Intimate Partner Violence in the Context of Depressive Symptoms, Insecure Romantic Attachment, and Relationship Dissatisfaction During the Transition to Parenthood

by

Lisa Gou
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Supervisory Committee

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Abstract

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Physical and psychological intimate partner violence (IPV) are deleterious to the physical and mental health of romantic partners and their children, yet both forms of aggression continue to be prevalent even when couples become pregnant with their first child. This study aimed to investigate the factors contributing to IPV in couples experiencing the transition to parenthood. A community sample of 98 heterosexual couples undergoing the transition to parenthood was recruited from Victoria, BC. Couples self-reported levels of depressive symptomatology, attachment anxiety and avoidance, relationship satisfaction, and frequency of physical and psychological IPV perpetration and victimization. Men with greater attachment anxiety perpetrated both forms of IPV at a higher rate than men with lower levels of anxiety. Women with greater depressive symptoms were more psychologically aggressive towards their partners. Women who were more depressed, or more anxiously or avoidantly attached were less satisfied with their relationships, and decreased satisfaction was in turn related to greater perpetration of physical and psychological aggression. Women's relationship satisfaction mediated the effects of their depressive symptoms and attachment anxiety and avoidance on their perpetration of psychological IPV, and the effects of their attachment insecurity on their perpetration of physical IPV. Relationship satisfaction did not mediate these associations for men. Men's avoidance did not moderate the association between women's anxiety and men's and women's IPV perpetration; a model with genders reversed testing the moderating effect of women's avoidance on the association between

men's anxiety and men's and women's IPV perpetration was also not significant. Men's anxiety also predicted women's psychological IPV perpetration, controlling for their own anxiety and psychological victimization. The results illuminate the ways in which men and women may be affected differently by the factors contributing to risk for violence during the transition to parenthood. Implications for prenatal interventions targeting depression, attachment insecurity, and relationship satisfaction in order to reduce the risk of IPV are discussed.

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Introduction

Pair bonding and the forming of long-term romantic relationships are normative parts of adulthood, and for some couples these relationships provide the foundation for building and raising a family. While ideally these relationships will be characterized by mutual support, positive affect, and effective conflict resolution strategies, romantic relationships can also be characterized by violence. Approximately 30-40% of adults report ever being physically victimized by a romantic partner according to estimates from community and convenience samples (Archer, 2000; Kar & O'Leary, 2010; Thompson et al., 2006). Rates of victimization are higher in clinical and high-risk samples, with 40-50% of adults reporting lifetime physical victimization (Coker, Smith, McKeown, & King, 2000; El-Bassel et al., 2007). The rates for exposure to psychological aggression are even higher, occurring among 70-80% of adult men and women in the general population (Simpson & Christensen, 2005; Stets & Straus, 1990).

It is also evident that romantic partners engage in aggression towards one another even when they are expecting a child. In terms of physical IPV, approximately one quarter of men and one third of women report aggressing against their partners during pregnancy, and in roughly half of these couples physical violence is bidirectional, or perpetrated by both partners (Kan & Feinberg, 2009; Marshall, Jones, & Feinberg, 2011; Tzilos, Grekin, Beatty, Chase, & Ondersma, 2010). The prevalence of psychological IPV remains high during the pregnancy and postpartum periods, with 80% to 90% of men and women reporting the use of psychological aggression against their partners (Graham, Kim, & Fisher, 2012; Martin Beaumont, & Kupper, 2003). In light of the prevalence of both forms of partner violence, gaining an understanding of the factors that may increase

or decrease its risk and occurrence is paramount, especially during the critical developmental period surrounding the transition to parenthood.

Intimate Partner Violence (IPV)

Violence that occurs in the context of a romantic relationship is termed intimate partner violence (IPV). As noted, IPV can manifest in multiple forms, and although other forms of violence (e.g., sexual) exist and exhibit unique patterns of perpetration and victimization, the focus of this paper is on physical and psychological violence in romantic relationships. Physical IPV includes behaviours such as hitting, slapping, or shoving a partner, whereas psychological IPV includes yelling, swearing, and insults directed at a partner (Jose & O'Leary, 2009). Although severity of specific acts of physical IPV can be measured using a somewhat continuous system (i.e., mild, moderate, and severe), it is generally accepted that there are qualitatively distinct subcategories of physical IPV, which include: situational couple violence, intimate terrorism, and violent resistance (Johnson, 1995; 2010; Johnson & Leone, 2005; 2012).

The distinction between situational couple violence and intimate terrorism is thought to be one of motivation, frequency of violence, and risk of injury, whereby perpetrators of the former are motivated by a desire to control the current situation, aggress against their partners less frequently, and are less likely to injure their partners, whereas perpetrators of the latter are motivated by a more pervasive desire to control their partners in general, aggress against their partners more frequently, and are more likely to cause physical injury (Johnson, 1995; 2010). These two forms of physical aggression also differ in that situational couple violence is characterized by equal perpetration by men and women, a tendency for violence not to escalate, and reciprocity

in terms of which partner initiates the violence (Johnson, 1995; 2010). By contrast, intimate terrorism is by and large perpetrated by men in heterosexual relationships, has a tendency to escalate in frequency and intensity, and is generally not reciprocated by women (Johnson, 1995; 2010). The third category, violent resistance, is thought to reflect a pattern of violence carried out by victims of intimate terrorism as a method of self-defence, more frequently seen in women (Johnson, 2010). Although the current study does not explicitly distinguish between the three forms of violence, community samples such as the one employed in this study typically find the situational couple violence variety of physical IPV, whereas intimate terrorism and the accompanying violent resistance are more often encountered in clinical samples (Halford, Petch, Creedy, & Gamble, 2011; Hamberger & Guse, 2002).

Psychological IPV can be conceptualized as a continuum of behaviours, with less severe and more highly prevalent behaviours, such as yelling at your partner, on one end, and more severe and less normative behaviours, such as threatening physical harm to your partner, on the other end (Jose & O'Leary, 2009). Historically, physical IPV has received more attention than its psychological counterpart from researchers studying partner aggression. Furthermore, some researchers have failed to differentiate between these forms of aggression in their work, perhaps in part because the two are highly correlated (Archer, 2000; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). However, it is prudent to study psychological IPV in its own right for a number of reasons. The effects of psychological IPV can be as deleterious to victims as those of physical IPV, and furthermore the former contributes to the prediction of declines in mental and physical health, over and above the influence of the latter (O'Leary, 2001; Seedat, Stein,

& Forde, 2005; Taft et al., 2006, Coker et al., 2002). In addition, while psychological IPV may occur in the absence of physical IPV, the reverse is seldom the case (Simpson & Christensen, 2005; Stets & Straus, 1990; Testa, Livingston, & Leonard, 2003), and while physical IPV tends to decline over the lifespan, psychological IPV remains relatively stable (Fritz & O'Leary, 2004; Vickerman & Margolin, 2008). Lastly, psychological IPV often precedes the onset of physical IPV in relationships (O'Leary, 2001), and thus studying the former may help researchers to understand how and why the transition to physical aggression occurs, and to identify possible intervention strategies for preventing the onset of physical IPV.

Both physical and psychological IPV are associated with negative outcomes, including poor physical health, depressive symptoms, substance use, posttraumatic stress disorder, and injury (e.g., Carbone-Lopez, Kruttschnitt, & Macmillan, 2006; Coker et al., 2002; Dutton, Green, Kaltman, Roesch, Zeffiro, & Krause, 2006). Not only is IPV detrimental to the partners directly involved, but there is also ample empirical evidence demonstrating the deleterious effects of IPV on pregnancy outcomes for expecting women and on the development of children exposed to IPV. Women's exposure to IPV during pregnancy is associated with increased risk for complications or perinatal death during pregnancy, low birth weight, and preterm delivery (Boy & Salihu, 2004; Janssen, Holt, Sugg, Emanuel, Critchlow, & Henderson, 2003; Sarkar, 2008). Partners who engage in or are affected by IPV may also be diminished in their capacity and resources to care and provide for their children (Huth-Bocks & Hughes, 2008; Levendosky, Graham-Bermann, 2001). Researchers have also shown that children exposed to IPV have elevated risks for both internalizing and externalizing problems, developing

insecure attachment to caregivers, being victimized by parents, and becoming perpetrators of violence later in life (Campbell & Lewandowski, 1997; Gewitz & Edleson, 2007; Holt, Buckley, & Whelan, 2008).

The negative effects of IPV on partners, pregnancy outcomes, and children make the study of IPV especially salient during the developmental period marked by the transition to parenthood. Longitudinal research indicates that pregnancy may be a period of respite from physical IPV, with women reporting less victimization during pregnancy compared to the pre- and post-pregnancy periods (Bowen, Heron, Waylen, & Wolke, 2005; Guo, Wu, Qu, & Yan, 2004; Martin, Mackie, Kupper, Buescher, & Moracco,. 2001); however, the evidence is mixed, with some findings suggesting that pregnancy may be a period of heightened risk for some women (Jasinski & Kantor, 2001; Macy, Martin, Kupper, Casanueva, & Guo, 2007). The research on physical IPV around the time of pregnancy has focused on women as the recipients of violence (likely out of concern for the effects of physical victimization on mothers' and infants' health), though it is worthwhile to investigate perpetration of IPV by women during pregnancy as well (as perpetration is potentially also associated with pregnancy outcomes, fathers' health, and risk of IPV victimization). Limited research has been conducted to chart the trajectory of psychological IPV before, during and after pregnancy; however, a longitudinal study using the same dataset as the current study found that men's and women's reports of psychological IPV remained stable from pregnancy to two years postpartum (Sotskova et al., in submission). Further research is necessary to determine the risk factors that predict onset, maintenance, or escalation of IPV during this critical developmental period, and whether any of these factors are amenable to intervention to promote healthy pregnancies

and circumvent the associated sequelae of IPV prior to the introduction of a child into the family.

The extant literature has identified several correlates of IPV as putative risk factors for becoming a perpetrator of aggression against one's partner, or for becoming a victim of aggression by one's partner. Importantly, though certain characteristics may increase the likelihood that one is a perpetrator or victim of IPV, these characteristics do not absolve aggressors of their responsibility for their actions, nor do they make victims culpable for their partners' actions. There exists a tendency for perpetrators, victims, and society as a whole to blame individuals for provoking the violence enacted against them (Gracia & Herrero, 2006; Henning, Jones, & Holdford, 2005; Miller & Porter, 1983). It is not the intention of this project to place blame on victims of violence. It is pertinent to note that even an individual bearing all the purported risk factors is in no way set on an inevitable trajectory. Thus, possessing these risk factors or having a partner bearing certain characteristics does not absolve any individual from responsibility for his or her violent behaviour. Rather, it is the aim of this study to gain a broader understanding of factors contributing to IPV, including aspects outside the individual, as partner violence is a complex phenomenon that cannot be explained by a single causal factor, or studied in isolation from one's context.

The putative risk factors identified for IPV include individual characteristics that may reduce the quality of one's relationships, increase the likelihood of conflict, and decrease one's capacity to resolve conflicts in a constructive manner, thus making it more likely that individuals will aggress against their partners or experience aggression from their partners. Depressive symptoms and insecure romantic attachment are among the

putative risk factors that have been connected to IPV perpetration and victimization (Babcock, Jacobson, Gottman, & Yerington, 2000; Foshee, McNaughton Reyes, & Ennett, 2010; Godbout, Dutton, Lussier, & Sabourin, 2009; Lehrer, Buka, Gortmaker, & Shrier, 2006; Orcutt, Garcia, & Pickett, 2005). These individual factors are often studied in isolation, as either risk factors for perpetration or victimization, and with data from only one partner from each couple. In addition, there is a paucity of research on depressive symptoms and attachment as predictors of IPV during the transition to parenthood. This gap in the literature is especially problematic, as the stress and interpersonal strain that accompanies the transition to parenthood may place couples at elevated risk for depression and for shifts toward greater attachment insecurity (Lancaster, Gold, Flynn, Yoo, Marcus, & Davis, 2010; Schumacher, Zubaran, White, 2008; Simpson, Rholes, Campbell, & Wilson, 2003). These limitations create difficulties in defining directional relationships between IPV and its risk factors, fail to recognize that intra- and inter-individual characteristics may interact to predict IPV, and may mean that existing literature on IPV is less applicable to couples during pregnancy. Therefore, the purpose of the current study is to clarify the relationships between depressive symptoms and romantic attachment as predictors, and IPV perpetration and victimization as the outcome variables, incorporating data from both partners over the transition to parenthood.

Depressive Symptoms

Depressive symptoms are associated with both IPV perpetration and victimization. A review of the literature focusing on women with severe mental illnesses revealed that women with major depressive disorder (MDD), among other psychiatric

conditions, were more likely to perpetrate violence against a partner, and identified MDD and depressive symptoms among the risk factors for IPV victimization (Friedman & Loue, 2007). A study of Black and Hispanic patients presenting in the hospital emergency department in a high risk community found that men and women who had experienced IPV victimization were three times more likely to have current depression than non-victims (Lipsky, Caetano, Field, & Bazargan, 2005). An association was also found between depression and perpetration of IPV, such that perpetrators were twice as likely to have current depression than nonviolent individuals. Analyses were not separated by gender due to the small sample size.

Data from a more general population comes from the National Survey of Families and Households in the United States, which indicated that depression was linked to both perpetration and victimization in reciprocally and non-reciprocally violent relationships (Anderson, 2002). In reciprocally violent relationships both partners initiate violence against one another, whereas only one partner initiates the violence in nonreciprocal relationships. The association between depression and being in a reciprocally violent relationship appeared to be stronger for women than for men. The analyses suggested that depression may be partially explained as a consequence of violence, but it remains a significant predictor of IPV perpetration when controlling for victimization, whereas other mental health outcomes including substance abuse and self-esteem do not predict IPV perpetration after accounting for victimization. IPV perpetration and victimization were coded dichotomously as present or absent in the study by Anderson (2002), and as such no data reflecting frequency or severity of IPV were available.

Longitudinal studies of risk factors for the onset of IPV have also been conducted. Foshee et al. (2010) assessed 8th to 10th graders at two time points during subsequent school terms: fall and spring. Exclusionary criteria for the fall assessment included any perpetration of violence against a date; this criterion was put in place in order to more clearly identify true predictors of IPV from one time point to the next. Participants were only assessed at the follow up if they were currently dating. Dating violence was assessed with the question "how many times have you ever used physical force against someone you were dating or on a date with?" Data were analyzed with respect to demographic predictors (sex and race) and four other domains of influence (including depression). Sex moderated the relationship between depression and later dating violence perpetration, such that depression was a significant predictor for girls but not boys. A previous study by Foshee et al. (2004) also identified depression as a risk factor for the onset and chronicity of sexual IPV victimization in girls. Further research on IPV victimization comes from a large American sample of girls that found high levels of depressive symptoms (reported with the Centre for Epidemiological Studies Depression Scale [CES-D]) at baseline (mean age 15.9 years) were associated with significantly higher odds of physical victimization at the 5-year follow-up (mean age 21.3 years; Lehrer et al., 2006). These findings suggest that depression may be a particularly important predictor of IPV victimization and perpetration in girls.

Another longitudinal study was conducted by Kim and Capaldi (2004) with data from the Oregon Youth Study (OYS) and the Couples Study of OYS men and their partners. Couples were assessed at two time points separated by three years (mean ages for men and women, respectively, were $M = 21.4$ and 20.8 at T1, and $M = 24.0$ and 23.4

at T2), with interviews, self-report questionnaires, and a series of videotaped discussion tasks. Physical and psychological IPV were measured at both time points as dependent variables, and antisocial behavior and depressive symptoms were measured only at baseline as independent variables. Data from interviews, questionnaires, the discussion tasks, and coder impressions were compiled to develop separate constructs of physical and psychological IPV, and depressive symptoms were assessed with the CES-D. Depressive symptoms in one partner were related to depressive symptoms in the other partner at baseline.

In terms of how symptoms of depression predicted one's own IPV, men's depressive symptoms were related to their concurrent psychological aggression, and predictive of physical and psychological aggression at T2; however, depressive symptoms were only associated with men's psychological aggression at T2 when controlling for the effects of antisocial behavior. For women, depressive symptoms were related to concurrent and future perpetration of physical and psychological IPV, and these associations held after partialling out the variance accounted for by antisocial behavior. The combination of high levels of antisocial behavior and depressive symptoms was associated most strongly with physical IPV in women.

The authors also investigated the relationship between depressive symptoms in one partner and IPV perpetration in the other. Whereas men's depressive symptoms were only marginally associated with their partners' future psychological aggression (and did not account for additional variance above and beyond women's own depressive symptoms and antisocial behaviour), women's depressive symptoms were strongly related to concurrent physical and psychological aggression from their partners

(associations which held after accounting for men's own depressive symptoms and antisocial behaviour). Women's depressive symptoms also predicted men's future psychological aggression. Overall, it appears that women's depressive symptoms may be more strongly related to their own and their partner's perpetration of IPV than are men's depressive symptoms.

Marshall, Jones, and Feinberg (2011) also sought to identify cross-partner effects in the factors predicting IPV. They centered their hypotheses on a theoretical model for actor-partner interdependence based on the Vulnerability-Stress Adaptation framework. In this model, enduring vulnerabilities including depression are the furthest upstream, and are thought to influence negative relationship attributions, such as interpreting a partner's criticism as purposeful rather than unintentional, which in turn influence couple conflict. Couple conflict is thought to influence IPV perpetration directly. To test this model, Marshall et al. (2011) gathered data from couples expecting their first child. IPV was measured with the Physical Assault subscale of the Revised Conflict Tactics Scales (CTS2), and the highest reported frequency from either partner was used to combat underreporting. Negative relationship attributions were measured using the Negative Attribution Measure. Couple conflict was assessed using the Ineffective Arguing Inventory, which specifically measures unhealthy conflict, or conflict in which problems are not resolved, leading to a prolonged sense of frustration and further conflict. Depressive symptoms were measured with the CES-D.

