
Early exposure to violence, domestic violence, attachment representations, and marital adjustment

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Abstract

The present study investigates the effects of violent experiences in childhood on current domestic violence and marital adjustment, using adult attachment theory as a conceptual framework. A nonclinical sample of 644 Canadian adults in long-term romantic relationships completed measures of adult romantic attachment, conflict tactics scales, and dyadic adjustment. Structural equation modeling revealed that early experiences of violence affect adults' intimate violence directly and indirectly through anxiety over abandonment and avoidance of intimacy. The actor–partner interdependence model illustrated the importance of early exposure to violence in predicting both partners' attachment representations, intimate violence, and couple adjustment. Findings are discussed with reference to the clinical issues surrounding minor violence against the intimate partner.

The presence of physical and psychological violence in love relationships is inherently paradoxical. Attachment theory is a useful framework for gaining a better understanding of this association. Yet, no study has empirically tested an integrative model of the relation between early exposure to violence, adult intimate partner violence (IPV), and marital adjustment, using the attachment theory

as a conceptual framework. Even if previous research has already tested some segments of this model, this study is an attempt to respond to this gap in the literature and to further our understanding of the association between exposure to violence in the family of origin, adult insecure attachment representations, IPV, and marital adjustment.

Despite extensive prevention campaigns, IPV is still present at different intensities in approximately 24% of all relationships (Whitaker, Tadesse, Swahn, & Saltzman, 2007)—29% in women and 23% in men (Coker et al., 2002)—with 7% of women and 6% of men reporting IPV during the past 5 years only (Statistics Canada, 2006). Reaching 1.5 million women and 834,700 men in the United States each year (Tjaden & Thoennes, 1998), IPV is associated with negative outcomes such as psychological distress (William, Frieze, & Henson, 2005), financial costs (National Center for Injury Prevention and Control, 2003), physical injuries (50% of female survivors report

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injuries, 20% seek medical assistance; Greenfeld et al., 1998), and death (male intimates commit the majority of homicides; Rennison & Welchans, 2000).

Empirical studies also highlighted the role of IPV in adverse marital outcomes. Couples with severe or minor levels of violence report more marital distress than non-violent couples do (Simpson, Doss, Wheeler, & Christensen, 2007). Husbands' aggression predicts wives' marital dissatisfaction and steps toward divorce (Heyman, O'Leary, & Jouriles, 1995) and is related to lower marital satisfaction (Lawrence & Bradbury, 2007) and perceived marital stability among the wives (Arias, Lyons, & Street, 1997). In a meta-analysis of 32 studies, Stith, Green, Smith, and Ward (2008) found confirmation of a considerable negative association between dyadic satisfaction and IPV (overall $r = -0.27$). These numbers and implications highlight the importance of further understanding the etiology and effects of IPV in link with marital outcomes. Among numerous individual, relational, and societal factors proposed as determinants of IPV, one of the most consistent predictors is early exposure to violence.

Early Exposure to Violence, IPV and Marital Distress

Childhood psychological or physical abuse by parents represents, by definition, negative early interpersonal life events that may have a developmental impact on the capacity to assume appropriate adult roles in close relationships. Hotelling and Sugarman (1986, 1990) conducted a comprehensive empirical review of the risk markers in husband-to-wife violence, including 52 case comparison studies and more than 97 potential correlates of IPV. They found that the most consistent factor of IPV was experiencing or witnessing parental violence as a child.

A growing body of research shows that domestically abusive males are far more likely to have been exposed to family violence as children, as compared to nonviolent males, males who are unhappy in their relationship, or male perpetrators of other crimes, suggesting that witnessing and experiencing parental

violence are specific precursors of IPV (e.g., Delsol & Margolin, 2004; Dutton, 1999; Lawson, 2008; Nelson & Wampler, 2000; Smith & O'Leary, 2001; Whitfield, Anda, Dube, & Felitti, 2003). Dutton and Hart (1992) found that 41% of the domestically violent criminals experienced childhood physical violence, compared to 30% of the other violent criminals and 15% of the nonviolent criminals. Estimates are that male survivors of family violence are 3–10 times more likely to be domestically violent than men with no such history (Murphy, Meyer, & O'Leary, 1993; Straus, Gelles, & Steinmetz, 1980). Lawson (2008) found that severely violent men (kicked, hit, and/or choked their wife) experienced and witnessed more parental violence than moderately violent men (pushed, grabbed, and/or slapped their wife) and non-violent men. Then, moderately violent men experienced more parental violence than non-violent men did. In a student's sample, Gover, Kaukinen, and Fox (2008) also observed that childhood exposure to family violence was a consistent predictor of involvement in violent relationships.

Longitudinal and prospective studies have established the link between early exposure to violence and IPV with more clarity. In a 20-year prospective community study, Ehrensaft and colleagues (2003) found exposure to domestic violence to be the second strongest risk factor for perpetrating IPV. Another strong independent risk factor of injury to the romantic partner is childhood physical abuse. White and Widom (2003) observed that abused or neglected individuals reported higher rates of hitting or throwing things at their partners compared to matched-control participants. They also found that adult antisocial personality disorder (deceitfulness for personal profit, impulsivity, aggressiveness, lack of remorse) mediated the effects of childhood victimization on perpetration of IPV.

Evidence also strongly suggests that childhood exposure to violence predicts negative adult marital outcomes (for a review, see DiLillo, 2001). Research has mostly examined links between child sexual abuse and later marital adjustment. Yet, in a recent

large national study evaluating the associations between seven childhood traumas and marital outcomes, Whisman (2006) found that the probability of divorce or separation was approximately two times more likely for people who had experienced childhood physical abuse or serious physical assault compared to individuals who had not experienced any childhood violence.

Although early exposure to violence is a consistent correlate of IPV, most survivors of family violence do not become perpetrators of IPV. Yet we know little about the pathways or mechanisms that contribute to the intergenerational transmission of family violence, and there is a need for a strong empirically supported theoretical framework. Moreover, samples in the majority of studies were male batterers, incarcerated populations, or subjects within the criminal justice systems; few studies considered the couple as the unit of analysis and included women's use of violence. The results may not be applicable to non-clinical samples of males and females who generally report subtler forms of mutual IPV. This study aims to respond to those gaps by (a) studying the role of attachment theory as a conceptual framework for understanding the link between early exposure to violence within the family and IPV, and testing the proposition that the formation of attachment insecurities is a mechanism that mediates this link; (b) studying subtler forms of IPV typically observed in nonclinical samples of couples; (c) considering the couple as the unit of analysis; and (d) studying both men's and women's use of violence. No study has simultaneously examined the history of childhood exposure to violence, attachment insecurities, IPV, and marital adjustment of men and women in a dyadic context.

