symptoms or avoidance coping because women who use violence may feel a sense of “controllability” over future events (Carlson & Dalenberg, 2000). In fact, controllability has been found to be related to fewer psychological symptoms (Dalenberg & Jacobs, 1994) and to less use of avoidance coping (Roth & Cohen, 1986). By contrast, findings in the current study provide strong evidence that women’s experiences of being victimized, both in childhood and adult intimate relationships, is associated with greater levels of depressive and posttraumatic stress symptoms and

greater use of avoidance coping. These findings are consistent with other research (Astin, Ogland-Hand, Coleman, & Foy, 1995; Briere & Runtz, 1987; Foa et al., 2000; Kernic, Holt, Stoner, Wolf, & Rivara, 2003; Laffaye et al., 2003).

An additional finding of particular interest is that the reported level of child abuse traumatization predicted women’s use of violence but not their being victimized. This finding is consistent with the model proposed by Foa and colleagues (2000), that childhood traumatization is related to psychological symptoms in adulthood, but is not necessarily predictive of being victimized in adulthood. Similarly, several recent studies did not find an elevated incidence of childhood trauma among battered women (Astin, Lawrence, & Foy, 1993; Hotaling & Sugarman, 1990). However, this result is contrary to findings reported on other studies (Beitchman et al., 1992; Messman-Moore & Long, 2000). Furthermore, the association of childhood abuse with women’s use of violence and being victimized has

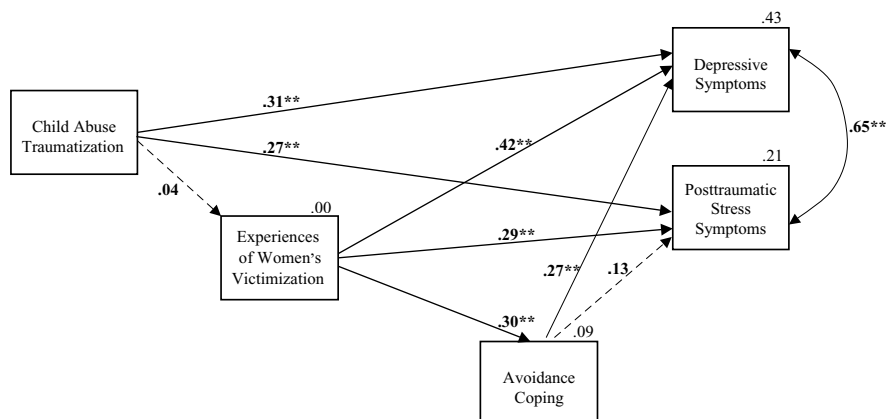


Fig. 4. Experiences of victimization-only model. Broken path indicates $p > .10$. R^2 are noted above each variable. $**p < .01$.

been shown to differ depending on the type of childhood abuse experienced. Feerick and colleagues (2002) found that childhood sexual abuse was related to women's use of violence and their being victimized in intimate relationships while childhood physical abuse was not. The nonsignificant relationship between child abuse traumatization and women being victimized in the current study may be related to how each of these variables was measured. Perhaps if child abuse traumatization had been measured separately by type (e.g., childhood sexual abuse, childhood physical abuse), certain types of early abuse experiences would have been related to both women's use of violence and their being victimized, while other types might be related to either use of violence or being victimized. Clarifying the relationships of childhood abuse to the occurrence of women's violence and/or experiences of being victimized is an important area needing further investigation.

The finding that child abuse traumatization predicted women's use of violence in their current relationships is consistent with extant literature on women's use of violence (Langhinrichsen-Rohling et al., 1995). This finding also is consistent with social learning theory (Bandura, 1973, 1977) and with the intergenerational transmission of violence hypothesis (based in social learning theory), which suggests that aggression in the family of origin is related to later aggressive behavior in interpersonal relationships (Bandura, 1977; Kalmuss, 1984; MacEwen, 1994; Swinford, DeMaris, Cernkovich, & Giordano, 2000; Wall & McKee, 2002).

Social learning theory posits that people acquire aggressive responses by direct experience or observation. Utilizing this framework, women's use of violence can be understood as a pattern of behavior that is learned and reinforced as a result of their direct experiences of childhood abuse and/or as recipients of violence in adult partner relationships (Bandura, 1973, 1977). The change in a victim's behavior in response to violence, along with the absence of immediate consequences for the person who uses violence, serve as powerful reinforcers for patterns of violence as well as experiences of being victimized (Perilla, Frndak, Lillard, & East, 2003). Children in abusive and violent families learn that the use of physical aggression is effective in relationships (Kalmuss, 1984). Although the current study was not a direct test of social learning theory, it seems probable that women who were abused as children learned violent behaviors through modeling and other learning processes, and as a means to address conflict, deal with frustration, gain control, or defend themselves. In fact, Swan and Snow (2003) found that a high percentage of women used violence in self-defense (75%), and many used violence for retaliation (45%) or to control their partners (35%). Our explanation represents only one possibility for these relationships. Other explanations also exist. For example, partners' drinking increases the risk for both women's use of violence and their being victimized, as well as mediates the effects of women's own problematic alcohol use on their perpetration (White & Chen, 2002).