The actor-partner interdependence model was examined using path analysis, revealing associations between the proximal variables within the pathway, such that depression was associated with negative relationship attributions, and both were

associated with increased couple conflict (Marshall et al., 2011). Couple conflict was associated with occurrence of IPV as predicted. Gender differences also emerged in that men's hostility predicted their frequency of IPV perpetration, but for women, couple conflict predicted frequency of IPV perpetration, suggesting that individualized variables are better predictors of men's IPV and that dyadic variables are better predictors of women's IPV. Cross-partner effects consistent with those seen in the Kim and Capaldi (2004) study were also evident, in that men's depression was associated with the occurrence of IPV perpetrated by women, and that women's depression was associated with the frequency of IPV perpetrated by men. It is relevant that an individual's depression did not directly predict his or her own perpetration of IPV; however, couple conflict did. Therefore, for the couples in this sample, ineffective conflict resolution may escalate to IPV, and depressive symptoms may be driving this conflict. The authors note that this type of pattern is more typical of the situational couple violence variety of IPV.

Both the Kim and Capaldi (2004) and Marshall et al. (2011) studies identified similar limitations in that the collection of data regarding individual vulnerabilities (i.e., depressive symptoms, antisocial behavior) at only one time point precludes better understanding of the direction of relationships. Marshall et al. suggest that IPV perpetration and victimization may maintain or exacerbate depressive symptoms and continue to fuel couple conflict. Addressing these hypotheses requires longitudinal collection of data on depressive symptoms and dyadic functioning.

Although it is clear that depressive symptoms are consistently linked to IPV perpetration and victimization, the exact mechanisms by which they exert their influence are unknown. Previous research shows that the features associated with depression (e.g.,

depressed mood, irritability, social withdrawal) and the ways in which people with depression interact with their romantic partners increase the likelihood of conflict and lead to declines in relationship satisfaction (Fincham, Beach, Harold, & Osborne, 1997; Katz & Beach, 1997; Segrin & Abramson, 1994), which may in turn lead to violence.

Depressive Symptoms & Relationship Satisfaction. Current literature on depression includes several empirical studies that demonstrate an association between depressive symptoms and deficits in interpersonal skills and communication, including disturbances in paralinguistic behaviours, focus on negative content in speech, flat affect, and gaze avoidance, which may impact couples' functioning in romantic relationships (Segrin, 2000; Tse & Bond, 2004). Evidence of this relationship has been obtained in the form of self-reports, observer reports, and behavioural assessments of social skills in depressed populations. Populations with depressive symptoms consistently rate their own social skills as significantly poorer than non-depressed populations, a finding which holds even after controlling for negative self-evaluation biases (Dykman et al., 1991). There is also evidence that interpersonal impairment is a relatively stable trait linked to depression, as deficits in Theory of Mind and interpersonal functioning, and difficulties in social and leisure activities are evident even after depression remits (Inoue, Tonooka, Yamada, & Kanba, 2004; Petty, Ericsson, & Joiner, 2004; Shapira et al., 1999).

The impact of depression on functioning in romantic relationships has been demonstrated in several studies. Hauzinger, Linden, and Hoffman (1982) investigated verbal interactions in distressed couples seeking marital therapy. In half of the couples, one partner was experiencing severe, clinically significant depression, and in the other half of the couples, neither partner reported signs of depression. Of note, the authors did

not report which partner, husband or wife, was experiencing depression in the first group, or whether there was a gender skew in which partners were depressed. The researchers audio recorded eight conversations per couple, and coded recordings using a categorical observation system. Overall, couples in which one partner was experiencing depression had verbal interactions characterized by uneven, negative, and asymmetrical communication, whereas couples without a depressed partner, who were nonetheless distressed, evidenced positive, supportive, and reciprocal interactions. Couples in which one partner was experiencing depression expressed more dysphoric and uncomfortable feelings, more negative well-being, more discussion and questions surrounding well-being, and more offering of help to the depressed partner as a result. At the individual partner level, the non-depressed partner in depressed couples demonstrated positive and healthy feelings, mood and self-esteem regarding themselves, but evaluated their depressed partners as being negative and demanding. Conversely, partners with depression spoke negatively about themselves, their feelings, and their futures, but evaluated their relationships as positive and made excuses for their partners' behaviours.

Further support for differences in couples' interactions when one partner is experiencing depression comes from a study by Kahn and colleagues (1985) regarding individuals' reactions and perceptions of their partners' reactions following a laboratory discussion. A strength of this study is that the researchers recruited equal numbers of married couples in which the wife or the husband was experiencing depression. Married couples with no signs of depression were also recruited for comparison. Couples discussed a relevant marital issue in the laboratory, and then completed measures about their recall of their own and their partner's behaviour, and the impact of their partner's

behaviour on themselves. The Personal Expressiveness Inventory was used to assess participants' immediate recall of their own and their partner's reactions including the intensity of anger and sadness felt during the discussion and attributed to the spouse, overall satisfaction with the discussion, and perceptions of their spouse's satisfaction. Individuals with depression and their partners were in agreement in reporting less constructive problem-solving and more destructive behaviour during the discussion and in general in their relationship. Compared to couples in which neither partner was depressed, these couples also reported feeling more sadness and anger, while experiencing each other as more hostile, competitive, mistrusting, detached, less agreeable, less nurturant, and less affiliative.

Another study of married couples investigated behaviours during problem solving. Johnson and Jacob (1997) coded couples' interactions using the Marital Interaction Coding System, which categorizes instances of positivity, negativity, problem solving, and congeniality. Couples in which one partner was experiencing depression showed decreased positivity and congeniality, and increased negativity. A gender difference was evident in that couples in which the wife was depressed showed greater decreases in positivity and marginally greater increases in negativity compared to those couples in which the husband was depressed. This finding is especially notable because husbands with depression reported more severe depressive symptomatology than wives with depression. The findings are suggestive that depression in a female spouse may be more strongly associated with disturbances in marital interactions than depression in a male spouse.

The social deficits experienced by individuals with depression may contribute to a decline in relationship satisfaction for both partners in a relationship. Research demonstrates the detrimental effects depression has on relationship satisfaction, quality, and adjustment. Katz and Beach (1997) examined women's levels of depressive symptoms and associated interest in reassurance or negative feedback from others as predictors of relationship satisfaction reported by themselves and by their male partners. The authors found a 3-way interaction between women's depressive symptoms, reassurance seeking, and negative feedback seeking, such that these three constructs combined to predict male partners' dissatisfaction with dating relationships. In other words, men with depressed partners who solicited reassurance and negative feedback were less satisfied with their relationships. Women's relationship satisfaction was uniquely predicted by their own depressive symptoms, such that greater depressive symptoms were associated with lower relationship satisfaction.

Depressive symptoms have also been implicated in declines in dating relationship quality as measured using the Oral History Interview (OHI) and Relationship Assessment Scale (Segrin, Powell, Givertz, & Brackin, 2003). Men's depressive symptoms were negatively related to their own perceived relationship quality, and this relationship was partially mediated by feelings of loneliness. The same pathway was seen in women but the direct relationship between depression and relationship quality was somewhat stronger. Women's symptoms of depression were also significantly negatively correlated with relationship satisfaction, commitment, and the perceived relational bond. Regardless of sex, symptoms of depression were related to negative appraisals of the quality of one's relationship, but not necessarily to one's partner's appraisals. Therefore, it seems that

individuals experiencing depression view their relationships more negatively (though it is possible that the depression could stem from dissatisfaction in their relationships), but their partners' views may remain unaffected.

In order to address questions about the directionality of the relationship between depressive symptoms and relationship satisfaction, Fincham, et al. (1997) assessed newlywed couples at two time points, with an 18-month latency between assessments. Marital satisfaction was measured using the Marital Adjustment Test and depressive symptoms with the Beck Depression Inventory (BDI). Men who were initially depressed were less satisfied with their relationships later on, whereas the reverse was true for women, such that women who were less satisfied initially experienced more depression later on. These findings suggest that the directionality of the relationship between depression and marital satisfaction may differ across genders; however, with only two time points, it cannot be determined whether this relationship will change direction or become reciprocal in certain individuals over time, or at different stages of the relationship.

Gotlib and colleagues (1998) assessed participants over a longer period of time, following adolescents with annual assessments for approximately 6 years as they transitioned into early adulthood. This study investigated the influence of current symptoms of depression (CES-D score) and lifetime prevalence of depression (history of MDD) on later marital functioning. Results showed that more recently married women with lower levels of depressive symptoms and no history of depression reported greater marital satisfaction (DAS). In addition, men's reported marital disagreement (assessed with a separate 10-item measure) was associated with both current and historical

depressive symptoms, whereas women's marital disagreement was associated with current symptoms and longer length of marriage. Associations between both current and historical depressive symptoms on aspects of marital functioning may be suggestive of bidirectional relationships, but without greater temporal resolution of analyses, it is difficult to make firm conclusions regarding these relationships.

Woodin, Caldeira, & O'Leary (2013) demonstrated the interactive effect of depressive symptoms and relationship bond on IPV perpetration. They employed a multi-method, multi-informant study design to test hypotheses based on the contextual-situational model (CSM) of courtship aggression in a college student population. According to the CSM, IPV perpetration should be directly influenced by a couple's dyadic functioning, such that couples who perceive one another and their relationship positively are better able to adapt to stressors in the relationship, without instances of violence or aggression. A second principle of the CSM holds that the individual vulnerabilities, including depressive symptomatology, of each partner will affect IPV perpetration. Based on the tenets of the CSM, the authors hypothesized that individual vulnerabilities would confer additional risk and moderate the relationship between poor dyadic functioning and IPV perpetration. Couples with a history of aggression (at least one act of male-to-female mild physical aggression) were recruited for this study. Frequency of IPV perpetration and victimization was measured using the CTS2. Dyadic functioning was assessed using the OHI, which was coded with the Oral History Coding System, and yielded a relationship bond total score. The BDI-II was used to assess depressive symptoms. Multiple regression analyses revealed significant interactions between depression and relationship bond, such that high levels of depressive symptoms

co-occurring with a poor relationship bond conferred greater risk for perpetration of both psychological and physical IPV.

There is ample evidence for a relationship between depressive symptoms and declines in satisfaction and functioning in romantic relationships. Decreased satisfaction and functioning are related to greater conflict in couples in which one partner is depressed, and put greater strains on both partners' resources, thereby limiting their capacity to support one another and engage in effective problem-solving and conflict resolution. These relational problems place couples in a position more vulnerable to escalations in conflict and the onset of violence and aggression. Several reviews of the literature and meta-analyses indicate that relationship satisfaction is negatively associated with IPV (Riggs, Caulfield, & Street, 2000; Schumacher, Slep, & Heyman, 2001; Stith, Green, Smith, & Ward, 2008; Stith, Smith, Penn, Ward, & Tritt, 2004). Further research is necessary to firmly establish the links between depressive symptoms and relationship satisfaction, and relationship satisfaction and IPV, to confirm the mechanism by which depressive symptoms exert their influence on IPV.

Adult Romantic Attachment

Hazan and Shaver (1987) proposed the concept of adult romantic attachment, extending attachment theory as it applies to infants to the understanding of affectional bonds formed between adult romantic partners. In their seminal paper, Hazan and Shaver identified three styles of adult attachment: secure, anxious/ambivalent, and avoidant. Shortly thereafter, adult attachment theory was developed and conceptualized using a four-category model with the following attachment styles: secure, preoccupied, dismissive, and fearful (Bartholomew, 1990; Bartholomew & Horowitz, 1991). Later,

evidence supporting a dimensional approach to attachment orientations emerged, characterizing attachment on two dimensions: attachment anxiety and attachment avoidance (Brennan, & Shaver, 1995; Fraley, & Waller, 1998; Simpson, & Rholes, 1998). Attachment anxiety is characterized by dependence, a need for closeness and reassurance from one's partner, and a fear of being abandoned, while attachment avoidance is characterized by excessive independence, a desire to maintain emotional distance from one's partner, and discomfort with intimacy. Individuals low on both dimensions are considered securely attached, and those high on one or both dimensions considered insecurely attached. Although both categorical and dimensional systems remain present in contemporary literature, the four-category model can and has been reframed in terms of dimensions of attachment anxiety and avoidance as follows: secure attachment corresponds to low anxiety and low avoidance, preoccupied attachment to high anxiety, dismissive to high avoidance, and fearful attachment to high anxiety and high avoidance (Dutton, Saunders, Starzomski, & Bartholomew, 1994; Shaver & Hazan, 1993).

Adult attachment theory provides an organizational framework for understanding the ways in which romantic partners act in response to stress, separation from one another, and conflict (Pietromonaco & Barrett, 2000), and it has clear relevance for the study of partner violence and aggression. Insecure attachment orientations have been linked to risk for IPV. It is estimated that approximately 55% of adults have secure attachment orientations, whereas the other 45% would be classified as having insecure attachment orientations, such that 25% would be classified as avoidant and 20% would be classified as anxious based on data from community samples (Brennan, Clark, & Shaver,

1998; Shaver & Clark, 1994; Shaver & Hazan, 1993). When these figures are juxtaposed next to the 30-40% of adults who engage in physical IPV and 70-80% of adults who engage in psychological IPV, it becomes clear that not all individuals who have an insecure attachment orientation aggress against their partners, and conversely not all those who aggress against their partners have insecure attachment orientations. The factors differentiating individuals with insecure attachment orientations who do or do not aggress against their partners have yet to be determined.

Relationship of Attachment Insecurity to IPV. Gormley's 2005 review of the research linking insecure attachment and perpetration of IPV revealed patterns of thinking and behaviour associated with the two dimensions of insecure attachment. Attachment anxiety was associated with difficulties functioning independently, self-blame, problems with affect regulation, and acting in a manner which may be interpreted as overly demanding by partners. Attachment avoidance on the other hand, was linked to discomfort with intimacy, blaming of others, and using distance as a method to regulate one's affect.

There is empirical evidence linking both attachment anxiety and avoidance with physical and psychological IPV perpetration, with evidence that adult attachment may mediate the link between other causal factors such as childhood maltreatment, and IPV (Dutton, & White, 2012; Godbout et al., 2009). Violence arising from the dimensions of insecure attachment in adulthood may be differentially motivated, such that individuals with attachment anxiety may act violently in an effort to avoid abandonment by their partners, whereas individuals with attachment avoidance may use violence in order to maintain self-control and exert control over others, thereby creating emotional distance

from their partners (Gormley, 2005). These dimensions of attachment insecurity may drive the perpetration of IPV in some individuals.

Allison, Bartholomew, Mayseless, and Dutton (2008) described male-perpetrated partner violence as a strategy for regulating distance in their intimate relationships as dictated by men's attachment needs. They interviewed couples in which the male partner had been referred for intervention for physical violence. They then applied qualitative, thematic analysis to the interviews and found two patterns of violence, pursuit and distancing, which were associated with attachment anxiety and attachment avoidance, respectively. According to the couples interviewed, the men in this sample used physical IPV as a means to either force a partner to attend to them (the pursuit strategy) or to push a partner away when they perceived too high a level of intimacy (the distancing strategy). The strategy employed by the men was associated with their attachment orientations, such that pursuit was associated with anxious attachment, and distancing with avoidant attachment.

Babcock and colleagues (2000) recruited distressed married couples who were then separated into two groups: one in which the husbands were violent towards their wives, and one in which no violence was present. Using the Adult Attachment Interview, the husbands' attachment orientations were categorized as secure, dismissing, or preoccupied. A significantly greater proportion of violent husbands were classified as dismissing or preoccupied (i.e., insecurely attached) compared to the distressed, but non-violent husbands. These findings are consistent with the notion that insecure attachment may contribute to risk for IPV through the use of coercive pursuit and distancing tactics in romantic relationships.

Researchers have also found associations between patterns of men's attachment and conflict behaviours during discussion of a problem area of continuing disagreement with their wives. The SPAFF system (Gottman, McCoy, Coan, & Collier, 1996) was used to code specific affect elicited during these discussions. Dismissing and preoccupied husbands showed more domineering behaviours (characterized by attempts to force partners to comply with or submit to one's own view) compared to securely attached husbands. There were also unique behaviours associated with each insecure attachment orientation. Dismissing husbands tended to use distancing tactics such as stonewalling, tuning out their partners, and displays of contempt, whereas preoccupied husbands had a tendency to provoke their wives to engage with them via strategies like acting belligerent.

In another study comparing violent husbands to non-violent controls, men categorized as securely attached were more often found in the non-violent control group, and men categorized as preoccupied, or fearful, were more often found in the violent group (Dutton et al., 1994). Attachment orientation was assessed with the Relationship Styles Questionnaire and the Relationship Questionnaire. Psychological IPV was reported by female partners using the Psychological Maltreatment of Women Inventory, and physical IPV was operationalized as the number of self-reported acts of violence. These findings should be interpreted with the caveat that some men in the non-violent control group actually did report incidents of IPV. When analyzing the dimensions of attachment anxiety and attachment avoidance, it was found that both were related to psychological IPV, but attachment anxiety was uniquely associated with physical IPV. The men who were classified as insecurely attached also endorsed jealousy and anger at higher rates than men who were securely attached. Specifically, fearful attachment was most strongly

positively correlated with jealousy and anger, followed by preoccupied attachment. Somewhat surprisingly, dismissing attachment was not correlated with jealousy or anger. Secure attachment was negatively correlated with jealousy and anger as expected.

Female-perpetrated IPV has also been linked to insecure attachment. In a sample of female undergraduates, attachment anxiety, but not avoidance, was a significant predictor of physical IPV perpetration (Orcutt et al., 2005). Female-perpetrated IPV was self-reported with the CTS2, and romantic attachment style was assessed with the Experiences in Close Relationships Revised (ECR) questionnaire, yielding scores on the dimensions of attachment anxiety and attachment avoidance. Post-hoc tests revealed that attachment anxiety was higher in reciprocally violent women versus non-violent women; however, no significant differences were found between women who were only victims or perpetrators of IPV. Attachment avoidance was also investigated as a potential moderator for the relationship between attachment anxiety and IPV perpetration, and the results indicated that females higher in attachment anxiety, but lower in attachment avoidance, reported significantly more IPV perpetration than females elevated in both. In another study, undergraduate students of both sexes involved in reciprocally aggressive dating relationships scored higher on the preoccupied and fearful-avoidant scales of the Relationship Questionnaire, and reported greater interpersonal problems than their peers in non-aggressive dating relationships (Bookwala & Zdaniuk, 1998).