Brief Overview of Attachment Theory

Bowlby (1969) proposed the attachment theory to explain the human drive to form relationships with others and to maintain a desired level of accessibility to significant others (i.e., attachment figures). Bowlby hypothesized that the *attachment behavioral system* regulates

the child's attachment behaviors under emotional distress and that attachment figures who offer contact, reassurance, and comfort facilitate the child's development of emotional regulation, well-being, and expectations that close relationships provide a safe haven and a secure base, stimulating the development of positive models of his or her self and others' relationships (Bowlby, 1973, 1984; Cicchetti & Lynch, 1993).

Researchers extended the attachment theory to adult romantic relationships in the late 1980s. They observed that infants' parents and adult romantic partners shared similar attachment features (e.g., feeling safe when the other is nearby and responsive, engaging in bodily contact; Bartholomew, 1993; Hazan & Shaver, 1987). Bartholomew developed a quadripartite model of adult attachment based on two main dimensions (Bartholomew, 1990; Bartholomew & Horowitz, 1991). The anxiety toward separation and abandonment dimension (model of self) represents the level of fear of relational rejection and abandonment, combined with lack of a sense of self-worth. It involves a *strategic hyperactivation* of the attachment system that keeps the focus on signals of the relationship's threats, and on the search for love and security. The avoidance of close relationships dimension (model of other) represents the degree of emotional suppression, self-reliance, and discomfort with closeness and interdependence a person experiences, based on expectations that the partner will be unavailable and nonsupportive. It involves a *strategic deactivation* of the attachment system to reduce negative emotional states as well as vulnerability to rejection and neediness (see Mikulincer & Shaver, 2003).

In the quadripartite model, secure individuals who are low in anxiety and avoidance (positive models of self and others), typically have high self-esteem combined with good ability to form and maintain intimate relationships. Avoidant individuals who are low in anxiety and high in avoidance (positive model of self, negative model of others), prototypically maintain a positive self-image by defensively downplaying the importance of their attachment needs and keeping emotional distance from the partner. Preoccupied individuals who

are high in anxiety and low in avoidance (negative model of self, positive model of others) typically engage in active efforts to gain the partner's support and reassurance to validate a tenuous sense of self-worth. Fearful individuals who are high in anxiety and avoidance (negative models of self and others), typically both desire and fear intimacy, based on their perception of being unworthy of love and trying to protect themselves from abandonment by withdrawing from the relationship.

Early Exposure to Violence Within the Family and the Development of Attachment Insecurities

From an attachment perspective, witnessing domestic violence or being a victim of parental violence may challenge the child's confidence in the parents' availability and responsiveness (Davies & Cummings, 1995, 1998). Children can easily perceive parental critical remarks, anger, and violence as rejection or abandonment. Conflicts and fear are also part of a climate of family violence and together they reduce the parent's capacity to attend to the child. Similarly, there may be a lack of open communication among family members in a violent environment. Consequently, children who are exposed to parental violence are less likely to have their basic need for available and consistently responsive caregivers fulfilled, impairing the development of positive internal working models of self and others, and of healthy relational patterns (Ainsworth, Blehar, Waters, & Wall, 1978). Children exposed to parental violence must, in addition, deal with their attachment figures as potential sources of danger. Thus, a context of family violence prevents the development of self-regulation skills and contributes to a vision of the self as helpless and vulnerable, living in a threatening world where others are unavailable or untreatable. This context contributes to the adoption of hyperactivating strategies as the child learns to try harder or display dramatic negative emotions to attain some protective relationship, or in contrast, to the development of protective avoidant strategies.

Empirical studies consistently found that maltreated children and children who witnessed marital violence were likely to form insecure attachment with their caregivers and to maintain insecure attachment styles in adulthood. Muller, Sicoli, and Lemieux (2000) observed that 76% adult survivors of childhood violence were insecurely attached (compared to 42% and 53% in nonclinical samples; Bartholomew & Horowitz, 1991; van IJzendoorn & Bakermans-Kranenburg, 1996). In a 20-year longitudinal study, Waters, Merrick, Treboux, Crowell, and Albersheim (2000) found that negative life events such as parental physical abuse significantly explained changes from a secure to an insecure attachment classification. Secure infants who experienced such negative life events had also higher chances of becoming insecurely attached in adulthood (67% became insecure), compared to secure infants who had no history of negative life events (15% became insecure). Weinfield, Sroufe, and Egeland (2000) found that maltreated children who developed insecure attachment tended to remain insecurely attached in adulthood (none of them became securely attached). Studies also highlighted the importance of considering intergenerational trajectories from early exposure to violence, to adult outcomes. For example, Godbout, Lussier, and Sabourin (2006) found that experiencing parental violence as a child was associated with subsequent dyadic adjustment through psychological distress in men, while in women, it was rather witnessing domestic violence that was linked with dyadic adjustment, through abandonment anxiety.

Attachment Insecurities, IPV, and Marital Distress

Parental violence constitutes a failure of the attachment figure to be available and responsive, and usually leads to experiences of fear and distress in the child. As an immediate response, children typically display angry behaviors (Bowlby, 1969, 1973). Ainsworth and colleagues (1978) observed such behavior when the mother of an anxiously attached

1-year-old left the room and returned 3 min later. Although anger can be a protest strategy aimed at preventing future separations and related anxiety, it can also be destructive and provoke an escalation of violence or disengagement from the other. As such, insecure attachment can be both a source and a consequence of interpersonal violence.

Attachment theory proposes that adult IPV can be an exaggerated and destructive form of protest expressed toward the partner in the context of perceived separation and abandonment, or a deactivating strategy, learned as a way of coping with previous unsuccessful proximity-seeking attempts, and mainly used as a way of keeping the partner from becoming too intimate or in response to the partner evoking internal fear and anxiety (e.g., Allison, Bartholomew, Mayseless, & Dutton, 2008; Babcock, Jacobson, Gottman, & Yerington, 2000). Empirical studies have found disordered attachment to be a strong predictor of couple distress (e.g., Davila & Bradbury, 2001) and IPV especially via borderline and antisocial personality traits (e.g., Mauricio, Tein, & Lopez, 2007; Sonkin & Dutton, 2003). Secure attachment is clearly underrepresented in court-mandated domestically violent males while preoccupied and dismissing attachment styles are overrepresented, and fearful attachment is strongly related to the frequency of IPV (Dutton, Saunders, Starzomski, & Bartholomew, 1994).