Child abuse traumatization had a significant relationship to psychological symptoms, even when accounting for women's current use of violence, their current experiences of being victimized, and other study variables. These findings are particularly notable because this study measured current symptoms, demonstrating that the impact of childhood abuse continues well beyond childhood and influences psychological functioning into adulthood. Additionally, findings suggest that women who report higher levels of both childhood and adult victimization are at the greatest risk of experiencing depressive and posttraumatic stress symptoms.

The finding that being victimized related directly to depressive and posttraumatic stress symptoms, and indirectly to depressive symptoms through avoidance coping, offers new insights into the multiple pathways from being victimized to symptomatology. The significant relationship of being victimized to avoidance coping is an important finding because the negative implications of the use of avoidance coping have been documented (Felsten, 1998). Taken together, these results indicate the critical need for continued efforts to reduce the victimizing of women and to modify coping strategies through programmatic interventions as well as community and societal-level change efforts.

Limitations of This Study

Although this study uniquely contributes to existing literature on intimate partner violence, there are limitations to be noted. Considering the method of analysis, the sample size relative to the number of parameters to be estimated was relatively small. As a result, other variables (e.g., attachment, active coping, substance use) could not be included that might help to further explain the relationships among the study variables. Larger sample sizes will permit these analyses.

The measures used to assess women's use of violence and their being victimized (the CTS2 and the PMWI) have limitations. The CTS2 in particular has been criticized because it does not assess the context of the behaviors or the impact on the person to whom the behaviors are directed. For example, the woman who hits her partner may cause him little pain, but the man who hits his partner may cause her severe injury. Neither measure assesses whether abusive behaviors occurred within the same incident or across multiple incidents or whether they were committed in self-defense. Also, the measurement of abusive behavior is limited by the self-report of one partner and may not reflect the partners' reports. The strengths of these measures are that they have been widely used with many different populations (especially the CTS2) and have reasonable internal consistency and validity.

The instrument used to measure posttraumatic stress may be limited in its sensitivity for this population of women because it measures crime-related posttraumatic

stress symptoms and may underestimate the presence of those symptoms that are specific to partner-violence-related posttraumatic stress. The majority of women in the current study were low-income, African American, living in an urban environment, and all were in intimate relationships with male partners. The generalizability of the findings is likely highest for women with similar socio-demographic characteristics who have used violence against their male partners. These findings may or may not generalize to women who do not use violence in intimate relationships or to women of other sexual orientations, racial or ethnic groups, or socioeconomic status. Finally, the current study is cross-sectional and thus does not reveal the direction of causal relationships. Longitudinal studies with larger samples are needed to further explore the relationships among study variables. In addition, the possibility exists that alternative models based on different assumptions could examine the relationships among variables differently. For example, psychological symptoms could be investigated as potential causes of violence, as has been done with male batterers (Dutton & Golant, 1995). These are areas requiring further research.

Implications for Intervention and Research

Findings suggest that future research should examine women's use of violence and their experiences of being victimized in the same path model. This analytic approach allows the determination of the unique relationships of each of these variables to precursors, correlates, and outcomes, and may help explain inconsistent findings in extant literature. Evidence emerged that when women's use of violence and their experiences of being victimized are examined simultaneously with path analysis, use of violence is unrelated to psychological symptoms. If being victimized had not been included in the path model, it would have been erroneously concluded that women's use of violence was directly related to both depression and posttraumatic stress symptoms. Also, regardless of the level of victimization in adult relationships, child abuse traumatization continues to have a strong association with current psychological symptoms. These findings are highly relevant for interventions with women who, in their intimate relationships, both use and are victims of violence. As Leisring and colleagues (2003) note, programs for women who use violence in their intimate relationships need to address women's past and current experiences of being victimized as important contextual factors of their use of violence. With these points in mind, it is important for those working with abused girls to understand the pervasiveness of the impact of childhood abuse and the potential for the development of violent behavior. Overall, the findings underscore the need to expand efforts aimed at prevention of both childhood abuse and adult intimate partner violence.

Avoidance coping, in addition to being victimized, was related to increased risk for higher levels of depressive

symptoms. Because coping strategies have been shown to be modifiable through group interventions (Snow, Swan, & Wilton, 2003), programs should be designed to include components aimed at reducing women's use of avoidance coping. In addition to the focus on avoidance coping, further research on a broader range of coping methods is needed. Interventions that promote problem-focused coping (Arias & Pape, 1999) and social support coping (Kocot & Goodman, 2003) enhance self-efficacy and lead to more positive adjustment. These coping methods need to be assessed to determine whether they serve a protective function in the relationships between being victimized and symptoms. If so, interventions should be designed as well to promote use of these more active approaches to coping with relationship conflict.

Two further research areas are important to pursue. The construct of controllability deserves special attention because it might help to explain the different relationships of women's use of violence and their being victimized to symptoms. Finally, it would be useful to examine subtypes of using violence and being victimized (i.e., physical, sexual, and psychological) because investigations at this more discrete level may reveal differential patterns of relationships among variables depending on the type of intimate partner violence.

Initial submission: November 26, 2003

Initial acceptance: April 18, 2004

Final acceptance: May 18, 2005

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