There is clear empirical support for a relationship between insecure attachment orientations and partner violence; however, as already noted, there is no 1:1 correlation between individuals with insecure attachment and individuals who use IPV. The question remains, what other factors differentiate violent individuals from non-violent individuals?

Mayseless (1991) theorized that the critical factor differentiating an insecurely attached individual who does not engage in IPV and one who does is a "complementary" or triggering attachment style in his or her partner. For example, a couple in which one individual is high on the dimension of attachment anxiety, and the other is high on the dimension of attachment avoidance, may be at elevated risk for IPV. Considering the associated cognitive and behavioural features that tend to coincide with attachment anxiety and attachment avoidance, it is not difficult to imagine that the pairing of these opposing orientations, with their respective formulas for navigating and operating within relationships, could lead to or exacerbate closeness-distance struggles, conflict and violence in a romantic relationship.

Closeness-distance struggles are defined by Jacobson & Christensen (1998) as disagreement regarding the optimal level of intimacy in a romantic relationship, arising when one partner desires more closeness, whereas the other endeavours to maintain his or her own optimal distance. For example, an individual with an anxious attachment orientation may desire greater intimacy, while his or her partner who may have a less anxious or more avoidant orientation would prefer more distance. The disparity in optimal closeness versus distance in this couple may be reflected in behaviours like demanding to spend more time together and to have more involved, meaningful conversations to create closeness in the case of the first partner, and spending time in solitude and engaging in only superficial conversations to maintain distance in the case of the second partner. These opposing motivations and behaviours will most likely create conflict, which may culminate in maladaptive conflict behaviours such as the use of

violence and aggression, especially when the respective attachment fears of each partner are activated.

Putative evidence for the complementary or mismatched pairing phenomenon that may contribute to closeness-distance struggles comes from research by Roberts and Noller (1998). University students reported on their levels of attachment anxiety and avoidance using the Relationships Styles Questionnaire, and their perpetration of physical IPV using the CTS2. Two logistic regression analyses, one for men and one for women, were conducted to determine whether partners' attachment orientations interacted to predict IPV. For both men and women, high levels of attachment anxiety were related to perpetration of IPV, but only if their partners endorsed high levels of attachment avoidance. It appears that the mispairing of attachment orientations in couples is related to physical IPV perpetration by the partner who endorses attachment anxiety.

Doumas and colleagues (2008) yielded similar findings with an undergraduate sample. Attachment anxiety and avoidance were assessed with the Relationship Questionnaire, which required participants to read four paragraphs and rate on a 7-point scale "the extent to which each description corresponds to [his or her] general relationship style." These ratings were then coded into the dimensions of attachment anxiety (by summing the scores on preoccupied and fearful attachment, and subtracting the sum of scores on secure and dismissing attachment) and attachment avoidance (by summing the scores on fearful and dismissing attachment, and subtracting the sum of scores on secure and preoccupied attachment). This method for obtaining scores on the anxiety and avoidance dimensions was developed by Simpson, Rholes, and Nelligan (1992) based on factor analysis, and employed previously by Dutton et al. (1994). The

rationale for this method comes from research regarding the underlying attachment categories that form each construct (Shaver & Hazan, 1993). IPV was assessed using the physical violence subscale of the Conflict Tactics Scale, using the highest reported frequency of IPV by either partner.

Doumas and colleagues' (2008) hierarchical regression analysis revealed a significant main effect of female attachment anxiety and a significant interaction between male attachment avoidance and female attachment anxiety as predictors of male-perpetrated IPV. Similar results were also found for female-perpetrated IPV. The authors posited that there is a mediation relationship in effect whereby female attachment anxiety influences female-perpetrated IPV through male-perpetrated violence; in other words, female attachment anxiety precedes male violence, which then results in the reciprocation of IPV from the female. The authors further suggested that IPV perpetration may be linked to attachment styles through the experience of closeness-distance struggles arising from the mismatch or pairing of anxious and avoidant attachment orientations.

The idea that certain pairings of attachment orientations across partners may confer greater risk for IPV may help to reconcile the fact that there is no exact correlation between a given attachment orientation and perpetration of IPV. In addition, expanding the current research to consider dyadic risk factors alongside individual factors may further our understanding of who is at risk. Though much of the literature indicates that attachment anxiety is more strongly related to IPV perpetration, the notion that elevated risk for IPV may arise from opposing attachment orientations may also help to shed light on individuals with an avoidant attachment orientation. Avoidant attachment has previously been associated more strongly with psychological IPV, but nonetheless is

related to perpetration of physical IPV as well. Perhaps the tactics used by individuals with attachment avoidance are more likely to escalate to the use of violence when these individuals perceive that their emotional distance or independence is being threatened, as may be the case when a couple is experiencing closeness-distance struggles.

Depression & Insecure Attachment

Findings from research on depression and attachment orientation draw parallels to one another and reveal opportunities for these constructs to interact within an individual to further predict IPV. There may be common underlying mechanisms that contribute to both depression and insecure attachment, or that allow depression and insecure attachment to influence IPV or one another. For example, self-perceptions of individuals with depression and high levels of attachment anxiety bear striking similarities in that both groups of individuals tend to evaluate themselves more negatively and to engage in self-blame more readily than others. In addition, features characteristic of the social interactions of individuals with depression, such as excessive reassurance seeking, bear resemblance to the problems functioning independently and overly demanding behaviours that are sometimes seen in individuals with anxious attachment orientations.

These apparent similarities may afford some insight as to why both depression and insecure attachment are risk factors for IPV. For example, these patterns could serve as vulnerability factors for both depression and insecure attachment, they could arise from one and contribute to the development of the other, or they could arise from both and confer the greatest risk for conflict leading to IPV when acting in combination.

Depression and insecure attachment orientations may predispose individuals to, or occur more commonly in those who display specific styles of cognitive processing.

Radecki-Bush, Farrell, and Bush (1993) hypothesized that insecure attachment and depression would be associated with perceptions, emotions and appraisals resulting in jealousy when individuals are prompted to imagine scenes involving their romantic partner and threat from a romantic rival. They recruited college students in on-going exclusive romantic relationships to test a model of romantic jealousy based on cognitive-motivation theory, with additions from adult attachment theory. Insecure attachment and depression had a negative effect on relationship quality, and predicted appraisals of greater threat by a romantic rival, which was subsequently predictive of jealousy. Insecure attachment and depression also predicted the use of maladaptive coping strategies in response to perceived threat from a romantic rival. As an extension of these findings, it is possible that depression and insecure attachment may contribute to relational problems through common or shared cognitive appraisal strategies.

Similarities in cognitive processes associated with depression and certain attachment orientations may also be addressed using a casual model. For example, Williams and Riskind (2004) investigated possible mediators of the relationship between attachment anxiety and avoidance, and depressive symptoms. Attachment insecurity was associated with higher levels of depressive symptoms, and this relationship was partially mediated by a pessimistic explanatory style, in which negative events are attributed to stable global causes, thought to arise from insecure attachment. The authors also queried participants on indices of relationship, health, and general outcomes, and found that both attachment insecurity and depressive symptoms were associated with poorer relationship specific outcomes, such as decreased relationship satisfaction, and increased negative and decreased positive perceptions of one's romantic relationship.

While there is evidence that insecure attachment influences the development of depressive symptoms, depression may also influence the development of insecure attachment orientations. Whiffen et al. (2001) proposed that insecure attachment arises when the quality of a couple's relationship (as a function of one partner's depression) negatively biases their internal working models of themselves and of others. This process may be especially relevant in couples in which one partner is experiencing chronic versus episodic depression. This longitudinal study's sample included women with depression and their husbands, as well as non-depressed couples for comparison. An association between depressive symptoms and fearful attachment was found for both men and women. Chronic depression in women was related to insecure attachment in their husbands, and insecurity in husbands predicted maintenance of their partners' depression. The authors posit the existence of a feedback loop between insecure attachment in husbands and chronic depression in wives that serves to maintain marital distress.

Another study focusing exclusively on women during and after pregnancy sought to test the simultaneous influences of attachment and depression on one another over time, and modeled these relationships using structural equation modeling (Scharfe, 2007). Attachment anxiety at earlier time points was associated with higher levels of depressed mood at later time points, consistent with the hypothesis that negative self-views contribute to depressive symptoms. Depressive symptoms at early times points were also associated with attachment avoidance at later times points, which may be due to depression's negative impact on one's views of others. Alternatively, women with depression may experience social withdrawal, or experience rejection, in turn increasing

reports of avoidance. The results from this study lend support to a bidirectional causal model of depression and insecure attachment.

Given the potential for bi-directional causal relationships between depression and insecure attachment, the similarities in their associated features in terms of beliefs and functioning within relationships, and the support for their separate contributions to the prediction of IPV, the next step is to examine both simultaneously to determine whether they interact to have an additive or synergistic effect on IPV.

Riggs and Kaminsky (2010) conducted a cross-sectional investigation of the associations between depressive symptoms (assessed with the Hopkins Symptoms Checklist depression subscale), attachment anxiety and avoidance (measured with the ECR), and relationship satisfaction (DAS total adjustment) and psychological IPV perpetration and victimization (CTS2) in a college sample. Hierarchical multiple regressions revealed that both attachment anxiety and avoidance accounted for a significant proportion of the variance in relationship satisfaction, such that higher levels of either predicted lower relationship satisfaction. Another model revealed that attachment anxiety (but not avoidance) and depressive symptoms were uniquely associated with both psychological IPV perpetration and victimization. The proportion of variance accounted for by attachment anxiety was similar for both perpetration and victimization; however, the proportion of variance accounted for by depressive symptoms was greater in the model predicting perpetration compared to the model predicting victimization, particularly for the women in the sample. The authors suggest that anxiously attached women with depression may express their fear of abandonment and anger towards their partners using psychological IPV, which may in turn be reciprocated.

Though these findings begin to illustrate the simultaneous effects of insecure attachment and depressive symptoms on propensity to enact or receive partner violence, this study is limited in that participants' partners were not included, and thus both perpetration and victimization were self-reported by each individual without any corroborating reports (making this study subject to underreporting of psychological IPV).

Limitations Of The Current Literature

There are several limitations and gaps in the contemporary research, and several areas with a need for replication and expansion. The research field studying IPV during pregnancy and over the transition to parenthood has left depressive symptoms and romantic attachment largely unexplored as predictors for violence during this developmental period. In addition, existing studies have focused almost exclusively on the victimization of women during pregnancy, and few have obtained data from male partners.

In general there appears to be a tendency to study one gender or the other in isolation when it comes to researching IPV. For example many of the studies investigating depression's impact on couples recruited only couples in which the woman was depressed, and conversely many studies investigating IPV in the context of adult attachment recruited exclusively male perpetrators of IPV. Preferentially recruiting one gender or the other may reflect biases in research on given topics, ease or convenience of sampling a given characteristic in one gender versus the other, or perhaps a desire to replicate previously unearthed gender differences. Though there may certainly be gender differences relevant to the study of depression, attachment, and IPV, researching a particular phenomenon in only men or only women is unnecessarily restrictive and may

serve to inflate perceived gender differences, which may in actuality be much less substantial than they appear. On the other hand, the inclusion of both genders in research on IPV is necessary to compare differential contributions of risk factors in men and women and to discover any potential gender differences that do exist.

Lastly, the importance of studying IPV in the context of individual, dyadic, and contextual risk factors is paramount, as no single characteristic or event is sufficient to explain the perpetration of IPV. Understanding the conditions under which depressive symptoms, insecure attachment, and couple conflict influence the thoughts and behaviours of individuals will help to determine who is at greatest risk and may eventually contribute to clinical applications of research, for example, by informing the development and implementation of interventions for IPV.

Current Study

The purpose of the current study is to investigate depressive symptoms and insecure romantic attachment as predictors of IPV perpetration and victimization in women and men during the transition to parenthood. Further, this study aims to determine the mechanisms by which these predictors exert their influence on IPV. This study will address the limitations of the extant research in the following ways: (1) studying both physical and psychological aggression, (2) assessing both perpetration and victimization as outcome variables, (3) investigating depression and romantic attachment simultaneously as risk factors, (4) obtaining data from both partners (and therefore both genders), and (5) studying couples during the transition to parenthood. These improvements on past paradigms will place this study in a unique position to answer the following research questions.

Research Questions.

1. What are the direct relations between depressive symptoms, attachment anxiety, and attachment avoidance and perpetration of IPV? Are there any interactions between depressive symptoms, attachment anxiety and attachment avoidance in relation to the prediction of IPV perpetration?
2. Are the relations between depressive symptoms and IPV perpetration and attachment insecurity and IPV perpetration mediated by relationship satisfaction?
3. Does the attachment insecurity of one partner moderate the relation between the other partner's attachment insecurity and IPV perpetration? Further, can one partner's IPV perpetration be explained fully or in part by the other partner's perpetration?

All three research questions will also be investigated for any gendered effects, and separate analyses will be conducted to examine psychological and physical aggression.

Hypotheses.

1. It is hypothesized that depressive symptoms and attachment anxiety will be positively associated with IPV perpetration. It is also hypothesized that depressive symptoms will be more strongly associated with IPV perpetration for women than for men. Lastly, it is hypothesized that there will be a 3-way interaction between depressive symptoms, attachment anxiety, and attachment avoidance in predicting IPV perpetration. Such that high levels of depressive symptoms in the presence of high levels on one, but not both, of attachment anxiety and attachment avoidance will interact to predict the greatest risk for perpetration of IPV. This hypothesis is based on previous literature indicating bivariate relationships between depressive

symptoms, insecure attachment, and IPV perpetration (Babcock et al., 2000; Bookwala & Zdaniuk, 1998; Foshee et al., 2010; Lehrer et al., 2006), as well as findings that indicate that high levels on one dimension of attachment insecurity in the presence of low levels of the other are associated with greater risk for IPV perpetration (Orcutt, et al., 2005).

2. The relationships between depressive symptoms and IPV and attachment insecurity and IPV are expected to be mediated by relationship satisfaction, such that the predictors (depression, insecure attachment) are associated with decreased relationship satisfaction, which in turn is related to increased IPV perpetration. (see Figure 1).

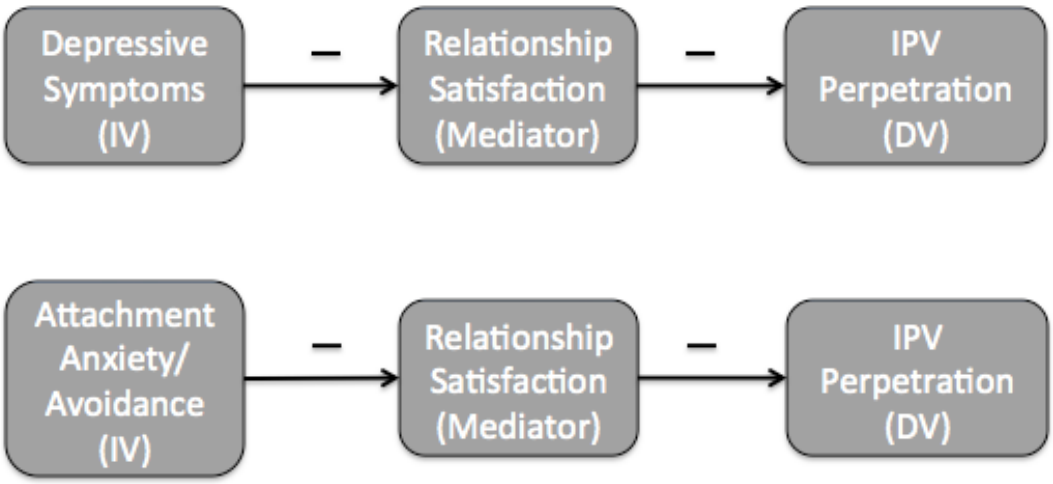


Figure 1. Mediation of the relationship between depressive symptoms and IPV perpetration, and attachment anxiety or avoidance and IPV perpetration by relationship satisfaction.

3. It is hypothesized that a mediated moderation effect will be detected. The moderation effect is as follows: men's attachment avoidance will moderate the relationship between women's attachment anxiety and men's perpetration of IPV, such that high attachment anxiety in women, in the context of high attachment

avoidance in men, will be associated with greater levels of men's IPV than high attachment anxiety in women in the context of low attachment avoidance in men. This interaction between women's attachment anxiety and men's attachment avoidance will also be related to women's IPV perpetration, and this relationship will be mediated by men's IPV. Thus, men's attachment avoidance and women's attachment anxiety will interact to predict men's IPV, which in turn will predict women's IPV. The proposed model is shown in Figure 2. Men's IPV is predicted to mediate the relationship between attachment insecurity and women's IPV based on previous literature (Doumas et al., 2008) finding this pattern of results. It is also hypothesized that when the genders are reversed (such that the model tests the interaction between men's anxiety and women's avoidance to predict women's, and then men's IPV perpetration) the model will not hold.