On the one hand, anxious males appeared more likely to express IPV when their spouse's behavior activated their fear of abandonment (when they interpreted rejection or abandonment in their wife's behaviors) but showed responses similar to nonviolent men in conflicts that centered on requests for more intimacy or without risk of abandonment (Dutton & Browning, 1988; Holtzworth-Munroe & Anglin, 1991). On a more severe note, Dutton and Kerry (1999) found that males commit spousal homicide in response to real or perceived abandonment. On the other hand, increases in comfort with closeness are correlated to decreases in males' IPV (Lawson, 2008). Babcock and colleagues (2000) observed

that preoccupied husbands were the least distancing and expressed IPV in link to wife withdrawal, whereas dismissing husbands were the most controlling and distancing during marital conflicts and expressed IPV in relation to wife defensiveness. Allison and colleagues (2008) found similar patterns in which anxiously attached partners used IPV to force the partner to focus on them and to obtain greater physical or emotional proximity (a pursuit strategy), and avoidant partners used IPV to push the partner away, maintain greater distance, or escape when they perceived the partner as being too close or intrusive (a distancing strategy). In a review of 23 studies on attachment and IPV, Mikulincer and Shaver (2007) found that avoidant attachment was associated with IPV only when accompanied by attachment anxiety, supporting the need to examine the interactive effect of both dimensions. Yet no study tested an integrative model of the mediator role of attachment insecurities in relation to early exposure to violence, IPV, and marital distress, looking at the dyadic effects between men and women partner's in nonclinical couples.

Contribution and Goals of the Current Study

First, the present study furthers our understanding of the empirical relationship between early exposure to violence and subsequent abusive behaviors, a relationship that still remains underresearched. Second, this study contributes to current knowledge by empirically documenting the theoretical paths linking early exposure to violence and domestic violence in adulthood in a nonclinical sample of couples. Third, this study examines the extent to which early exposure to violence has direct effects on IPV and marital distress or, indirect effects that are partially or completely mediated by attachment insecurities. Clarifying these relationships will help establish comprehensive models of intervention based on the most relevant factors contributing to IPV. Finally, this study separately documents the levels of intimate violence in male and

female partners and tests an integrative mediation model using the couple as the analytic unit.

Method

Participants and procedure

Participants consisted of 315 men and 329 women in long-term romantic relationships, who were either married ($n = 189$) or cohabiting ($n = 455$). The participants had been in couple relationships with their partners for an average of 7 years ($SD = 4.5$). At the time of the study, 47.5% of our sample did not have children from their present relationship and 52.5% had one or more children. The mean age was 27.6 years ($SD = 4.3$) for women and 29.5 years ($SD = 5.5$) for men. On an average, women had 14.9 ($SD = 3.1$) years of education, and men had 14.3 ($SD = 3.5$) years. The average annual income was CAN\$26,811 ($SD = CAN\$17,681$) for women and CAN\$38,126 ($SD = CAN\$19,862$) for men.

We recruited participants in Quebec, Canada, through two methods. First, a survey firm recruited an initial randomized pool of 600 couples ($N = 1200$) using random-digit telephone dialing. Of this pool, 553 participants (259 intact couples, and 35 participant members from couples whose partners did not return their questionnaires) completed and returned their questionnaires. Second, we invited the participants to take part in the study through various media advertisements (radio, TV, newspapers, e-mail). Ninety-one individuals responded and returned their questionnaires (45 intact couples, and 1 participant member from a couple whose partner did not return his questionnaires). In both methods, to ensure confidentiality, we mailed two separate envelopes (one to each member of the couple), containing a questionnaire packet and a prepaid return envelope. We informed all participants that the study addressed various dimensions associated with close relationships. We instructed them to complete the questionnaires individually and to not discuss their responses with their partner.

Measures

Early exposure to violence. Four single-item questions assessed participants' experiences of family violence (Godbout et al., 2006): (a) witnessing physical violence as a child: "Was there physical violence between your parents (hitting or kicking with or without objects, fighting, etc.)?" (b) witnessing psychological violence as a child: "Was there verbal violence between your parents (shouting, putting down, etc.)?" (c) experiencing physical violence as a child: "During your childhood, were you hit or beaten by one or both of your parents?" and (d) experiencing psychological violence as a child: "Did your parents put you down or shout hurtful words at you?" Response choices ranged from 1 (*never*) to 4 (*very often*). In a representative sample of 316 couples, Godbout and colleagues (2006) found that the four items were significantly interrelated in both men and women (r_s ranged from 0.19 to 0.50), that direct parental violence was positively linked with dyadic distress, psychological distress, and attachment avoidance in men, and that direct psychological violence and witnessing domestic violence were positively correlated with attachment avoidance in women. In the current study, Cronbach's alpha was used to assess reliability and its value reached 0.78, showing that the four items formed an internally consistent measure of childhood direct and indirect exposure to parental violence. The four questions were indicators of early experiences of violence in the structural equation modeling (SEM).

Attachment. We measured attachment representations with a shortened version (19 items) of the Experiences in Close Relationships Questionnaire (ECR; Brennan, Clark, & Shaver, 1998). This self-reported measure uses a 7-point Likert-type scale. The ECR measures two main dimensions of attachment insecurity: anxiety about rejection with feelings of personal unworthiness regarding interpersonal relationships, and avoidance of intimacy with interpersonal distrust. Higher scores indicate higher anxiety and avoidance. Many previous studies (e.g., Crowell, Fraley, & Shaver, 1999) have demonstrated the reliability, construct, and predictive and

discriminative validity of the two scales. In order to identify the best indicators of anxiety and avoidance, Lafontaine and Lussier (2007) examined: (a) the discriminative power for each of the 36 original ECR items using Testgraf (Ramsay, 1995), (b) the differential item functioning between men and women (DIF; Ramsay, 2000), and (c) the results of an explorative factorial analysis in a sample of 329 adults. They found that 10 anxiety and 9 avoidance items were the best indicators of their respective dimensions and we used those items in the present study. Lafontaine and Lussier then performed a confirmatory factorial analysis in a sample of 316 couples that supported the factorial validity of the shortened ECR. A representative item of anxiety is: "I worry a fair amount about losing my partner." A representative item of avoidance is: "I get uncomfortable when a romantic partner wants to be very close."

In the current study, alpha coefficients for avoidance and anxiety were good, 0.86 and 0.88 respectively, and Pearson r between anxiety and avoidance was 0.41. In order to minimize the number of SEM indicators without a significant loss of information, we used corrected item-total correlation scores to group items into six empirical indicators of attachment (three for anxiety and three for avoidance) that represented all the items on the ECR. We used this statistical procedure because neither anxiety nor avoidance is theoretically subdivided into specific conceptual dimensions. For each latent variable, the first indicator (Ax1/Avo1) regroups the items most strongly related to the appropriated total score, and the second indicator (Ax2/Avo2) regroups the next items most strongly related to the total score, and so forth. All the items showed satisfactory correlations with the total score (corrected item-total correlation scores ranged from 0.34 to 0.64).