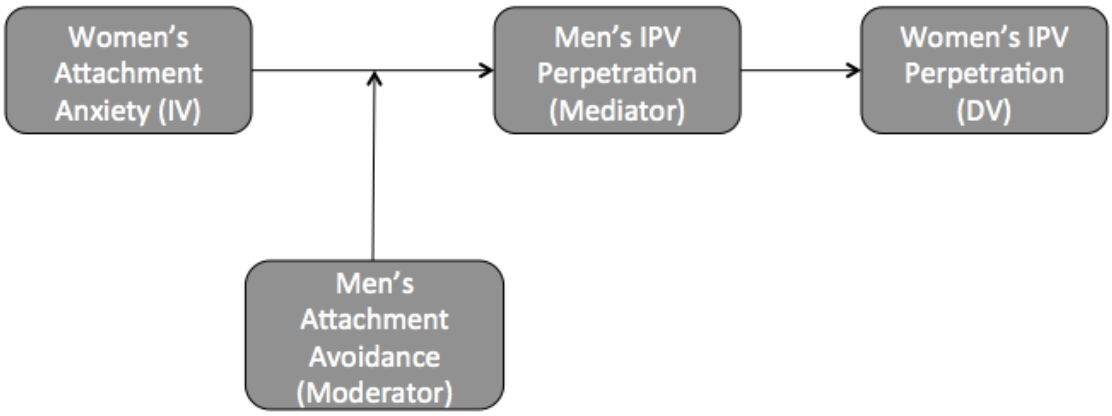


Figure 2. Mediated moderation whereby the relationship between women's attachment anxiety and men's IPV perpetration is moderated by men's attachment avoidance, and men's IPV perpetration mediates the relationship between women's attachment insecurity and women's IPV perpetration.

Method

Data for this project was collected as part of the Partners to Parents Study, a longitudinal study of expectant couples and their children designed and conducted by Dr. Erica Woodin. The hypotheses and analyses for this project are limited to the first (prenatal) wave of data collection of the Partners to Parents study, which was conducted from 2009 to 2010.

Participants

The 98 couples recruited for participation in the first wave of the study were contacted through advertisements placed in midwives' and doctors' offices, as well as in maternity stores. Researchers also approached potential participants through informational presentations conducted in pre-natal classes. Eligible participants included English-speaking couples who were in the third trimester of pregnancy with their first child, living together, and over the age of 17. The mean age of participants was 32.03 years (*SD* = 5.51) for men and 29.98 years (*SD* = 5.49) for women. Men and women in the sample had an average of 14.77 (SD = 2.38) and 15.28 (*SD* = 2.31) years of education, respectively. Average annual income was $51,716 (*SD* = 35,254) for men and $35,019 (*SD* = 24,825) for women. Couples were cohabitating for an average of 4.47 (*SD* = 3.40) years, and 69.4% of the couples were legally married at the time of the study. At the time of assessment, couples were 30.40 (*SD* = 3.76) weeks pregnant on average. The sample was comprised of 88.3% Caucasian participants, and 11.7% visible minority participants (the largest groups being 5.6% Asian and 2.5% First Nations, with 3.6% comprising other identifications), and the composition of this sample is representative of the demographics of the area in which the study was conducted, a mid-sized city in

British Columbia. Participants received a $50 honorarium for their participation, as well as a small gift for their child.

Procedures

Participating couples completed the prenatal assessment in a psychology laboratory at the University of Victoria. The prenatal assessment consisted of self-report questionnaires and observational measurements; however, the data applicable to this study was collected exclusively through self-report questionnaires. Couples completed the self-report questionnaires via a computer-administered survey, while seated alone in separate rooms within the laboratory. The total session length was approximately 3.5 hours.

Measures

Intimate Partner Violence. Self-reported frequency of perpetration of physical and psychological IPV, as well as reports of one's partner's perpetration of IPV were obtained using the Conflict Tactics Scales Revised (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Appendix D). The CTS2 consists of multiple scales that measure physical IPV (12 items), psychological IPV (8 items), negotiation (6 items), sexual coercion (7 items), and consequences of violence (6 items). Items from the physical and psychological IPV scales ask respondents to report how many times they and their partners have been aggressive towards one another in the past year with responses ranging from "never" to "more than 20 times." Example items include "Have you thrown something at your partner that could hurt?" and "Has your partner insulted or sworn at you?". The number values corresponding to the responses chosen (e.g., never = 0; more than 20 times = 25 as recommended by the scale's authors; Straus et al., 1996)

are summed to create a total score for each scale, with higher scores indicating greater frequency of violence, negotiation, or injury. The physical and psychological IPV scales were used as a measure of IPV perpetration in this study; the range of possible scores for these scales is 0 to 300 for physical IPV perpetration, and 0 to 200 for psychological IPV perpetration. Underreporting of IPV perpetration is a problem due to biased self-reporting (e.g., Heyman & Schlee, 1997). In order to combat underreporting, the higher of the two frequencies reported by either partner was used to calculate IPV perpetration for a given participant. This method has been used in previous studies (e.g., Heckert & Gondolf, 2000), as it is standard procedure for minimizing underreporting of violence. In this sample, the CTS2 had acceptable or good reliability. For physical IPV, Cronbach's α = .72 and .71 for reports of men's perpetration and women's perpetration, respectively. For psychological IPV, Cronbach's α = .63 and .71 for reports of men's and women's perpetration, respectively.

Depressive Symptoms. Self-reported ratings of depressive symptoms were obtained using the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977; Appendix A). The CES-D requires participants to rate how often (based on how many days during the past week) they experienced the symptoms detailed in each of 20 items, using one of the four response options (0 = *Rarely or none of the time [less than 1 day],* and 3 = *Most or all the time [5-7 days]*). An example item from the CES-D is "I was bothered by things that usually don't bother me". Three items are reverse coded. The number values corresponding to the responses chosen are summed to create a total score, with higher scores indicating greater levels of depressive symptoms. Possible scores range from 0 to 60. A total score of 16 or higher has been validated as a standard

cutoff to indicate clinical depression in past studies (e.g., Boyd, Weissman, Thompson, & Meyers, 1982; Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977); however, other studies caution that this cutoff may overestimate the prevalence of depression in community samples (e.g., Santor, Zuroff, Ramsay, Cervantes, & Palacios, 1995). In this study, the CES-D was used as a continuous score. The CES-D had good reliability for men, Cronbach's $\alpha = .82$, and excellent reliability for women, Cronbach's $\alpha = .90$.

Relationship Satisfaction. The Dyadic Adjustment Scale (DAS; Spanier, 1976; Appendix C) is a 22-item scale that assesses the quality of romantic relationships in terms of dyadic adjustment, which captures partners' differences, interpersonal tension, relationship satisfaction and cohesion, and consensus between partners. The DAS requires respondents to report on the degree to which they agree with their partners on various issues (e.g., "Handling finances"), and the frequency with which they engage in intimate and rewarding activities together (e.g., "Do you confide in your partner?"), using a 6-point scale (0 = *Always Disagree* or *Never*, and 5 = *Always Agree* or *All the time*). Responses are totalled to yield a score for relationship satisfaction, with a theoretical range of 0 to 151. Scores in the range of 90-110 indicate average relationship satisfaction, and scores below 50 indicate very low relationship adjustment (Spanier, 1976). The DAS demonstrated excellent reliability in this sample, Cronbach's $\alpha = .94$ for men and .91 for women.

Romantic Attachment. Participants self-reported on their adult romantic attachment orientation using the Experiences in Close Relationships Inventory (ECR; Brennan, 1998; & Fraley, Waller, & Brennan, 2000; Appendix B). The ECR is a 36-item scale, which asks participants to rate their level of agreement with statements about how

one might feel about romantic relationships, based on their experience of relationships in general (i.e., not limited to the current relationship). The ECR has two subscales, the anxiety subscale and the avoidance subscale, and example items from each are "I worry about being abandoned," and "I get uncomfortable when a romantic partner wants to be very close," respectively. Participants respond using a 7-point Likert scale (1 = *Disagree Strongly*, and 7 = *Agree Strongly*). Ten items are reverse coded. Items comprising the anxiety and avoidance subscales are totalled, with higher scores indicating greater levels of attachment anxiety and attachment avoidance, respectively. Scores on each subscale range between 18 and 126, with 72 as the midpoint score identified as the cut-off for high (above 72) and low (below 72) attachment anxiety and avoidance.

The anxiety and avoidance subscales from the ECR demonstrated good to excellent reliability for this sample, Cronbach's $\alpha = .87$ for men and .89 for women for the attachment anxiety subscale, and Cronbach's $\alpha = .90$ for men and .86 for women for the attachment avoidance subscale.

Results

Preliminary Analyses

Prior to conducting the main analyses, standard data screening procedures were conducted to determine the presence of potential univariate or multivariate outliers and to evaluate normality of the sampling distribution. For both men and women, the sampling distributions for depressive symptoms, attachment anxiety, attachment avoidance, physical IPV, and psychological IPV were positively skewed, whereas the distribution for relationship satisfaction was negatively skewed. Both men and women evidenced kurtosis in the distributions for attachment avoidance, and physical IPV. Men's relationship satisfaction and women's depressive symptoms were also kurtotic in their distribution. The decision to forgo the use of transformations to correct skewedness and kurtosis in the data was made out of concern for meaningful interpretation of the results.

One man and one woman reported high frequencies of physical IPV (values of 50 and 78 out of a possible total of 300, z-score = 8.03 and 8.01, respectively) indicating that they were extreme univariate outliers. In addition, visual inspection of the sampling distributions for men's and women's physical IPV revealed that these outliers were not simply part of the tail of the distribution, but removed by a large separation from the other cases. The values for these cases were recoded to one unit greater than the next highest value as per Tabachnick and Fidell (2013), such that the new value for both cases was 28. Using a criterion of $p < .001$ and Mahalanobis' Distance, four men and two women were identified as potential multivariate outliers. Removal of these cases did not improve the sampling distributions and produced additional potential multivariate outliers. Therefore, these cases were retained in the analyses. No cases had missing data

at the variable level; all 98 men and 98 women were included in all analyses. Missing data at the item level, which accounted for less than 5% of all data, were replaced using mean item substitution.

Age, years of education, individual annual income, ethnicity, whether partners were legally married, years cohabiting, and number of weeks pregnant at time of assessment were all explored as potential covariates. Individual annual income had a significant negative zero-order correlation with men's physical IPV. Age, education, and individual annual income were all negatively correlated with women's physical IPV, and annual income and whether partners were legally married were negatively correlated with women's psychological IPV (such that not being legally married was associated with greater frequency of psychological IPV). In regression models including all demographic variables investigated, annual income and whether partners were legally married accounted for unique variance in women's psychological IPV, and age uniquely predicted women's physical IPV. Men's IPV was not predicted by the covariates individually or as a whole. Therefore, age, whether partners were legally married, and individual annual income were used as covariates in all subsequent analyses, for both men and women to maintain consistency.

Means, standard deviations, and zero-order correlations for the predictor and outcome variables are reported for men and women in Table 1. Male-perpetrated psychological IPV was positively correlated with depressive symptoms and attachment anxiety, and negatively correlated with relationship satisfaction at the bivariate level. Male-perpetrated physical IPV was positively correlated with depressive symptoms and

Table 1

Summary of all Intercorrelations for Men (n = 98, below the diagonal) and Women (n = 98, above the diagonal)

Measure	1	2	3	4	5	6	*M*	*SD*
1. CES-D Depression	__	.46***	.11	-.29**	.27**	.06	7.58	6.13
2. ECR Anxiety	.49***	__	.45***	-.65***	.22*	.11	39.11	15.04
3. ECR Avoidance	.50***	.33**	__	-.54***	.28**	.12	32.48	14.69
4. DAS Relationship Satisfaction	-.52***	-.41***	-.73***	__	-.41***	-.24*	118.32	17.04
5. CTS2 Psychological IPV Perpetration	.26*	.36***	.09	-.25*	__	.44***	16.42	17.22
6. CTS2 Physical IPV Perpetration	.25*	.33**	.08	-.14	.44***	__	1.47	6.04
M	11.19	46.35	26.64	123.46	19.52	2.92	__	__
SD	9.04	17.59	9.94	12.37	20.30	8.88	__	__

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory, a measure of attachment security; DAS = Dyadic Adjustment Scale, a measure of relationship satisfaction; IPV = Intimate Partner Violence; CTS2 = Conflict Tactics Scales Revised.

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

attachment anxiety at the bivariate level. For women, perpetration of psychological IPV was positively correlated with depressive symptoms, attachment anxiety, and attachment avoidance, and negatively correlated with relationship satisfaction. Women's perpetration of physical IPV was negatively correlated with relationship satisfaction.

Physical & Psychological IPV. An inspection of the descriptive statistics indicated that 74.5% of men and 83.7% of women perpetrated at least one act of psychological aggression against their partner during the last year (as reported by both partners). The rates for perpetration of any physical aggression in the past year (as reported by both partners) are 18.4% and 30.6% for men and women, respectively. When mild and severe physical aggression were considered separately, 17.3% of men and 29.6% of women perpetrated any mild physical aggression, and 5.1% of men and 15.3% of women perpetrated any severe physical aggression. In addition, 10.2% of men and 5.1% of women sustained physical injury due to victimization by a partner. The rates of psychological aggression in this sample are comparable to those found in other community samples of pregnant couples using the same measure, the CTS2 (Graham et al., 2012; Martin et al., 2003), and rates of physical violence in this sample are roughly equivalent to other community samples of pregnant couples that report approximately 17% of men and 30% of women using any physical aggression, again as measured using the CTS2 (Kan & Feinberg, 2010; Marshall et al., 2011). Comparison to a non-pregnant sample from the developers of the original scale shows that rates of psychological aggression are comparable (74% of men and 83% of women) and rates of physical aggression are higher (47% of men and 35% of women) than in this sample (Straus et al., 1996).

Depressive Symptoms. Using a cutoff of 16 on the CES-D, 10.2% of men and 24.5% of women reported clinically significant levels of depressive symptoms. The prevalence of depression and mean CES-D scores in this sample are consistent with previous research using community samples of men and women expecting a child (Hall & Long, 2007; Leathers & Kelly, 2000; Marcus, Flynn, Blow, & Barry, 2003); however, studies recruiting from urban areas or populations with lower average socioeconomic statuses may produce higher prevalence rates for depression (e.g., Field et al., 2006). A greater proportion of the sample may be identified as having clinically significant depression and mean scores may be greater in studies using the general population (i.e., non-pregnant samples) as well (Radloff, 1977; Santor et al., 1995).

Attachment Anxiety & Avoidance. According to the ECR measure of attachment orientation, 4.1% of men and 10.2% of women reported high levels of attachment anxiety in this sample (ECR Anxiety subscale score greater than 72), while 2.0% of men and none of the women reported high levels of attachment avoidance (ECR Avoidance > 72). On average, both men and women were well below the criterion for high levels of attachment anxiety (M = 39.11 and 46.35, for men and women, respectively) and attachment avoidance (M = 32.48 and 26.64, for men and women, respectively). Although the prevalence of attachment anxiety for women is consistent with previous findings (e.g., a large nationally representative American sample found that 11.7% of women in the sample were anxiously attached; Mickelson, Kessler, & Shaver, 1997), the prevalence rates of attachment anxiety in men and avoidance in both men and women in this sample are lower than those found in previous studies of the general

population (e.g., Mickelson et al. (1997) found that 10.8% of men were anxiously attached, and that 27.6% of men and 22.8% of women were attachment avoidant).

Relationship Satisfaction. In the current study, 15.3% of men and 11.3% of women reported an average level of relationship satisfaction (represented by DAS scores ranging from 90-110), 6.1% of men and 2.0% of women reported below average relationship satisfaction, indicating clinical distress in their relationships (DAS<90), and 78.6% of men and 86.7% of women reported above average relationship satisfaction (DAS>110). The mean DAS scores for men and women indicated that relationship satisfaction was above average in this sample. Relationship satisfaction in this sample is consistent with findings from other community samples of couples undergoing the transition to parenthood, which have found above average relationship satisfaction (DAS scores ranging from 117 to 122) in men and women during the pregnancy period (Condon, Boyce, & Corkindale, 2004; Moller, Hwang, & Wickberg, 2008; Tomlinson, 1996; Wallace & Gotlib, 1990).

In order to determine whether there were any gender differences for the variables of interest, *t*-tests were conducted to compare the means for men and women on measures of depressive symptoms, attachment anxiety, attachment avoidance, relationship satisfaction, psychological IPV, and physical IPV. A Bonferroni correction was applied to counteract the inflation of Type I error due to multiple comparisons (following correction, $\alpha = .008$). Men's and women's mean scores on relationship satisfaction, $t\ (194) = -2.42$, $p = .017$, psychological IPV, $t\ (194) = -1.15$, $p = .25$, and physical IPV, $t\ (194) = -1.34$, $p = .18$, did not differ significantly. Women reported significantly more depressive symptoms, $t\ (194) = -3.27$, $p = .001$, and attachment anxiety, $t\ (194) = -3.09$,

$p = .002$, than men on average. Men reported greater mean attachment avoidance than women, $t\ (194) = 3.26, p = .001$.

All subsequent analyses were conducted separately for men and women due to the dependent nature of the data for partners within couples.

Hypothesis 1

I hypothesized that attachment anxiety and depressive symptoms would be positively associated with physical and psychological IPV perpetration, that depressive symptoms would be more strongly associated with perpetration in women than in men, and that depressive symptoms, attachment anxiety, and attachment avoidance would interact to predict perpetration. In order to test the direct relations and interactions of depressive symptoms, attachment anxiety, and attachment avoidance in predicting IPV perpetration, I conducted a series of multiple regression analyses, investigating physical and psychological IPV as separate outcome variables, and conducting analyses separately for men and women. Covariates (age, whether partners were legally married, and individual annual income) were entered at step one, and the predictors (depressive symptoms, attachment anxiety, and attachment avoidance), and hypothesized 2-way and 3-way interactions were entered at step two.

When men's physical IPV perpetration was regressed onto the covariates at step one, the overall model was not significant, $F\ (3, 94) = 2.27, p = .09, R^2 = .07$. The overall model at step 2 including covariates, predictors, and interactions was significant, $F\ (9, 88) = 2.60, p < .05, R^2 = .21$, indicating that the addition of the predictors and interactions resulted in a significant increase in variance explained. Attachment anxiety and the interaction between depressive symptoms and attachment anxiety accounted for a

significant portion of the variance in men's physical IPV perpetration. There were no other significant effects of predictors or interactions. The unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), R^2, and adjusted R^2 after entry of all covariates, predictors, and interactions are reported in Table 2.

For women, in step one of the model, age, whether partners were legally married, and individual annual income significantly predicted physical IPV perpetration, F (3, 94) = 3.27, $p < .05$, $R^2 = .09$. Although the covariates as a whole predicted women's physical IPV, none of the individual covariates were uniquely associated with women's physical IPV. The overall model predicting women's physical IPV at step two including the covariates, depressive symptoms, attachment anxiety, and attachment avoidance, and interactions was not significant, F (9, 88) = 1.67, $p = .11$, $R^2 = .15$, and no individual predictors were significant either. Unstandardized and standardized regression coefficients, R^2, and adjusted R^2 after step two are reported in Table 2.

When men's psychological IPV perpetration was regressed first onto the covariates, and then the covariates, predictors, and 2-way and 3-way interactions, the overall model including covariates alone at step one was not significant, F (3, 94) = 1.89, $p = .14$, $R^2 = .06$, but the overall model at step two accounted for a significant amount of the variance in psychological IPV, F (9, 88) = 2.20, $p = .03$, resulting in a significant increase in R^2. Attachment anxiety was the only predictor that uniquely accounted for a significant portion of the variance in men's psychological IPV. No other predictors and no interactions had a significant effect. Table 3 displays standardized and unstandardized regression coefficients, R^2, and adjusted R^2 after step two.

Table 2

Hypothesis 1 Summary of Multiple Regression on Physical IPV for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1				.07	.04				.09*	.07*
Step 2				.21*	.13*				.15	.06
Intercept	2.58	2.65				7.45	3.28*			
Age	-0.04	0.08	-.05			-0.17	0.11	-.16		
Individual Yearly Income	-0.00002	0.00	-.17			0.00004	0.00	-.17		
Legally Married	-0.78	1.00	-.08			-0.85	1.27	-.07		
CES-D Depression	-0.09	0.10	-.01			-0.32	0.08	-.05		
ECR Anxiety	0.07	0.03	.23*			0.03	0.04	.09		
ECR Avoidance	0.03	0.04	.10			0.11	0.07	.19		
CES-D Depression X ECR Anxiety	0.01	0.01	.29*			-0.002	0.004	-.05		
ECR Anxiety X ECR Avoidance	0.00	0.002	.01			-0.004	0.004	-.14		
CES-D Depression X ECR Anxiety X ECR Avoidance	0.00	0.00	-.25			0.00	0.00	.10		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory, a measure of attachment security; IPV = Intimate Partner Violence.

*$p < .05$.

When predicting women's psychological aggression, the overall models were significant at step one with covariates entered, $F\ (3, 94) = 3.73, p = .01, R^2 = .11$, and step two with covariates, predictors and interactions entered, $F\ (9, 88) = 2.85, p = .005, R^2 = .23$. Individual annual income and whether partners were legally married were negatively associated with women's psychological IPV at step one (such that women with lower annual income, and women who were not legally married used psychological IPV more frequently), but only lower individual annual income remained a significant predictor at step two. Depressive symptoms were the only other significant predictor of women's psychological IPV perpetration. Regression coefficients, R^2, and adjusted R^2 after step two are reported in Table 3.

In summary, men's attachment anxiety and an interaction between men's attachment anxiety and depressive symptoms predicted their physical IPV perpetration. Women's physical IPV was predicted by the aggregate covariates, but no single covariate was uniquely predictive; additionally, the overall model including predictors and interactions did not predict women's physical IPV. In terms of psychological IPV, men's perpetration was uniquely associated with attachment anxiety. Women's psychological IPV was negatively associated with their individual annual income and whether they were legally married, but only the first association remained when the predictors and interactions were entered into the model. Women's psychological IPV was significantly associated with their own depressive symptoms.

To further investigate the significant interaction between men's attachment anxiety and their depressive symptoms in predicting physical IPV, I conducted post-hoc exploratory analyses. Men were split into high and low groups based on both attachment

Table 3

Hypothesis 1 Summary of Multiple Regression on Psychological IPV for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	β	R^2	Adjusted R^2	*B*	*SE (B)*	β	R^2	Adjusted R^2
Step 1				.06	.03				.11*	.08*
Step 2				.18*	.10*				.23**	.15**
Intercept	14.20	10.52				8.23	11.06			
Age	-0.29	0.32	-.09			0.09	0.37	.02		
Individual Yearly Income	-0.00003	0.00	-.06			0.00	0.00	-.22*		
Legally Married	-4.31	3.96	-.12			-7.79	4.33	-.18		
CES-D Depression	0.30	0.38	.11			0.58	0.26	.26*		
ECR Anxiety	0.34	0.13	.30*			0.01	0.14	.004		
ECR Avoidance	-0.12	0.15	-.11			0.31	0.25	.15		
CES-D Depression X ECR Anxiety	-0.15	0.02	-.10			-0.01	0.01	-.07		
ECR Anxiety X ECR Avoidance	0.001	0.01	.02			0.02	0.01	.14		
CES-D Depression X ECR Anxiety X ECR Avoidance	0.001	0.001	.14			-0.001	0.001	-.05		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory, a measure of attachment security; IPV = Intimate Partner Violence

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

anxiety and depressive symptoms. The high and low groups were defined as those men with scores greater than 0.5 standard deviations above and below the mean score on each variable, respectively. This criterion for splitting groups was chosen in order to maintain enough cases in each of the cells to graph the interaction and conduct simple slopes analyses; however, this method still produced small and unbalanced cell sizes. Figure 3 plots the frequency of physical IPV for men high and low in attachment anxiety and depressive symptoms.

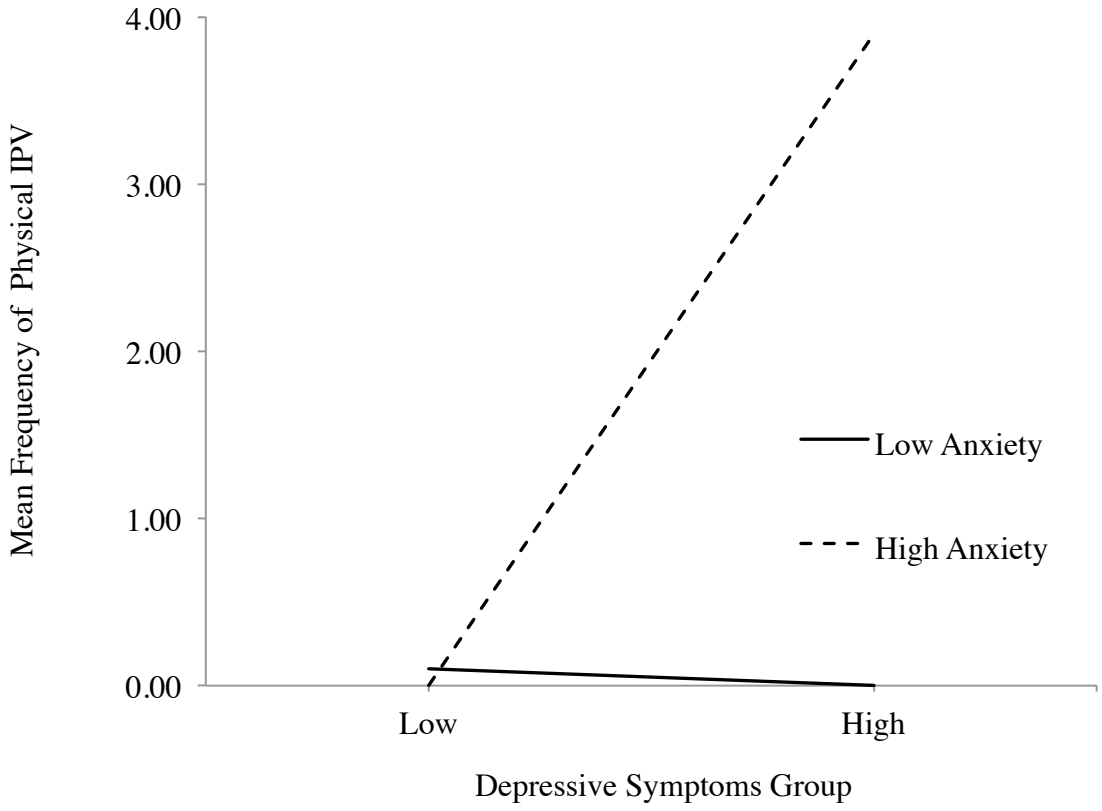


Figure 3. Mean frequency of men's physical IPV (CTS-2) for men with low and high attachment anxiety (ECR anxiety subscale) and depressive symptoms (CED).

To test the simple slopes in this interaction, I regressed men's physical IPV onto their depressive symptoms, and conducted the regressions separately for the low and high attachment anxiety groups. Neither simple slope analysis was significant. Men's physical

IPV did not differ as a function of their level of depressive symptoms in either the low attachment anxiety group, $\beta = .13, t = .79, p = .44, R^2 = .02$, or the high attachment anxiety group, $\beta = .16, t = .79, p = .44, R^2 = .03$.

For exploratory purposes, I conducted additional post-hoc analyses of the significant interaction predicting men's physical IPV by splitting men into high and low depressive symptom and attachment anxiety groups using a number of different criteria (0.5 SDs above and below the median, mean split, median split); however, none of the simple slopes using any of the methods were significant.

Hypothesis 2

I hypothesized that relationship satisfaction would mediate the associations between depressive symptoms, attachment anxiety, and attachment avoidance, and IPV perpetration. To test whether the associations between the predictors (depressive symptoms, attachment anxiety, and attachment avoidance) and IPV perpetration are mediated by relationship satisfaction, a series of regression analyses were conducted. For all three models, relationship satisfaction was regressed onto the predictor variable to determine whether there was a direct association between the predictor and mediator variables. For all significant predictor-mediator associations, IPV perpetration was regressed onto both the predictor and mediator to determine whether the direct association between the predictor and IPV perpetration was diminished or made non-significant by the inclusion of the mediator relationship satisfaction, thus indicating a possible mediation effect.

All three predictors (depressive symptoms, attachment anxiety, and attachment avoidance) were significantly negatively associated with relationship satisfaction for both

men and women after controlling for covariates, such that higher levels of depressive symptoms, attachment anxiety, and attachment avoidance predicted lower relationship satisfaction. Regression coefficients are reported in Table 4. In order to investigate evidence for relationship satisfaction as a mediator of the association between each predictor and IPV, psychological and physical IPV were regressed onto the covariates at step one, the predictor (depression and attachment) at step two, and relationship satisfaction at step three. A decrease in the association between the predictor and IPV with the addition of relationship satisfaction provided evidence for a mediation effect.

A pattern of results consistent with possible mediation by relationship satisfaction was found for the associations between women's attachment anxiety, and attachment avoidance, and both outcomes, psychological and physical IPV perpetration, as well as the association between women's depressive symptoms and psychological IPV. In all three models predicting women's psychological aggression, the significant association between the predictor (women's depressive symptoms, attachment anxiety, or attachment avoidance) and women's psychological IPV was reduced to non-significance following the inclusion of relationship satisfaction, and relationship satisfaction was negatively associated with psychological IPV (See Figure 4). These results indicate that depressive symptoms, attachment anxiety, and attachment avoidance may exert their influence on psychological IPV through lowered relationship satisfaction.

When predicting women's physical aggression, the direct effects of depressive symptoms, attachment anxiety, and attachment avoidance were not significant. However, the direct effect of attachment anxiety was decreased and changed direction (positive association to negative association) with the addition of relationship satisfaction, while

Table 4

Hypothesis 2 Summary of Multiple Regression on Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Depressive Symptoms										
Step 1				.02	-.01				.06	.03
Step 2				.28	.25***				.14**	.10**
Intercept	137.55	9.49***				127.56	6.84***			
Age	-0.27	0.28	-.09			-0.17	0.23	-.07		
Individual Yearly Income	0.00003	0.00	.07			0.00003	0.00	.06		
Legally Married	-1.98	3.30	-.05			5.87	2.62	.22*		
CES-D Depression	-1.45	0.25	-.52***			-.39	0.13	-.28**		
Attachment Anxiety										
Step 1				.02	-.01				.06	.03
Step 2				.17**	.14**				.48***	.45***
Intercept	140.34	10.77***				144.79	5.77***			
Age	-0.16	0.30	-.05			-0.19	0.18	-.08		
Individual Yearly Income	0.00003	0.00	.06			0.00004	0.00	.08		
Legally Married	-0.92	3.53	-.03			5.78	2.04	.22**		
ECR Anxiety	-0.45	-0.11	-.40***			-0.46	0.05	-.65***		
Attachment Avoidance										
Step 1				.02	-.01				.06	.03
Step 2				.54***	.52***				.31***	.28***
Intercept	143.52	7.53***				137.35	6.47***			
Age	-0.06	0.22	-.02			-0.01	0.21	-.003		
Individual Yearly Income	0.00004	0.00	.07			0.00003	0.00	.06		
Legally Married	3.66	2.64	.10			3.44	2.39	.13		
ECR Avoidance	-0.85	0.08	-.73***			-0.64	0.11	-.52***		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory.

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

the direct effect of attachment avoidance was decreased but remained positive when relationship satisfaction was added (See Figure 5). These results indicate that while attachment insecurity does not affect women's physical IPV directly, anxiety and avoidance do influence women's physical aggression indirectly through lowered relationship satisfaction.

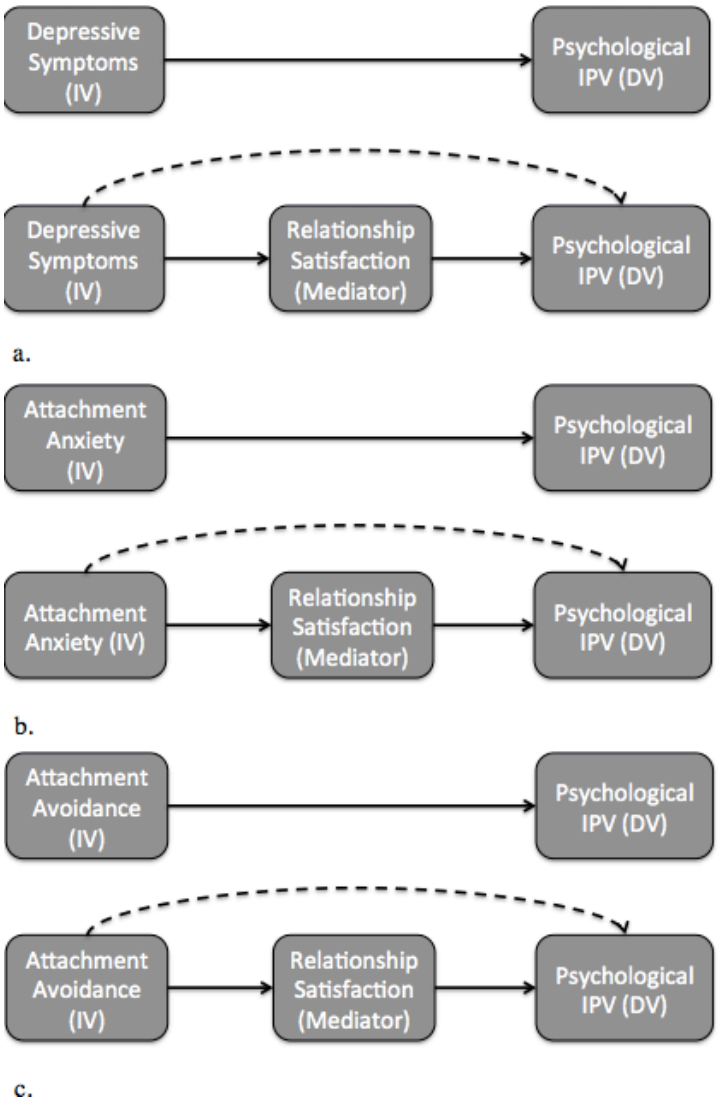


Figure 4. Results for the tests of mediation by relationship satisfaction when predicting women's psychological IPV. All three models indicate mediation by relationship satisfaction. a. The direct association between women's depressive symptoms and psychological IPV is reduced to non-significance with the addition of the mediator, relationship satisfaction. b. The direct association between women's attachment anxiety and psychological IPV is reduced to non-significance with the addition of relationship

satisfaction. c. The direct association between women's attachment avoidance and psychological IPV is reduced to non-significant with the addition of relationship satisfaction. Dashed lines indicate non-significant effects.

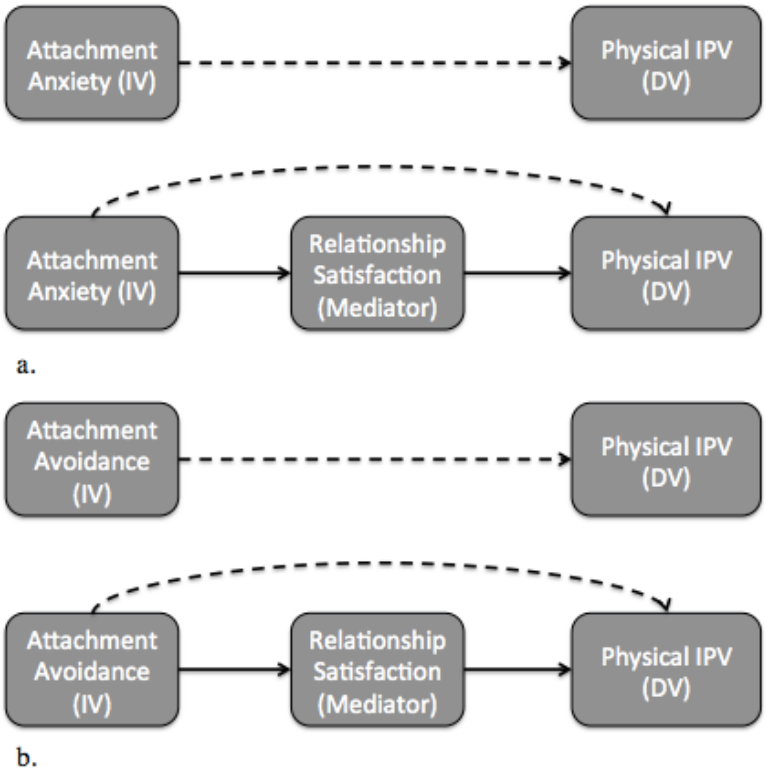


Figure 5. Results for the tests of mediation by relationship satisfaction when predicting women's physical IPV. a. The direct association between women's attachment anxiety and physical IPV is not significant. The size of the direct effect is further reduced by the addition of relationship satisfaction. b. The direct association between women's attachment avoidance and physical IPV is not significant. The size of the direct effect is further reduced by the addition of relationship satisfaction. Dashed lines indicate non-significant effects. The model containing women's depressive symptoms as a predictor did not provide support for mediation by relationship satisfaction.