IPV. The Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) measured psychological violence (8 items) and physical violence (12 items) in adulthood. Participants indicated the extent to which they had used each tactic against their partners and had sustained each

tactic from their partners with regard to their current relationships. The response categories were: *none, once, twice, 3–5 times, 6–10 times, 11–20 times, 21 or more times, and not in the past year, but it did happen before.* We coded these categories as a dichotomized variable (1 if it happened with any frequency in the last year; 0 if there were no such experiences in the past year) to calculate the annual prevalence. Quantitatively, we coded these categories as approximate midpoints of the ranges (i.e., 0, 1, 2, 4, 8, 15, and 25) and used a mean score for the other analyses. We assigned a score of 0 to the response category *not in the past year, but it did happen before* in an attempt to focus on IPV during the last year. Mean scores ranged from 0 to 25; the higher the score, the more extreme the violence. Example items from the psychological violence scale included calling a partner a lousy lover and destroying something belonging to a partner. The physical violence scale included items such as pushing a partner and slamming a partner against a wall.

The Conflict Tactics Scale (Straus, 1990) and its revised version, CTS2 (Straus, 2004), are widely used measures with evidence of good validity and reliability. The internal consistency estimate of the Straus and colleagues' (1996) version was 0.79 for psychological violence and 0.86 for physical violence. In this sample, we removed two items with zero variance from the scale: "choking a partner" and "menaced my partner with a knife or another weapon." Consequently, the final scale of physical IPV included 10 items. In the present study, alpha coefficients for the psychological violence and physical violence scales were relatively high (0.73 and 0.70, respectively). The scale of physical violence and the scale of psychological violence represented the two indicators of the latent factor, IPV, in the SEM.

Marital adjustment. A shortened nine-item version of the Dyadic Adjustment Scale (DAS-9) evaluated dyadic adjustment (Spanier, 1976). The DAS is the most widely used scale for the evaluation of marital characteristics in clinical and research settings (Piotrowski, 1999). The DAS-9 is a self-report questionnaire developed

with item response theory. Respondents indicated the degree to which specific events describe their couple adjustment during the past month using a Likert-type scale with a 5- and 6-point response format. Global scores range from 0 to 46, with higher scores reflecting a higher level of relationship quality. The items of the DAS-9 were from the Affective Expression (one item), Cohesion (three items), and Satisfaction (five items) subscales of the DAS. Previous studies yielded Cronbach's alpha coefficients ranging from 0.76 to 0.96 for the shortened version of the DAS (see Sabourin, Valois, & Lussier, 2005). A 3-year longitudinal study of couple dissolution (Sabourin et al., 2005) supported the predictive validity of the DAS short form. The correlation between the shortened DAS and social desirability was low, ranging between 0.17 and 0.25 (see Sabourin et al., 2005). Finally, temporal stability coefficients over a 2-year period were quite high (0.87 for men and 0.83 for women; Sabourin et al., 2005). Again, in order to minimize the number of SEM indicators without significant loss of information, we measured the latent factor for Dyadic Adjustment with two indicators representing two conceptual subscales of the DAS-9. In the present study, Cronbach's alphas were 0.86 for the total score of dyadic adjustment, 0.73 for the subscale Cohesion, and 0.80 for the subscale Satisfaction. A principal component analysis confirmed the presence of two related dimensions (eigenvalue > 1) in the current data, explaining 62% of the variance. Each item was highly related with its conceptual subscale (saturation coefficients ranged from 0.76 to 0.84 for Cohesion, and from 0.52 to 0.84 for Satisfaction), supporting the validity of using the 2-sub-scales as indicators of dyadic adjustment in the SEM analyses.

Data analyses

First, we performed descriptive analyses to report information on the prevalence of early exposure to parental violence and IPV in this nonclinical sample. Then, we computed zero-order correlations to examine links between our variables. Subsequently, we

tested our general hypothesis, using SEM with EQS (Bentler, 1995). We then performed SEM analyses based on the actor-partner interdependence model (APIM; see Kashy & Kenny, 2000; Kenny, Kashy, & Cook, 2006). The APIM involves using the couple as a unit of analysis. As such, we considered the relation between: (a) the male and female partner predictors (independent variables), (b) the female partner's variables and her own outcomes (dependant variables), (c) the female partner variables and her male partner's outcomes, (d) the male partner variables and his own outcomes, (e) the male partner variables and his female partner's outcomes, and (f) the covariance between the residual term of the male and female partner outcomes.

SEM estimates relationships among latent variables, considering all relationships at the same time and minimizing the effects of measurement error. Once we deemed that a model fit the data adequately, we could then interpret the parameter estimates. Because some of our variables of interest are naturally non-normally distributed (exposure to violence, IPV), we opted for the robust estimation method with Satorra and Bentler's (1988, 1994) scaling corrections, allowing for the calculation of the Satorra-Bentler scaled chi-square value and corrected fit index. Following recommendations by Raykov, Tomer, and Nesselroade (1991), we evaluated the fit of each estimated model to the observed data with several indices of adjustment. Bentler's (1990) comparative fit index (CFI) is a revised normed fit index that considers sample sizes. Bentler-Bonett's non-normed fit index (NNFI) is a variant of the normed fit index that takes the complexity of the model into account. These indices range from 0 to 1, where 1 indicates the best possible fit; Values above 0.90 indicate a good fit, values superior to 0.95 are ideal (Hu & Bentler, 1999). We computed the chi-square test, but since it is sensitive to sample size (Hayduck, 1987; Kline, 1998), we used the ratio of chi-square to degrees of freedom (χ^2/df). Values between 1 and 5 (Jöreskog & Sörbom, 1993) indicate a satisfactory fit between the theoretical model and empirical data, a more severe cutoff value of 3 is ideal

(Kline, 1998). Finally, Steiger and Lind's (1980) root mean square error of approximation (RMSEA) considers the error of approximation in the population and estimates the difference between model-implied and actual variances and covariances. Smaller RMSEA values indicate a better fit. Values less than 0.06 indicate a good fit between the hypothesized model and the observed data, and values as high as 0.08 represent reasonable errors of approximation (Browne & Cudeck, 1992; Hu & Bentler, 1999; Kline, 1998). MacCallum, Brown, and Sugawara (1996) strongly urged the use of RMSEA confidence intervals (C.I.), where narrow C.I. indicates good precision of the RMSEA value in reflecting a model fit in the population.