The models predicting men's psychological and physical IPV did not produce results consistent with mediation by relationship satisfaction. When predicting men's psychological IPV with either depressive symptoms or attachment anxiety as the predictor, the direct path between men's relationship satisfaction and IPV was not significant. When predicting men's psychological IPV with attachment avoidance, the size of the direct effect is not reduced by the addition of relationship satisfaction as a

mediator. The direct path between men's relationship satisfaction and their physical IPV perpetration was also not significant in all three models predicting physical IPV. In addition, the model predicting women's physical IPV using depressive symptoms did not indicate mediation by relationship satisfaction as the direct effect of women's depressive symptoms on their physical IPV perpetration was not diminished by the addition of relationship satisfaction.

Regression coefficients, R^2, and adjusted R^2 are reported for each analysis using depressive symptoms, attachment anxiety, and attachment avoidance as a predictor in Tables 5, 6, and 7 for models predicting psychological IPV, and Tables 8, 9, and 10 for models predicting physical IPV.

To follow up the regression models suggesting the presence of a mediation effect, I evaluated the strength of the indirect effect in each model using the Preacher bootstrapping technique (Preacher & Hayes, 2004). The Preacher bootstrapping technique was chosen instead of the Sobel test due to the latter's requirement for a large sample size (as it has a tendency to become less conservative as the sample size decreases) and assumption of a normal sampling distribution in the indirect effect. By contrast, the Preacher bootstrap does not require an assumption of normality, and may therefore be better powered to detect an indirect effect in non-normal sampling distributions. The Preacher bootstrap is also suitable for use with small sample sizes.

Results from the Preacher bootstrap analyses indicated that the strength of the indirect effect of each predictor (women's depressive symptoms, attachment anxiety, or attachment avoidance) on women's psychological or physical IPV through the mediator,

Table 5

Hypothesis 2 Summary of Multiple Regression of Psychological IPV on Depressive Symptoms and Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	β	R^2	Adjusted R^2	*B*	*SE (B)*	β	R^2	Adjusted R^2
Step 1				.06	.03				.11*	.08*
Step 2				.11*	.07*				.16*	.13*
Step 3				.13*	.08*				.25***	.21***
Intercept	47.04	19.19*				83.71	22.92***			
Age	-0.22	0.31	-.07			0.15	0.25	.04		
Individual Yearly Income	-0.00005	0.00	-.09			0.00	0.00	-.20*		
Legally Married	-5.39	3.70	-.15			-6.07	4.14	-.14		
CES-D Depression	0.38	0.33	.14			0.35	0.21	.16		
DAS Relationship Satisfaction	-0.17	0.12	-.17			-0.51	0.16	-.31**		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; DAS = Dyadic Adjustment Scale; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 6

Hypothesis 2 Summary of Multiple Regression of Psychological IPV on Attachment Anxiety and Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1				.06	.03				.11*	.08*
Step 2				.16**	.13**				.15**	.11**
Step 3				.18**	.13**				.23***	.18***
Intercept	32.75	18.33				104.80	32.22**			
Age	-0.26	0.30	-.08			0.14	0.36	.04		
Individual Yearly Income	-0.00003	0.00	-.06			0.00	0.00	-.22*		
Legally Married	-5.26	3.58	-.14			-5.28	4.26	-.12		
ECR Attachment Anxiety	-0.32	0.12	.28**			-0.05	0.14	-.04		
DAS Relationship Satisfaction	-0.13	0.11	-.13			-0.63	0.21	-.38**		

Note. DAS = Dyadic Adjustment Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 7

Hypothesis 2 Summary of Multiple Regression of Psychological IPV on Attachment Avoidance and Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1				.06	.03				.11*	.08*
Step 2				.07	.03				.16**	.12**
Step 3				.12*	.07*				.23***	.19***
Intercept	75.96	23.52**				85.59	27.38**			
Age	-0.25	0.31	-.08			0.13	0.36	.04		
Individual Yearly Income	-0.00005	0.00	-.10			0.00	0.00	-.22*		
Legally Married	-5.23	3.76	-.14			-5.26	4.20	-.12		
ECR Attachment Avoidance	-0.16	0.17	-.14			0.15	0.23	.07		
DAS Relationship Satisfaction	-0.34	0.15	-.34*			-0.52	0.18	-.32**		

Note. DAS = Dyadic Adjustment Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence.

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

Table 8

Hypothesis 2 Summary of Multiple Regression of Physical IPV on Depressive Symptoms and Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1				.07	.04				.09*	.07*
Step 2				.09	.05				.10	.06
Step 3				.09	.04				.17**	.12**
Intercept	6.12	5.00				26.06	6.82***			
Age	-0.8	0.08	-.10			-0.17	0.11	-.16		
Individual Yearly Income	-0.00002	0.00	-.18			-0.00004	0.00	-.18		
Legally Married	-0.59	0.97	-.06			-0.51	1.23	-.04		
CES-D Depression	0.10	0.09	.14			-0.04	0.06	-.06		
DAS Relationship Satisfaction	-0.12	0.03	-.05			-0.13	0.05	-.29**		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; DAS = Dyadic Adjustment Scale; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 9

Hypothesis 2 Summary of Multiple Regression of Physical IPV on Attachment Anxiety and Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1				.07	.04				.09*	.07*
Step 2				.15**	.11**				.11*	.07*
Step 3				.15*	.10*				.17**	.12**
Intercept	2.37	4.78				30.07	9.45**			
Age	-0.09	0.08	-.12			-0.17	0.11	-.17		
Individual Yearly Income	-0.00002	0.00	-.15			-0.00004	0.00	-.17		
Legally Married	-0.55	0.93	-.06			-0.38	1.25	-.03		
ECR Attachment Anxiety	0.08	0.03	.29**			-0.03	0.04	-.10		
DAS Relationship Satisfaction	-0.01	0.03	-.003			-0.16	0.06	-.34*		

Note. DAS = Dyadic Adjustment Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$.

Table 10

Hypothesis 2 Summary of Multiple Regression of Physical IPV on Attachment Avoidance and Relationship Satisfaction for Men and Women (n = 98 each)

Variable	Men					Women				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1				.07	.04				.09*	.06*
Step 2				.08	.04				.13*	.09*
Step 3				.08	.03				.16**	.12**
Intercept	8.48	6.16				21.52	8.07**			
Age	-0.09	0.08	-.12			-0.17	0.11	-.17		
Individual Yearly Income	-0.00002	0.00	-.18			-0.00004	0.00	-.17		
Legally Married	-0.76	0.98	-.08			-0.51	1.24	-.04		
ECR Attachment Avoidance	0.01	0.05	.03			0.04	0.07	.07		
DAS Relationship Satisfaction	-0.02	0.04	-.09			-0.11	0.05	-.23*		

Note. DAS = Dyadic Adjustment Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$.

relationship satisfaction, was significantly different from zero, thus providing additional support for mediation in all five models (three predicting psychological aggression with depressive symptoms, attachment anxiety, and avoidance; two predicting physical aggression with attachment anxiety and avoidance). Point estimates and 99% confidence

Table 11

Hypothesis 2 Summary of Preacher Bootstrap for the Indirect Effect of Predictors on Women's IPV through Relationship Satisfaction (n = 98)

Variable	Psychological IPV					Physical IPV				
	Point Estimate	Mean	*SE*	99% CI		Point Estimate	Mean	*SE*	99% CI	
				Lower Limit	Upper Limit				Lower Limit	Upper Limit
CES-D Depression	.23	.24	.10	.04	.59	—	—	—	—	—
ECR Attachment Anxiety	.34	.34	.10	.11	.64	.08	.08	.03	.01	.16
ECR Attachment Avoidance	.40	.41	.13	.13	.81	.08	.08	.04	.01	.21

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence; SE = Standard Error; CI = Confidence Interval.

intervals from all Preacher bootstrap analyses are reported in Table 11.

Thus, the women in this sample with greater levels of depressive symptoms, attachment anxiety, and attachment avoidance, also evidenced lower relationship satisfaction, which was in turn related to higher rates of psychological and physical IPV. Furthermore, the effects of depressive symptoms, attachment anxiety, and attachment avoidance on women's psychological and physical IPV appear to be mediated in part by relationship satisfaction.

Hypothesis 3

The proposed mediated moderation model was tested next. The interaction between women's attachment anxiety and men's attachment avoidance, their direct

effects on women's IPV perpetration, and the mediation of this effect through men's IPV were tested using a series of multiple regression analyses. In order to investigate the possibility of a mediated moderation effect in this model, the following analyses were conducted as per Wegener and Fabrigar (2000) and as illustrated in Figure 6.

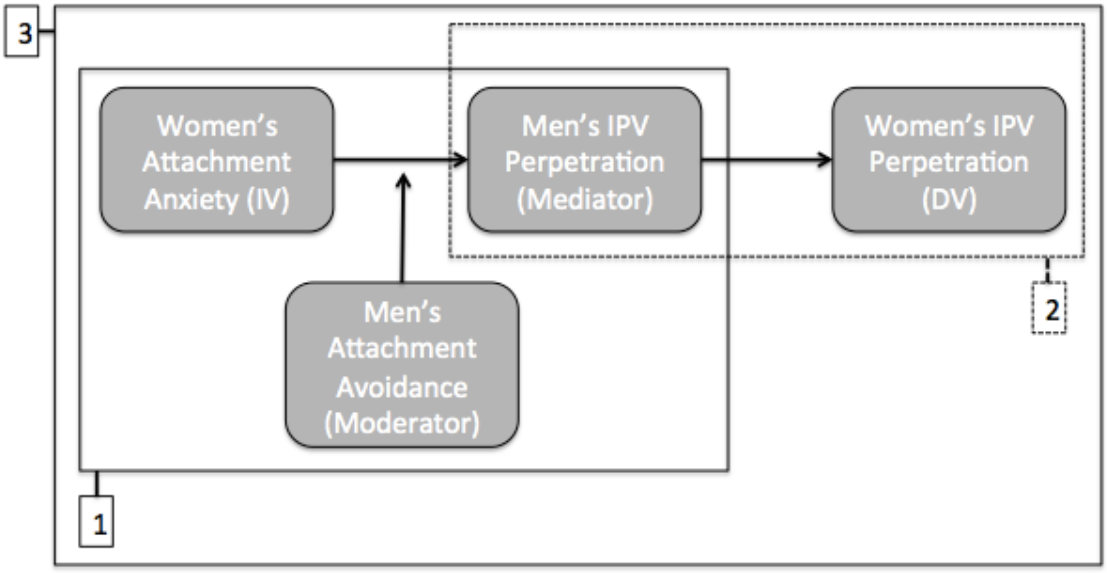


Figure 6. Parts in the analyses for Hypothesis 3 testing the mediated moderation model. Part 1: test interaction between women's attachment anxiety and men's avoidance when predicting men's IPV. Part 2: test association between men's and women's IPV. Part 3: test full mediated moderation model.

Part 1. Men's IPV perpetration was regressed onto men's and women's attachment anxiety and avoidance, as well as the interaction between women's attachment anxiety and men's attachment avoidance (See Figure 7). This model tested whether the relationship between women's attachment anxiety and men's IPV perpetration differs as a function of men's attachment avoidance, with the effects of each individual's attachment anxiety and avoidance partialled. When predicting men's psychological IPV, the direct effect of women's attachment anxiety and its interaction with men's avoidance were not significant; the only significant predictor was men's

attachment anxiety. The same pattern of results was found for men's physical IPV.

Regression coefficients are displayed in Table 12.

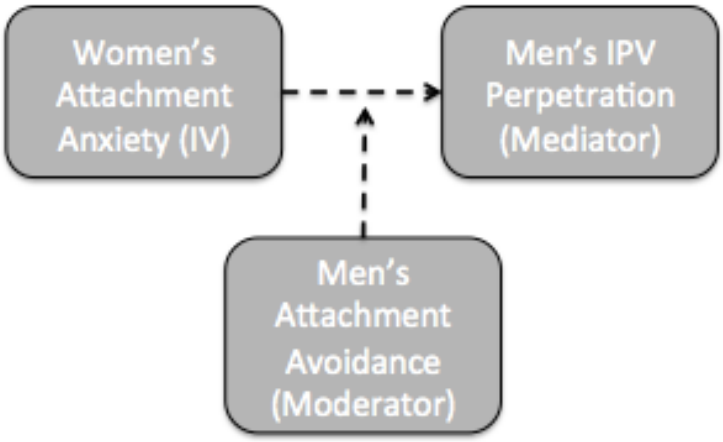


Figure 7. Part 1, testing the effect of the interaction between women's attachment anxiety and men's attachment avoidance on men's IPV perpetration. The direct effect of women's attachment anxiety on men's IPV perpetration was non-significant, as was the effect of the interaction between women's attachment anxiety and men's attachment avoidance. This pattern of results held for men's psychological and physical IPV. Dashed lines indicate non-significant associations.

Table 12

Hypothesis 3 Summary of Multiple Regression Part 1 for Testing Moderation Effect (Women's Anxiety X Men's Avoidance) on Men's IPV (n = 98)

Variable	Psychological IPV					Physical IPV				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1 (Covariates)				.06	.03				.07	.04
Step 2				.23**	.16**				.16*	.08*
Intercept	2.97	11.82				1.02	3.16			
Age	-0.27	0.30	-.09			-0.09	0.08	-.12		
Individual Yearly Income	-0.00003	0.00	-.06			-0.00002	0.00	-.14		
Legally Married	-3.85	3.62	-.10			-0.41	1.00	-.04		
Men's ECR Anxiety	0.33	0.12	.29**			0.08	0.03	.27*		
Men's ECR Avoidance	-0.45	0.14	-.04			0.01	0.04	.03		
Women's ECR Anxiety	0.14	0.11	.14			0.01	0.03	.03		
Women's ECR Avoidance	0.31	0.19	.18			0.03	0.05	.06		
Women's ECR Anxiety X Men's ECR Avoidance	-0.002	0.005	-.05			-0.001	0.001	-.09		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$.

Part 2. Next, the direct effect of men's IPV perpetration on women's IPV perpetration was tested to see if women's aggression is associated with their partners' violence (See Figure 8). Zero-order correlations between men's and women's IPV perpetration indicated that IPV perpetration of partners within a couple is highly correlated, $r = .78, p < .001$ for physical IPV, and $r = .86, p < .001$ for psychological IPV.

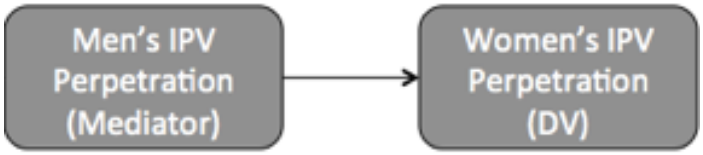


Figure 8. Part 2 testing the association between men's IPV perpetration and women's IPV perpetration. Associations between partners' psychological and physical IPV were significant.

Part 3. Lastly, the model in the first part was re-run with women's IPV as the dependent variable, with and without men's IPV as a predictor in order to evaluate the effect of men's IPV as the mediator in the mediated moderation (See Figure 9). The effect of the interaction between women's attachment anxiety and men's attachment avoidance was not reduced by the addition of men's IPV, and thus did not indicate support for a partial or complete mediation in either model predicting women's psychological or physical IPV. Regression coefficients for the full model are reported in Table 13.

Table 13

Hypothesis 3 Summary of Multiple Regression Part 3 for Testing Full Mediated Moderation Model on Women's IPV (n = 98)

Variable	Psychological IPV					Physical IPV				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1 (Covariates)				.06	.03				.13**	.10**
Step 2 (Without Men's IPV)				.26**	.20**				.21**	.14**
Step 3 (Full Model)				.77***	.74***				.65***	.62***
Intercept	-4.37	7.75				5.89	2.66*			
Age	0.01	0.20	.001			-0.17	0.07	-.17*		
Individual Yearly Income	0.00003	0.00	.05			-0.00001	0.00	-.06		
Legally Married	-3.23	2.39	-.07			-0.35	0.82	-.03		
Men's ECR Anxiety	0.18	0.08	.13*			0.01	0.03	.03		
Men's ECR Avoidance	0.11	0.09	.08			-0.002	0.03	-.004		
Women's ECR Anxiety	-0.01	0.07	-.01			-0.003	0.02	-.01		
Women's ECR Avoidance	-0.04	0.13	-.02			0.06	0.04	.10		
Women's ECR Anxiety X Men's ECR Avoidance	-0.002	0.003	-.04			0.00	0.001	.01		
Men's IPV Perpetration	0.95	0.07	.81***			0.94	0.09	.72***		

Note. ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *p < .05. **p < .01. ***p < .001.