Results

Descriptive statistics and correlations

The proportion of participants who had experienced physical violence during their childhood was 27% ($n = 146$ *sometimes*, 23 *often or very often*), 24% in women and 30% in men. Approximately half of our participants—45% ($n = 218$ *sometimes*, 68 *often or very often*), 42% in women and 48% in men—reported having experienced psychological violence during their childhood. The proportion of participants having witnessed parental physical violence as a child was 10% ($n = 52$ *sometimes*, 13 *often or very often*), with equal proportions in women and men. Finally, 47% of participants ($n = 196$ *sometimes*, 105 *often or very often*), 46% of the women and 49% of the men, had witnessed parental psychological violence as a child. Nonparametric tests (Wilcoxon signed ranks tests) showed no significant sex differences in the reported direct or indirect experiences of parental violence.

Twenty-seven percent (female = 31%, male = 23%) of participants reported physical IPV and 83% (female = 86%, male = 80%) reported psychological IPV toward their partner during the last year. Only 17% of the participants reported the absence of any psychological violence toward their partner. Wilcoxon paired nonparametric tests indicated that women self-reported being more

violent toward their partners than men self-reported (physical IPV, $z = -3.77$, $p < .001$; psychological IPV, $z = -2.94$, $p < .01$).

We then compared self-reported violence to violence reported by the partner. Results showed that men reported that their female partners were less psychologically violent compared to the women self-report ($z = -4.74$, $p < .001$). Nonetheless, women reported that, on an average, their male partners were more physically violent than men self-reported ($z = 2.35$, $p = .02$). There was no significant difference between self-reported psychological violence among men and psychological violence that their female partners reported. Similarly, there was no significant difference between self-reported physical violence among women and physical violence that their male partners reported. We based all subsequent analyses on self-reported violence.

Table 1 shows zero-order correlations for all variables, combining women's and men's scores, included in the model. Violence against children and witnessing psychological violence were significantly and positively correlated with adult attachment and psychological IPV. Experiencing violence in childhood and witnessing physical violence between parents were associated with physical IPV. Experiences of direct violence and indirect psychological violence during childhood were negatively related to marital adjustment. We did not include "witnessing parental physical violence" in the SEM because correlations with attachment, psychological IPV, and marital adjustment were not significant. As expected, both anxious and avoidant attachment were positively correlated to IPV and negatively correlated to marital adjustment. Finally, attachment and IPV were linked to a diminution of marital adjustment.

Structural models for relationships between early violent experiences, IPV, attachment, and dyadic adjustment

Fit indices indicated that the theoretical model of the relationship between child abuse, attachment, IPV and marital

Table 1. Correlations among early experiences of violence, attachment, and conjugal adjustment for the total sample

Variables	1	2	3	4	5	6	7	8	9
1. Child PSY violence	—	0.51*	0.48*	0.30*	0.15*	0.12*	0.17*	0.10*	-0.09*
2. Child PHY violence		—	0.32*	0.31*	0.09*	0.10*	0.10*	0.07	-0.08*
3. Child WPSY violence			—	0.43*	0.09*	0.14*	0.12*	0.04	-0.12*
4. Child WPHY violence				—	0.03	0.05	0.06	0.10*	-0.05
5. Anxious attachment					—	0.45*	0.30*	0.21*	-0.38*
6. Avoidant attachment						—	0.24*	0.15*	-0.62*
7. IPV: Psychological							—	0.41*	-0.38*
8. IPV: Physical								—	-0.22*
9. Conjugal adjustment									—

Note. N ranged between 633 and 644. Child PSY violence = child psychological violence; Child PHY violence = child physical violence; Child WPSY violence = child witness of psychological domestic violence; Child WPHY violence = child witness of physical domestic violence; IPV = intimate partner violence.

* $p < .05$.

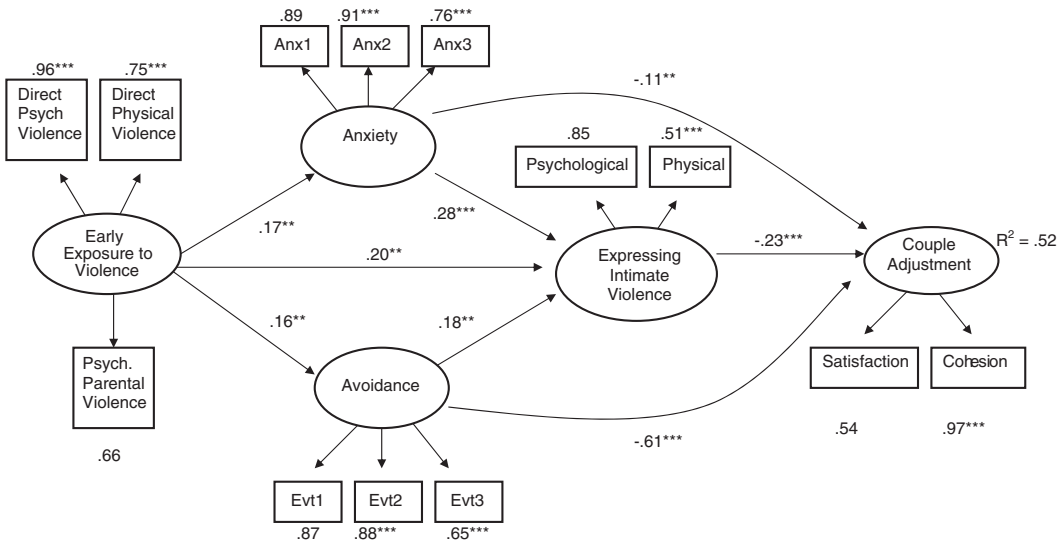


Figure 1. Structural equation modeling for early exposure to violence, attachment avoidance and anxiety, intimate partner violence, and couple adjustment in the overall sample. ** $p < .01$. *** $p < .001$.

adjustment (CFI = 0.98, NNFI = 0.98, RMSEA = 0.03 with 90% C.I. = 0.02, 0.04, and $\chi^2/df = 1.62$) is an excellent representation of the data. Figure 1 displays the standardized coefficients and paths for the measurement model and the structural model; all paths are significant ($p < .01$). The analysis of the measurement model showed that each latent variable was well represented by its indicators.

The structural paths revealed that history of parental violence affects IPV directly and indirectly through attachment representations. Survivors of child abuse tended to develop an internal working model that showed anxiety over close relationships and avoidance of intimacy. Their insecure attachment behaviors were associated with higher levels of IPV and lower levels of marital adjustment. We also

observed a direct path between early experiences of violence and subsequent IPV. Furthermore, IPV was related to marital distress directly and indirectly through insecure attachment. The model accounted for 16% of the variance for IPV and 50% of the variance for marital adjustment.

We then tested the invariance of the model across men and women using SEM in EQS. We imposed equality constraints on all factor loadings and structural paths. This represents a rigorous test for invariance within men and women. It is important to verify that both the measurement parameters (factor loadings) and the structural paths are invariant between the two genders in order to establish a meaningful and credible interpretation (Byrne, 2006). Results revealed a very well-fitting multigender model (CFI = .99, NNFI = .99, RMSEA = .02 with 90% C.I. = 0.01, 0.03, and $\chi^2/df = 1.09$). These results suggested a general equivalence of the model specifications across men and women. The Lagrange multiplier test of equality constraints determines evidence of noninvariance when univariate incremental χ^2 value probability is smaller than 0.05. The present results revealed no such case. Consequently, the observed pattern of child exposure to parental violence leading to insecure attachment and IPV that, in

turn, leads to marital distress, was equivalent across men and women in romantic relationships.

APIM structural models

To illustrate the importance of both partners' characteristics and behaviors in relationship dynamics, we treated the couple as a unit of analysis and examined the effects of both the participant's and his or her partner's variables on the dependant variables (Table 2 shows the zero-order correlations for men and women's variables). We tested the APIM model in the 304 intact couples. Fit indices indicated that the theoretical model, CFI = 0.93, NNFI = 0.91, RMSEA = 0.05 with 90% C.I. = 0.04, 0.05, and $\chi^2/df(473.87/278) = 1.70$, was a good representation of the data. Figure 2 displays the standardized coefficients and paths for the measurement model and the structural model; all paths are significant ($p < .05$).

The analysis of the measurement model showed that each latent variable was well represented by its indicators (not presented in Figure 2). The structural paths revealed that a history of parental violence affected IPV

Table 2. *Correlations among early experiences of violence, attachment, and conjugal adjustment in the couple sample*

Variables	1	2	3	4	5	6	7	8	9
1. Child PSY violence	0.12*	0.60*	0.53*	0.25*	0.15*	0.15*	0.22*	0.09*	-0.13*
2. Child PHY violence	0.57*	0.14*	0.31*	0.29*	0.04	0.09	0.15*	-0.01	-0.09
3. Child WPSY violence	0.52*	0.41*	0.06	0.45*	0.07	0.16*	0.21*	0.15*	-0.17*
4. Child WPHY violence	0.32*	0.37*	0.41*	-0.03	0.02	0.06	0.13*	0.16*	-0.09
5. Anxious attachment	0.15*	0.13*	0.12*	0.09	0.34*	0.41*	0.30*	0.26*	-0.42*
6. Avoidant attachment	0.13*	0.11*	0.13*	0.07	0.45*	0.34*	0.23*	0.10	-0.68*
7. IPV: Psychological	0.22*	0.12*	0.09	0.04	0.26*	0.35	0.54*	0.54*	-0.37*
8. IPV: Physical	0.16*	0.07	0.03	0.12	0.17*	0.13	0.31	0.34*	-0.23*
9. Conjugal adjustment	-0.03	-0.07	-0.06	-0.04	-0.38	-0.60	-0.36	-0.17	0.64*

Note. *N* ranged between 633 and 644. Child PSY violence = child psychological violence; Child PHY violence = child physical violence; Child WPSY violence = child witness of psychological domestic violence; Child WPHY violence = child witness of physical domestic violence; IPV = intimate partner violence. Women results are presented above the diagonal. Men results are presented below the diagonal. Correlation between men and women results are presented on the diagonal (in bold).

* $p < .05$.

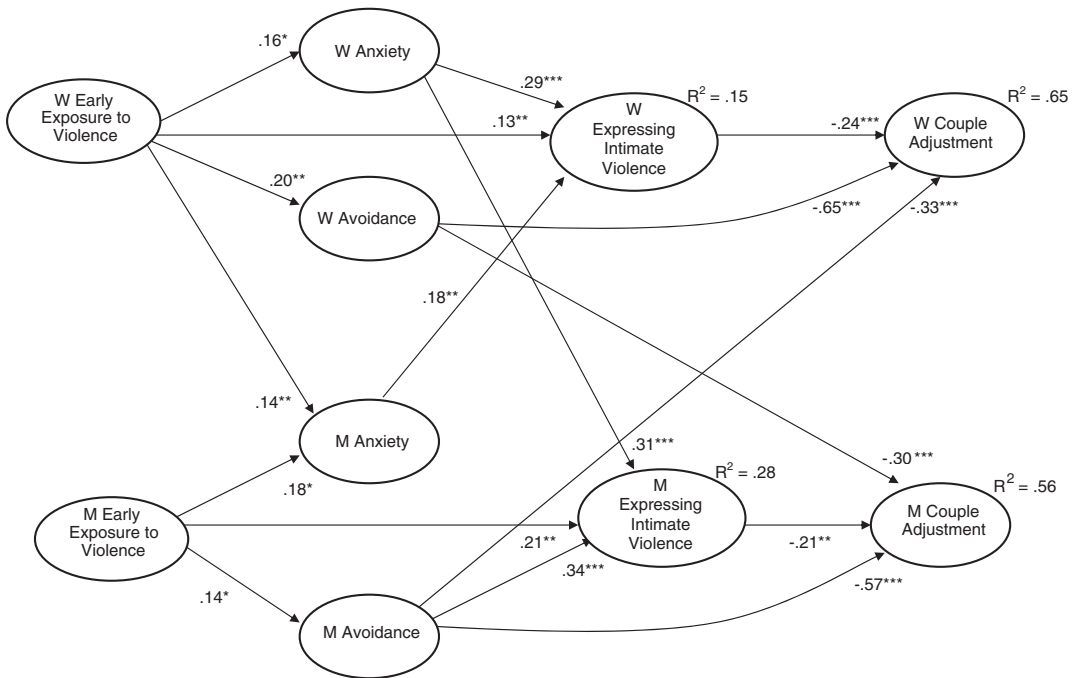


Figure 2. Structural equation modeling for early exposure to violence, attachment avoidance and anxiety, intimate partner violence, and couple adjustment, using the couple as unit of analysis.

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

directly and indirectly through attachment representations, in both male and female partners. Interestingly, women's early exposure to violence was related to their partnership with an anxiously attached man. Women's anxious attachment was related to their own use of violence, along with their partners' anxious attachment. Women's anxious attachment was also related to their male partners' use of violence, along with the men's avoidant attachment. Both men and women's avoidant attachment was related to lower levels of their own and their partners' couple adjustment. Men and women's personal use of IPV was related to their own couple dissatisfaction. The overall model accounted for 15% of the variance for women's IPV, 28% of variance for men's IPV, 65% of the variance women's couple adjustment, and 56% of the variance men's couple adjustment.