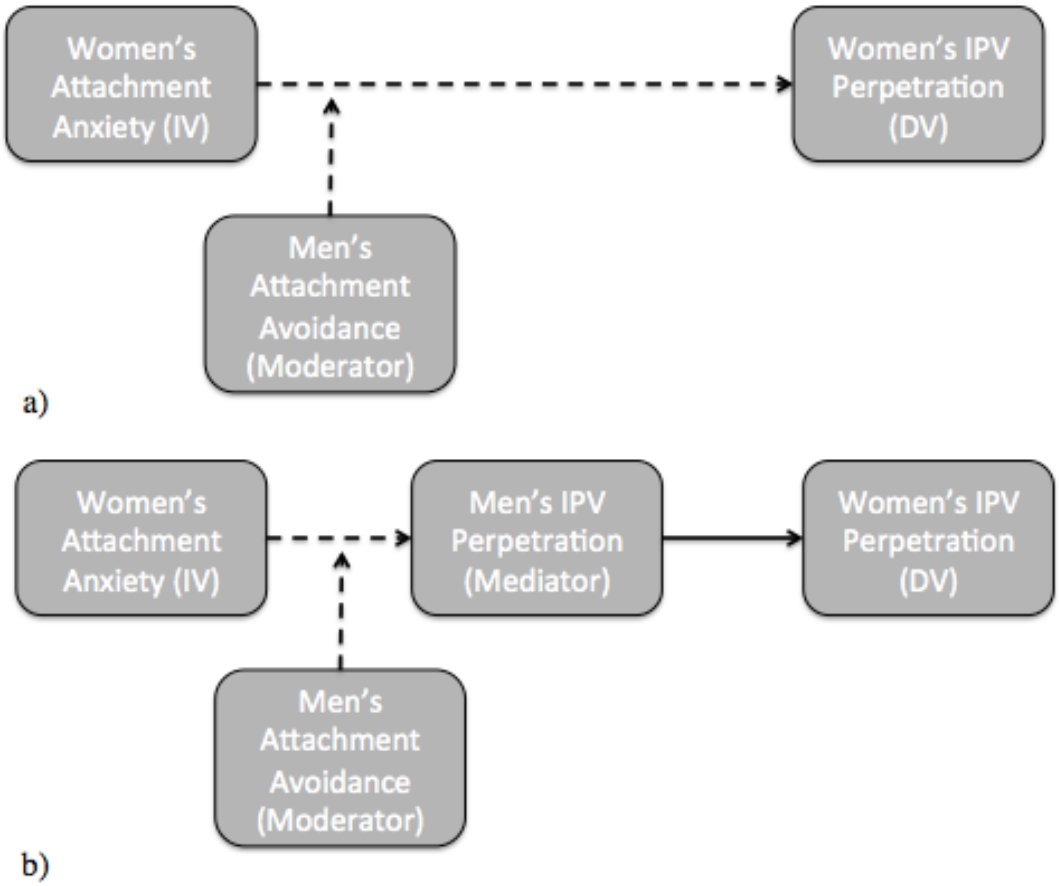


Figure 9. a) Model testing the direct effect of the interaction between women's attachment anxiety and men's attachment avoidance on women's IPV perpetration. The interaction did not significantly predict women's psychological or physical IPV. b) Mediated moderation model, testing the mediation of the interaction effect by men's IPV perpetration. The interaction was not significant; however, the effect of men's IPV perpetration accounted for a significant amount of the variance in women's psychological and physical IPV perpetration. Dashed lines indicate non-significant associations.

Part 4. Due to the lack of support for the mediation of the relationship between insecure attachment and women's IPV through men's IPV, the Preacher bootstrapping technique was not conducted.

Hypothesis 3: Genders Reversed

The same analyses were also conducted with the genders reversed, using men's attachment anxiety as the independent variable, women's attachment avoidance as the

moderator, women's IPV as the mediator, and men's IPV as the dependent variable (See Figure 10):

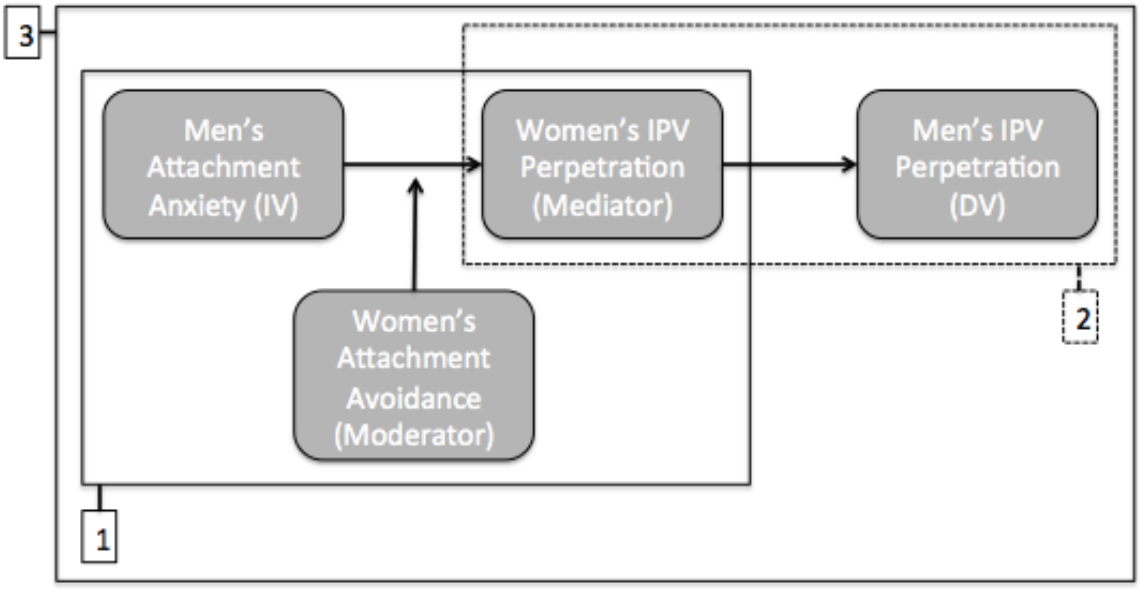


Figure 10. Parts in the analyses for Hypothesis 3 testing the mediated moderation model with genders reversed. Part 1: test interaction between men's attachment anxiety and women's avoidance when predicting women's IPV. Part 2: test association between men's and women's IPV. Part 3: test full mediated moderation model.

Part 1. When women's psychological IPV was regressed onto attachment anxiety, avoidance, and the interaction between men's anxiety and women's avoidance, the direct effect of men's anxiety was significant, but the interaction between men's anxiety and women's avoidance was not (See Figure 11). The model predicting women's physical IPV produced a significant main effect of men's attachment anxiety and a significant interaction between men's attachment anxiety and women's attachment avoidance, suggesting possible moderation (See Figure 11). Regression coefficients are reported in Table 14.

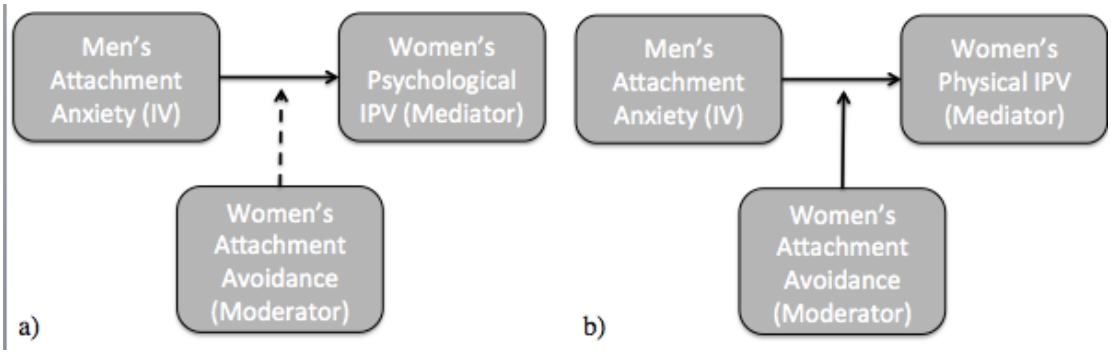


Figure 11. a) Model predicting women's psychological IPV. The main effect of men's attachment anxiety was significant, but the interaction between men's anxiety and women's avoidance was not. b) Model predicting women's physical IPV. Both the main effect of men's attachment anxiety and the interaction between men's anxiety and women's avoidance were significant. Dashed line indicates a non-significant association.

Part 2. As mentioned above, partners' within a couple had highly correlated rates of psychological and physical IPV, supporting the association between women's IPV and men's IPV.

Part 3. First I conducted analyses regarding psychological IPV. In the model predicting men's psychological IPV without women's IPV as a predictor, men's attachment anxiety and women's attachment avoidance each uniquely predicted men's IPV. There was no significant interaction between men's anxiety and women's avoidance. The full model predicting men's psychological IPV did not indicate the presence of a mediation effect, in that the addition of women's psychological IPV did not diminish the direct effect of the interaction between men's attachment anxiety and women's attachment avoidance. Women's psychological IPV perpetration was the only significant predictor of men's psychological IPV perpetration in the full model (See Figure 12).

Next I conducted the analyses to predict physical IPV. The model predicting men's physical IPV without women's IPV as a predictor produced a significant main

Table 14

Hypothesis 3: Summary of Multiple Regression Part I Testing Moderation Effect (Men's Anxiety X Women's Avoidance) on Women's IPV (n = 98)

Variable	Psychological IPV					Physical IPV				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1 (Covariates)				.11*	.08*				.09*	.07*
Step 2				.29***	.22***				.21**	.14**
Intercept	-7.14	12.81				1.41	3.80			
Age	0.13	0.36	.04			-0.15	0.11	-.14		
Individual Yearly Income	0.00	0.00	-.18			-0.00004	0.00	-.16		
Legally Married	-6.99	4.12	-.16			-0.83	1.22	-.07		
Men's ECR Anxiety	0.48	0.14	.36**			0.11	0.04	.28*		
Men's ECR Avoidance	0.05	0.14	.03			0.01	0.04	.02		
Women's ECR Anxiety	0.09	0.13	.08			-0.01	0.04	-.03		
Women's ECR Avoidance	0.33	0.24	.16			0.14	0.07	.24		
Men's ECR Anxiety X Women's ECR Avoidance	-0.01	0.01	-.10			-0.01	0.003	-.23*		

Note. CES-D = Centre for Epidemiological Studies Depression Scale; ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$.

effect of individual annual income and men's attachment anxiety. The interaction between men's anxiety and women's avoidance was not significant. The full model including women's physical IPV perpetration also did not suggest mediation via women's physical IPV, as there was no reduction in the effect of the interaction between men's anxiety and women's avoidance. As with psychological IPV, the only significant predictor of men's physical IPV was women's physical IPV (See Figure 12). Regression coefficients for the full model are reported in Table 15.

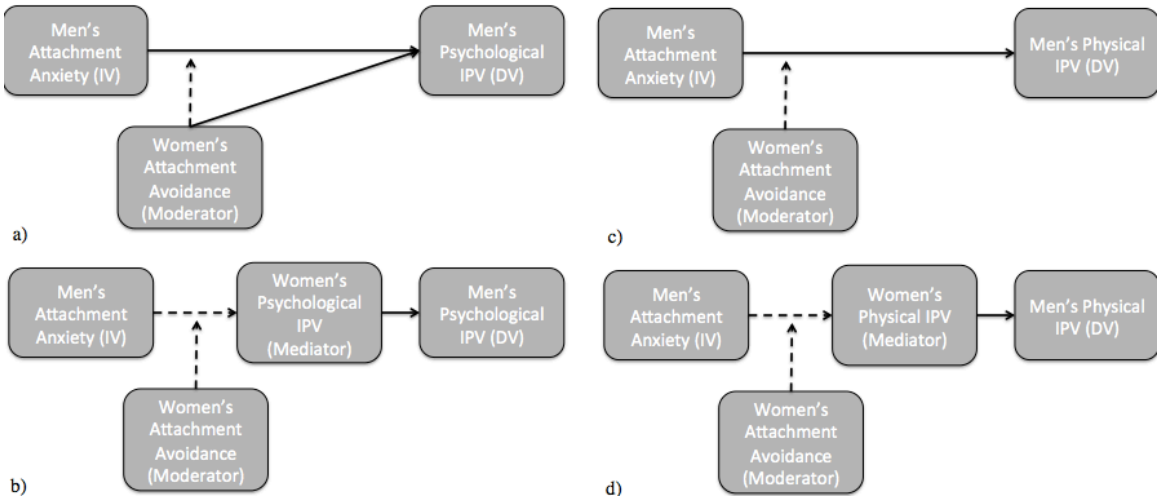


Figure 12. a) Model testing the direct effect of men's attachment anxiety and the interaction of men's anxiety and women's avoidance when predicting men's psychological IPV. The main effects of men's anxiety and women's avoidance were significant, but not their interaction. b) The mediated moderation model did not support mediation of the interaction between men's anxiety and women's avoidance by women's psychological IPV. The only significant predictor of men's psychological IPV was their partners' aggression. c) Model testing the direct effect of men's attachment anxiety and the interaction between men's anxiety and women's avoidance when predicting men's physical IPV. There was a main effect of men's anxiety, but no significant interaction. d) The mediated moderation model did not indicate mediation of the interaction effect by women's physical IPV. The only significant predictor of men's physical IPV was their partners' aggression. Dashed lines indicate non-significant associations.

Part 4. As I did not find support for a mediated moderation model in predicting either men's psychological or physical IPV, the Preacher bootstrap analysis was not

conducted. In summary, the analyses did not support a mediated moderation model for the prediction of men's IPV.

Table 15

Hypothesis 3 Summary of Multiple Regression Part 3 for Testing Full Mediated Moderation Model on Men's IPV (n = 98)

Variable	Psychological IPV					Physical IPV				
	B	*SE (B)*	*β*	R^2	Adjusted R^2	*B*	*SE (B)*	*β*	R^2	Adjusted R^2
Step 1 (Covariates)				.08*	.05*				.09*	.06*
Step 2 (Without Women's IPV)				.26***	.20***				.17*	.09*
Step 3 (Full Model)				.76***	.73***				.65***	.61***
Intercept	-0.98	6.39				-2.32	1.97			
Age	-0.06	0.18	-.02			0.10	0.06	.12		
Individual Yearly Income	-0.000008	0.00	-.01			-0.00001	0.00	-.11		
Legally Married	0.72	2.08	.02			-0.12	0.63	-.01		
Men's ECR Anxiety	0.02	0.07	.02			0.02	0.02	.06		
Men's ECR Avoidance	-0.07	0.07	-.06			-0.001	0.02	-.01		
Women's ECR Anxiety	0.34	0.06	.04			0.01	0.19	.04		
Women's ECR Avoidance	0.21	0.12	.12			-0.05	0.04	-.10		
Men's ECR Anxiety X Women's ECR Avoidance	-0.01	0.01	-.10			0.002	0.002	.09		
Women's IPV Perpetration	0.71	0.05	.83***			0.60	0.06	.78***		

Note. ECR = Experiences in Close Relationships Inventory; IPV = Intimate Partner Violence. *$p < .05$. **$p < .01$. ***$p < .001$.

Summary of Results

In summary, the results from the Hypothesis 1 analyses revealed that men who were more anxiously attached were physically violent towards their partners more often

than men who were less anxiously attached. In addition, there was an interaction between men's attachment anxiety and their depressive symptoms that predicted their physical aggression, but the post-hoc analyses exploring this interaction did not reveal significant simple slopes for low and high anxiety and depression groups. Women's physical aggression was predicted by the covariates as a whole but not individually, and the full model including all the predictors did not predict women's physical aggression.

In addition, men who were more anxiously attached also used psychological aggression more frequently against their partners compared to men who reported less attachment anxiety. Women who earned less per annum and reported more depressive symptoms used psychological aggression more frequently against their partners than higher earning women and women who were less depressed.

The analyses addressing Hypothesis 2 found that while higher levels of depressive symptoms, attachment anxiety, and attachment avoidance are each uniquely associated with lower relationship satisfaction for both men and women, relationship satisfaction only mediates the relationship between each predictor and physical and psychological aggression for women. Therefore, women who are more depressed, or report greater attachment anxiety or attachment avoidance report lower relationship satisfaction, which is in turn related to higher rates of physical and psychological IPV. For men, relationship satisfaction is not necessarily linked to higher rates of aggression, and depressive symptoms, attachment anxiety, and attachment avoidance do not appear to influence IPV through relationship satisfaction.

Lastly, the analyses testing Hypothesis 3 did not support a mediated moderation model for predicting aggression in women or men. The interaction between partners'

attachment anxiety and avoidance did not appear to be mediated by one partner's aggression to predict the other partner's aggression.

Discussion

I sought to address three main hypotheses regarding partner violence in couples experiencing the transition to parenthood. First, I hypothesized that depressive symptoms and attachment anxiety would be positively associated with perpetration of partner violence in this sample, that depressive symptoms would be more strongly associated with violence for women than for men, and that depressive symptoms, attachment anxiety, and attachment avoidance would interact to predict IPV. Second, I hypothesized that relationship satisfaction would mediate the associations between the predictors, depressive symptoms, attachment anxiety, and attachment avoidance, and the outcomes, psychological and physical IPV. Lastly, I hypothesized a mediated moderation model in which women's attachment anxiety and men's attachment avoidance would interact to predict men's violence, and ultimately women's IPV perpetration; I predicted that this model would not hold when the genders were reversed.

The results of my analyses lend partial support to my first hypothesis, in that men with greater attachment anxiety perpetrated more physical and psychological aggression against their partners, and women who reported higher levels of depressive symptoms perpetrated more psychological IPV. The finding that depressive symptoms only predicted violence (though only psychological and not physical) in women and not men is consistent with the secondary hypothesis that depressive symptoms may be more strongly associated with violence in women. There was no evidence of a three-way interaction between depressive symptoms, attachment anxiety, and attachment avoidance,

contrary to my hypothesis. In addition, a significant interaction between men's depressive symptoms and attachment anxiety was positively associated with men's physical aggression.

Attachment Anxiety & IPV

The results indicating that attachment anxiety is related to men's perpetration of violence are consistent with the research literature including several studies demonstrating that men who perpetrate violence are more likely to exhibit an anxious attachment orientation than a secure orientation, and that they are more likely to display attachment anxiety than non-violent men (Allison et al., 2007; Babcock et al., 2000; Bookwala & Zdaniuk, 1998; Dutton et al., 1994; Godbout et al., 2009). As others have postulated, the link between attachment anxiety and violence may be explained by the fear of abandonment and desire for excessive closeness that is inherent in this orientation, which some men may attempt to mitigate or achieve via coercion of a partner through the use of aggression (Allison et al., 2008; Gormley, 2005).