The covariance between the residual terms of men's and women's couple adjustment was 0.48 ($p < .01$), meaning that the proportions

of variance in men and women that were not explained by the variables included in our model were significantly linked. This result suggests that the level of one partner's conjugal satisfaction and cohesion may influence the other partner's satisfaction and cohesion, and that other variables explain the relationship between the partners' couple adjustment (e.g., communications patterns, sexual attitudes). The covariance between the residual terms of men and women's IPV was 0.79 ($p < .01$), indicating that the proportions of variance in men and women's IPV that the variables included in our model did not explain were strongly correlated. This result supports the mutual influence of partners' use of intimate violence and increased risk of IPV.

Exposure to parental violence and adult attachment

In order to examine which types of parental violence were specifically related to men and

women's anxious and avoidant attachment, and the use of psychological and physical IPV, we performed hierarchic regression analyses. We entered the eight variables of parental violence (men and women witnessing psychological or physical parental violence, or being victims to psychological or physical violence) as potential predictors. We also entered childhood sexual abuse (which we determined using a single-item dichotomized measure: "Were you sexually abused during your childhood or adolescence?") and single parenting in the family of origin (which we determined using a single-item dichotomized measure: "Were you raised in a single parent family during your childhood or adolescence?") as control variables.

Women's attachment. Although women's childhood sexual abuse was associated with higher anxious attachment in adulthood when entered alone in the regression (standardized coefficient, $\beta = .10$, $p = .017$), when we entered all the variables in the analysis, only women's psychological victimization was related to women's adult anxious attachment ($\beta = .14$, $p = .017$, $R^2 = .02$). Only women's exposure to psychological domestic violence (witnessing) was related to women's adult avoidant attachment ($\beta = .15$, $p = .007$, $R^2 = .02$).

Men's attachment. Both men's psychological victimization ($\beta = .14$) and women's physical victimization ($\beta = .14$) were related to men's adult anxious attachment ($p = .002$, $R^2 = .04$). Only men's exposure to psychological domestic violence (witnessing) predicted men's adult avoidant attachment ($\beta = .15$, $p = .012$, $R^2 = .02$).

Women's IPV. Although women's childhood sexual abuse was associated with their use of psychological IPV when entered alone in the regression ($\beta = .15$, $p = .007$), when we entered all the variables in the analysis only women's psychological victimization was linked to women's use of psychological IPV ($\beta = .22$, $p < .001$, $R^2 = .05$). Only

women's exposure to physical domestic violence (witnessing) was linked to women's use of physical IPV ($\beta = .17$, $p = .004$, $R^2 = .03$).

Men's IPV. Both men's ($\beta = .20$, $p = .001$) and women's ($\beta = .19$, $p = .001$) psychological victimization by parents were related to men's use of psychological IPV ($R^2 = .08$). Finally men's childhood sexual abuse ($\beta = .20$, $p < .001$) and men's psychological victimization by parents ($\beta = .15$) were related to men's use of physical IPV ($R^2 = 0.06$), highlighting the importance of considering different kinds of childhood traumas related to adult IPV.

Because of the elevated correlations between parental violence variables, one must be careful in interpreting the results based on the unique effect of each variable. For example, shared variance (similar variables that explain similar outcomes) may explain the absence of a significant relationship between some variables representing parental violence.

Discussion

The present study showed that early exposure to parental violence in the family of origin is associated with adult IPV and dyadic adjustment, through attachment representations. Our results underline the important role of abandonment anxiety and avoidance of intimacy in the path from early exposure to violence during childhood to IPV and marital distress. This is an important finding in a sample composed of nonclinical, cohabiting and married participants.

Results indicated gender differences in self-reported violence. Specifically, women reported perpetrating more IPV (physical and psychological) than men did. Women also perceived their male partners as being more physically violent than males self-reported. Nonetheless, men perceived their female partners as less psychologically violent than women self-reported. Other studies have revealed that in representative samples, women are more likely to report perpetrating violence than men, although

mutual aggression in the couple is common (Archer, 2000; Magdol et al., 1997). The analysis of our findings supports that a similar level of mutual minor aggression may be present in the current sample. Even though women reported perpetrating more IPV, they also reported more physical violence from their male partners whereas the male partners perceived less psychological violence from them. The differences in self-reported rates of violence may reflect a reporting bias such that females show a greater readiness to assume responsibility for relationship difficulties and physical aggression. In contrast, males may avoid disclosing violent behaviors due to the social sanctions against male-to-female aggression as well as the documented tendencies for men to minimize symptoms and difficulties (Dutton & Hemphill, 1992; Pedersen & Thomas, 1992). Given the absence of severe IPV and the mutuality of minor IPV in our participants, probably none or few of these couples qualify for severe forms of violence or intimate terrorism (Johnson, 1995; Johnson & Leone, 2005) where the abusers are predominantly men (Archer, 2000).

Few studies have examined the validity of structural models that incorporate indirect and mediational variables explaining the sequelae of early experiences of violence on domestic violence and couple adjustment, and have used the couple as a unit of analysis. We found that parental violence in the family of origin predicted both the development of insecure attachment behaviors and IPV in current relationships. In addition, attachment behaviors predicted the use of violence in marital relationships. Finally, both insecure attachment and IPV directly led to marital distress. These findings supported the central role of attachment in the development of relationship violence. As hypothesized, the two dimensions of attachment (anxiety and avoidance) were related to domestic violence. Different attachment patterns mean that we need to use different approaches to treatment. For example, anxious individuals may need to learn to cope with their fear of abandonment while avoidant individuals might need to come to terms with their emotional need for connection.

Nonetheless, attachment did not explain all the variance in IPV, and results showed that significant direct pathways link child violence to IPV. Learning theory, which stipulates that individuals reproduce similar violent behaviors that they witnessed or experienced in their parents, may best explain those direct links. Consequently, we partly confirmed our general hypothesis: Attachment is a significant mediating variable in the relationship between child abuse and IPV; however, early experiences of violence may also have a direct effect on later IPV. Results also support the idea that attachment affects the marital relationship directly and indirectly through IPV. These findings confirm that individuals experiencing violence in their family tend to develop insecure attachment patterns and be at a greater risk for IPV in adulthood. This model revealed invariance across men and women in our sample.

A major finding of this study was the association of exposure to parental violence and subsequent adult attachment, to intimate violence and couple adjustment, in a model that considered female and male partners as part of a couple. We found that, in addition to being related to their own attachment behaviors, women's exposure to parental violence was positively related to having a male partner anxiously attached. In turn, a woman's use of domestic violence was related to her own and her partner's anxious attachment, providing empirical support for the pursuit strategy that Allison and colleagues (2008) observed. In their qualitative analysis, Allison and colleagues described that couples in mutual pursuit typically idealized their relationships. They quickly experienced mutual anger and frustration after realizing that the partner was unable to meet their unreasonable expectations for support and attention (e.g., constant feelings that the partner was ignoring needs for support and attention). Then, violence erupted when the individual felt frustrated in attempts to make the partner pay more attention to his or her needs, sometimes escalating into serious forms of violence. The relationships between men and women's anxious attachment and women IPV confirm the importance of considering both

partners' attachment behaviors to understand IPV better.

We then found that men's use of IPV was related to their own avoidant attachment and their female partners' anxious attachment, providing evidence of IPV as a distancing strategy in men. In their qualitative analysis, Allison and colleagues (2008) observed that avoidant men used IPV to disengage their partners when nonviolent efforts (e.g., compliance and quietness) failed. In our results, anxiously attached female partners, who typically need and ask for greater physical or emotional proximity, and avoidant male partners, who typically try to push the partner away and maintain greater distance, resulted in more IPV in men, possibly as a strategy to escape when they perceive their partner as being too close or intrusive. Men and women IPV that childhood violence and attachment could not explain were highly correlated, providing further support for mutual violence in couples, and for the use of IPV by one partner as a risk factor for the other partner to also use IPV, maintaining violence in the couple. Next, couple adjustment (satisfaction and cohesion) was negatively related to the participant's own use of IPV. Finally, the participant and his or her partner's avoidant attachment were related to lower levels of couple adjustment, while his or her use of domestic violence mediated the relationship between the participant's anxious attachment and his or her own couple adjustment.

In brief, our general model, when tested in the entire sample, indicated a similar pattern in men and women, where both attachment dimensions are associated with IPV. Nonetheless, the results of our integrative APIM model, using the couple as a unit of analysis, revealed specific combinations of men and women's attachment dimensions that lead to incompatibilities involved in the etiology of domestic violence and couple difficulties. Particularly problematic may be combinations of (a) avoidant and anxious attachment or (b) two individuals showing anxious attachment within a dyad. Therefore, our results clearly indicated the importance of studying the variables of the two partners within a couple to deepen our understanding of the

paths that lead from childhood exposure to violence, to adult attachment, IPV and dyadic adjustment.

We also explored the strongest predictors of insecure attachment and IPV among the child abuse variables and observed similar patterns in men and women for attachment and psychological IPV: Previous psychological parental victimization was the strongest predictor of anxious attachment and psychological IPV, and witnessing psychological domestic violence during childhood was the strongest predictor of avoidant attachment. The strongest predictors of physical IPV were different for men (both sexual abuse and psychological victimization) and women (witnessing physical domestic violence).

Limitations and further research

Although we presented an integrative model that well represented the links between early exposure to violence and later marital outcomes, it is important to note several limitations of the present study. First, we based our study on simple retrospective self-reports of child abuse experiences and this could lead to underreporting biases or distortions in the recall of traumatic events. In their critical analysis of retrospective reports, Brewin, Andrews, and Gotlib (1993), however, stated that such selection or distortion biases do not systematically affect the association between child maltreatment and current psychopathology. Second, the prevalence of early violence and physical IPV in our nonclinical sample was rather small; further studies should test the generalizability of our conclusions with larger groups. Future research could involve the collaboration between multiple data collection sites from diverse cultural contexts to allow for greater sample sizes, to decrease the effects of low base rates of early exposure to violence in a nonclinical population and to examine the generalizability of our findings in other populations. Third, SEM is correlational in nature. Consequently, even with adequate fit indices and explanation of a large proportion of variance, the specific

order of causation between endogenous variables was based on theoretical presuppositions and should be determined on empirical grounds through multiple-wave longitudinal designs in order to disentangle the direction of the observed effects. Fourth, the relationship between early exposure to violence and subsequent perpetration of violence is complex and many other variables could be envisaged in the relationship from family violence to attachment, IPV, and marital satisfaction as the percentage of explained variance ranged from 0.15 to 0.28 for IPV, and from 0.55 to 0.65 for couple adjustment, and the covariance between male and female portions of variance that the variables included in the model (0.79 for IPV, and 0.48 for couple adjustment) did not explain. For example, communication skills, conflict resolution strategies, psychopathic traits, and the extent of open communication (e.g., capacity to explain the specific source and context of anger) may be strong mediators of the relationship between family violence and subsequent outcomes. There is a need for other comprehensive integrative studies to illuminate the mechanisms that account for perpetration of violence and interpersonal adjustment. Fifth, with the influence of child sexual abuse in male physical IPV, this study also supported the importance of considering multiple forms of childhood victimization. Finally, researchers such as Johnson and Ferraro (2000) argued that we cannot properly understand IPV without important distinctions between motives of perpetrators, social characteristics of both partners, and cultural contexts in which violence occurs. For example, Stark (2007) and Dutton and Goodman (2005) argued that we should stop using physical abuse as a proxy for battering and that coercive control (such as derogating, demeaning, or self-concept destructive behaviors) has more serious effects than verbal yelling or fighting. Therefore, further research using detailed, complex measures of the context surrounding IPV (e.g., control) could provide a better understanding of the links between early exposure to violence and adult attachment styles in IPV, and to better sort out gender differences in the nature and effects of IPV.

Practical implications

With the prevalence of IPV and the underlying dyadic dynamics observed in this nonclinical sample, the present findings support the importance of social policies informed by well-funded relationship violence research that will allow better education and prevention, creation of efficient training programs for law enforcement officials, health care providers, housing providers, and the general population to stop the generational cycle of abuse (see Clark, Biddle, & Martin, 2002, for an analytic study of the benefits of social well-funded programs on domestic violence). The present findings also have implications for the treatment of violent child trauma, couples' therapy, treatment for parent-child relationships, and IPV perpetrator prevention programming, in that they illustrate the importance of including attachment-focused intervention and appropriate conflict resolution strategies in prevention efforts and treatment strategies. If left unaddressed, minor forms of aggression are likely to escalate into more severe or life-threatening violence, thus the importance of seriously dealing with even minor IPV. Careful assessment of family context could reveal that behind IPV or marital distress lie basic anxiety about the availability of the partner or fear of intimacy, and related distortions, that practitioners must address. Furthermore, these findings support the importance of assessing and attending to unresolved childhood trauma concurrently, or prior to, addressing patterns of intimate violence. As Sonkin and Dutton (2003) stated, clinicians have to pay more attention to the client's inner psychological experience of relationships. Well-informed therapists can then help individuals to cope better with attachment-related anxiety and to integrate attachment disruptions into a positive model of self and others. Moreover, treating the couple as a unit can help therapists highlight the attachment needs and behaviors of both partners in order to understand and target the relationship dynamics underlying violence and dissatisfaction in the couple. Hopefully, practitioners and researchers will work together to significantly reduce

violent behaviors and marital distress in adult relationships.

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