It is interesting to note that women's attachment anxiety was not uniquely predictive of their physical or psychological violence, in contrast with existing research that has demonstrated this association (Bookwala & Zdaniuk, 1998; Godbout et al., 2009; Orcutt et al., 2005). There may be something about the developmental period studied in this sample that contributes to the lack of congruence with previous findings, explaining why attachment anxiety is not uniquely predictive of women's IPV in this sample. For one thing, it seems that women's attachment anxiety is subject to fluctuations during the transition to parenthood. Simpson, Rholes, Campbell, and Wilson (2003) assessed changes that occurred in men's and women's attachment over the transition to

parenthood. They discovered that women who perceived less support and more anger from their partners became more anxious over the transition. Men's levels of anxiety did not change as a function of their self-perceived support or anger. Relationship satisfaction did not explain additional variance in women's change in anxiety.

The Simpson et al. (2003) study indicated that women's levels of anxiety were subject to change if the beliefs associated with their current orientations were undermined by their partners' behaviour (e.g., a woman with low initial anxiety becomes more anxious later as she perceives low support and high levels of anger directed towards her by her partner), but men's anxiety was more stable. Another longitudinal study of couples transitioning to parenthood also reported that women's attachment anxiety was less stable than men's (Feeney, Alexander, Noller, & Hohuas, 2003). Perhaps first time pregnancy has the propensity to trigger elevated levels of attachment anxiety in women more so than in men, which would be consistent with the higher levels of anxiety found in women in our sample on average. It is possible that some of the women in this sample had previously low levels of anxiety, but experienced an increase in anxiety with the onset of this stressful developmental period that may not necessarily be linked to declines in relationship satisfaction or increasing aggression. Attachment anxiety may not be an appropriate indicator for aggression in women if they have experienced recent elevations in anxiety contemporaneous with the transition to parenthood and have no history of prior violence.

The finding that attachment anxiety was strongly associated with men's violence, but not women's, is especially profound because, as mentioned, the women in this sample reported higher levels of attachment anxiety than men on average. The profile of thoughts

and behaviours that accompanies attachment anxiety may be viewed as less normative or socially sanctioned when it presents in men compared to women, despite the fact that men and women report anxious attachment at similar prevalence rates in general (Shaver & Clark, 1994). For example, the insecurity surrounding one's relationship and the desire for excessive closeness associated with attachment anxiety may be perceived as stereotypical of or more acceptable in women. As a result, the thoughts and beliefs associated with attachment anxiety may be more distressing for men or elicit less sympathetic reactions from those around them, which may lead them to use maladaptive strategies, such as violence, to compensate in controlling their partners or maintaining their relationships. Alternatively, if the characteristics associated with attachment anxiety are thought to be less acceptable for men to express, perhaps men are less likely to endorse items related to attachment anxiety in self-report measures or only do so once they have reached a higher threshold of anxiety due to social desirability or a lack of self-awareness surrounding these characteristics. If this is true, then it follows that those men who do endorse high levels of attachment anxiety may be experiencing higher levels of distress and dysregulation in their relationships than women who may endorse similar levels of anxiety more readily, and therefore the former may have a greater likelihood of aggressing against their partners.

Additionally, as demonstrated in hypothesis 2, women's IPV seems to be mediated by relationship satisfaction in this sample; therefore another explanation for the null finding for a direct association of attachment anxiety and violence in women in the previous hypothesis may be that attachment anxiety exerts its influence on IPV largely through relationship satisfaction in women, rather than acting directly on IPV. This

mediation relationship has been demonstrated previously in aggressive men, such that attachment anxiety was linked to aggression through decreased relationship satisfaction (Fournier, Brassard, & Shaver, 2011). Fournier et al. (2011) did not include aggressive women in their sample; however, the current study lends support to the notion that women's attachment anxiety also influences IPV through lower satisfaction in their relationships.

Finally, yet another explanation for why women's psychological violence specifically was not predicted by attachment anxiety is that given the correlation between depressive symptoms and attachment anxiety, the latter may not have emerged as a predictor of psychological violence due to its overlap with depressive symptoms, which did explain a significant amount of the variability in women's psychological aggression. Depressive symptoms and individual annual income each uniquely accounted for a significant proportion of the variance in women's psychological IPV; a portion of the remaining variance may be shared by multiple variables including attachment anxiety, and therefore not be uniquely associated with any one predictor. This explanation seems especially plausible given the significant zero-order correlation between attachment anxiety and psychological IPV perpetration in women.

Depressive Symptoms & IPV

The relationship between depressive symptoms and perpetration of IPV, as seen with respect to women's psychological violence, has been established in past studies (Anderson, 2002; Friedman & Loue, 2007; Kim & Capaldi, 2004; Lipsky et al., 2005). Research has also shown that depressive symptoms may be uniquely associated with risk for female-perpetrated violence (Foshee et al., 2010), or that this association may be

stronger for female perpetrators compared to male perpetrators (Kim & Capaldi, 2004). The findings from the current study are consistent with past research, in that depressive symptoms were only predictive of women's psychological IPV, and not predictive of men's physical or psychological IPV.

There is a wealth of literature indicating that depressive symptoms have a negative impact on relationship functioning, such that couples in which one partner is depressed tend to exhibit higher levels of negative communication, hostility, and negative affect, and lower levels of positive communication, constructive problem-solving, and relationship satisfaction than non-depressed couples (Hauzinger et al., 1982; Kahn et al., 1985; Segrin et al., 2003). The relationship outcomes associated with depression may place couples at higher risk for IPV, especially decreased relationship satisfaction, which will be discussed further with respect to hypothesis 2. There is also evidence that gender differences exist, such that depression in women may be more detrimental to relationship functioning than depression in men, as found in the study by Johnson and Jacob (1997) where couples with depressed wives evidenced less positive communication and a trend towards more negative communication than couples with depressed husbands, despite the fact that overall levels of depression were higher in men. Therefore, depressive symptoms may be a greater risk factor for couples when it occurs in women, given the greater detriment that depression has on relationship functioning when experienced by women compared to men.

Attachment Avoidance & IPV

Men's attachment avoidance was not correlated with their physical or psychological aggression at the bivariate level, and was not uniquely associated with

either form of IPV in the multiple regression analyses. Women's attachment avoidance was correlated with women's psychological aggression at the bivariate level, but similar to the men's analyses, women's avoidance was not uniquely associated with IPV in the multiple regression models. The null findings for men and the lack of unique associations for women regarding the association of attachment avoidance with IPV are unsurprising given the mixed support for the link between attachment avoidance and IPV in the current literature (Dutton et al., 2004; Orcutt et al., 2005; Roberts & Noller, 1998). It is possible that attachment avoidance may be protective against IPV to some degree, as maintaining distance from a partner or exiting the situation during a conflict may preclude escalation to violence in the moment, although it may not be an ideal conflict tactic in the long term.

Depressive Symptoms, Attachment Insecurity, & IPV

The expected three-way interaction between depressive symptoms, attachment anxiety, and attachment avoidance was not obtained. One possible explanation is that an interaction between the three variables was not detected due to the tendency for individuals who reported low or high levels of one variable to report similarly low or high levels on all variables across the board. For example, individuals reporting high levels of depressive symptoms were unlikely to report very low levels of both attachment anxiety and attachment avoidance. Indeed, these variables (with the exception of depressive symptoms and attachment avoidance in women) are all positively correlated at the bivariate level with medium to large effect sizes in this sample. This tendency for individuals to report consistently low or consistently high levels on all variables may have limited the ability to detect an interaction between the predictors, or to determine

how the influence of one predictor may change as a function of differing levels of the other predictors.

Although there was no three-way interaction, there was an unexpected two-way interaction between men's depressive symptoms and attachment anxiety that was positively associated with men's physical IPV; however, exploratory post-hoc analyses revealed no significant findings that could shed light on the nature of this interaction. There are multiple probable contributors to the failure to find significant simple slopes to explain this interaction. Firstly, in order to conduct post-hoc analyses, I split the men into high and low groups based on depressive symptoms and attachment anxiety using a number of different criteria. The splitting of high and low groups consequently halved (in the case of using a mean or median split) or reduced even more dramatically (in the case of using a certain number of standard deviations above or below a midpoint) the sample size for the simple slopes analyses, thus decreasing the power to detect an effect of levels of one variable on high versus low levels of another variable. Another ramification of splitting the men into groups was loss of variability in the outcome variable, frequency of physical IPV, which was already positively skewed with many men reporting zero incidents of physical violence against their partners. This lack of variability in physical IPV reported by the high and low groups may have further contributed to an inability to detect a significant simple slope. Though not statistically significant, the slopes representing the interaction between men's depressive symptoms and attachment anxiety shown in Figure 4 are compelling, and warrant further investigation to determine whether, for example, high levels of attachment anxiety only confer greater risk for physical violence in the context of high levels of depression.

Relationship Satisfaction

My second hypothesis regarding relationship satisfaction as a mediator of the relationships between the predictors and IPV perpetration was also partially supported, as women's relationship satisfaction appeared to mediate the associations between their depressive symptoms, attachment anxiety, and attachment avoidance, and the outcome psychological IPV. There was also support for possible mediation of the relationships between women's attachment anxiety and avoidance and women's physical IPV through relationship satisfaction, although the size of the indirect effects was smaller for physical IPV compared to the size of the indirect effects for psychological IPV. Women with elevated levels of depressive symptoms or high levels of attachment anxiety or avoidance were less satisfied with their relationships; furthermore, the depressive symptoms, attachment anxiety, and attachment avoidance were associated with higher levels of psychological aggression, and both dimensions of attachment insecurity were associated with increased physical aggression through decreases in their relationship satisfaction. A pattern of results consistent with mediation by relationship satisfaction was not evident for the associations of any of the three predictors with men's physical or psychological aggression.

These results are in line with several reviews and meta-analyses of the literature indicating that individuals who are less satisfied with their relationships are more likely to perpetrate IPV (Riggs et al., 2000; Schumacher et al., 2001; Stith et al., 2008; Stith et al., 2004). The current study extends the existing literature by demonstrating that, in women, relationship satisfaction is the proximal variable through which more distal factors (i.e., depressive symptoms and insecure attachment) exert their influence on IPV.

The finding that relationship satisfaction did not mediate these relationships for men is consistent with previous literature suggesting that dyadic variables including relationship satisfaction may be important contributing factors in women's aggression, whereas men's aggression may not be as strongly influenced by dyadic variables or may be more strongly associated with individual vulnerabilities. For example, Marshall et al. (2011) demonstrated that couple conflict predicted frequency of women's aggression, but not men's aggression, which was better predicted by their own hostility. In addition, a meta-analysis conducted by Norlander & Eckhardt (2005) demonstrated that relationship distress did not differentiate violent from non-violent men, but anger and hostility differentiated violent men from non-violent men who nevertheless were experiencing relationship discord, suggesting that these individual variables were better predictors of IPV than relationship-specific variables.

However, the opposite gendered effect with respect to relationship satisfaction has also been found; for example, another meta-analysis conducted by Stith et al. (2008) found that composite effect sizes across multiple studies suggested a stronger relationship between marital dissatisfaction/discord and IPV for men compared to women. The study by Stith et al. investigated only physical IPV, and the authors posited that men may be more likely to resort to physical violence when they are dissatisfied with their relationships, because human sexual dimorphism is such that men are, on average, larger and possess greater physical strength than women, and as result physical violence may be more effective or less costly a strategy for men. Perhaps this is why the effect of relationship satisfaction as a mediator of women's aggression in the current study is much larger for psychological versus physical violence; psychological violence may be

more effective or be used with less risk of harm as a tactic for addressing marital dissatisfaction for women when compared to physical violence.

Mediated Moderation Model

My third and final hypothesis for a mediated moderation model that could predict women's IPV was not supported. The findings did not suggest that women's attachment anxiety interacts with men's avoidance to predict physical or psychological IPV. These null findings are inconsistent with the study by Doumas et al. (2008), which indicated that women's attachment anxiety interacted with men's attachment avoidance to predict men's and women's aggression.

The absence of an interaction between women's attachment anxiety and men's attachment avoidance may have been due in part to the propensity for individuals to engage in assortative mating when selecting a partner. Individuals have a tendency to choose partners who are more similar than dissimilar to themselves in terms of beliefs, values, and personality, and apply a similar heuristic when it comes to attachment (Klohnen & Luo, 2003; Luo & Klohnen, 2005; Moffitt, Caspi, Rutter, & Silva, 2001; Senchak & Leonard, 1992). If this is the case, it would be unlikely to observe a highly anxious woman paired with a highly avoidant man. Further, if such a pairing did arise, it may be less likely for this relationship to remain intact, as the motivations and needs that are associated with the anxious and avoidant attachment orientations are essentially at odds with one another. Indeed, Luo and Klohnen (2005) found that similarity on measures of attachment, compared to a broad range of personality and attitude variables, was the most strongly predictive of relationship satisfaction.

Therefore, it seems unlikely that an anxious-avoidant pairing would be encountered in this sample, much less at a frequency that was sufficient to allow for the detection of an interaction. The couples recruited for the Doumas et al. (2008) study ranged from the ages of 16 to 69 and were only required to have been in a relationship for at least 6 months. Perhaps the inclusion of a broader age-range and varying lengths of relationships in their sample, and thus couples who were at diverse stages in their relationships with varying levels of commitment, may have made it more likely to encounter individuals paired, at least temporarily, with partners less similar to themselves in terms of attachment. By contrast, the couples included in the current study were sampled from a smaller age range, and were all expecting their first child, and therefore may have selected or maintained relationships with partners more similar to themselves.

Interestingly, the mediated moderation model from the current study produced an unexpected finding in that men's attachment anxiety was associated not only with their own aggression, but with their female partners' psychological aggression as well, even when controlling for the female partners' own levels of anxiety and psychological victimization. There seems to be something salient about men's attachment anxiety that is an important factor in the functioning of both partners in a dyad. As discussed previously, perhaps the thoughts and behaviours associated with attachment anxiety are less stereotypically normative for men, such that when men feel or express anxiety about their relationships in terms of wanting excessive closeness or fearing abandonment by their partners it is more distressing for both men and women and precipitates greater conflict.

Alternatively, it is possible that high levels of attachment anxiety in men may be an indicator of distress in relationships, and could provide utility as a marker for couples

who are at risk for IPV. If this is the case, high risk couples may be identified in part by elevated levels of attachment anxiety in male partners, and could subsequently be targeted for violence prevention initiatives or for interventions focusing on fostering secure romantic attachments between partners.

Limitations

This study suffers from some limitations, for example the reliance on cross-sectional data, and therefore analysis at one time point. The caveat of course for interpreting these findings is that though variables have been designated "predictors" and "outcomes" based on theoretical rationale and the existing literature, the directionality of relationships cannot be determined, which places limitations on the strength of the conclusions that can be made, for example in interpreting the mediation analyses. While the results of the mediation analyses in this study show promising evidence for relationship satisfaction as a mediator of factors influencing women's aggression, I would encourage the reader to exercise caution when interpreting these results. Without temporal separation of the predictors, the mediator, and the outcome variables, conclusions regarding putative mediation relationships must be tempered. It is not possible to know with certainty whether the predictors actually precede decreased relationship satisfaction or vice versa, as well as whether decreased relationship satisfaction precedes aggression, which are all necessary conditions to firmly conclude that relationship satisfaction mediates these links.

As well, the analyses in this study were based solely on multiple regression, and although this method is not inappropriate for the research questions addressed, it may be limited in its power and scope given the characteristics of the data set. Analyses were

conducted separately for men and women in order to avoid dependencies in cases representing partners within a dyad. Again, though suitable for the current study, this method halves the sample size and limits the ability to evaluate the bidirectional and interactive effects of partners on one another.

There are also characteristics of the sample that may place some constraints on the generalizability of the results obtained. Although the sample accessed was a community sample with demographic characteristics that are representative of the population in which the research was conducted, relative to community samples obtained in other locations this sample is composed of high functioning couples in terms of their socioeconomic status, reported rates of clinical distress, and reported rates of violence. As such, some of the findings in the current paper may not be generalizable to a sample characterized, for example, by lower levels of educational attainment or annual income. Extra caution should be exercised when extending these results to a clinical population, as the rates of clinical levels of symptomatology and distress are low in this sample, and thus the individuals comprising it likely differ substantially from those accessing or referred for professional services. For example, an individual in this sample may have reported one or two isolated incidents of violence towards a partner, and the factors contributing to these events may be very different from the factors contributing to the violence perpetrated by an individual who regularly aggresses against his or her partner. It is possible that qualitative differences, such as those observed when differentiating situational couple violence from intimate terrorism, may exist between this community sample and other samples such as those derived from a clinical setting.

In addition, the higher functioning nature and low levels of impairment evidenced in this sample consequently reduce the amount of variability introduced into the data collected, therefore potentially limiting the ability to detect many of the hypothesized relationships. As previously mentioned, most of the variables of interest are positively skewed. Therefore it may be particularly difficult to investigate interactions between variables, as there may not be a sufficient number of cases at different levels of the variables to detect change in the outcome as a function of changing levels of depressive symptoms or attachment insecurity.

The findings from this research should be considered alongside other studies that benefit from the inclusion of a high-risk sample or clinical sample in order to introduce greater variability into the data set as well as to determine whether there are qualitative differences in the risk factors associated with IPV. However, it is important to acknowledge that the research presented here is informative for a subset of the population, who despite demonstrating higher levels of functioning compared to other samples still experience violence and aggression, which is a serious concern at any frequency and any severity. To illustrate, Cascardi, Langhinrichsen, and Vivian (1992) found that low severity physical IPV such as hitting, slapping, and pushing, still carries a significant risk of injury. Therefore, while the majority of couples in this sample may report low levels of aggression or primarily psychological versus physical forms of violence, partners may still experience the associated negative consequences to their physical and mental health, and there is potential for escalation to greater frequency or severity of violence, and greater likelihood of harm. It is integral to investigate the factors associated with IPV even in low risk samples in order to recognize early opportunities for

points of intervention to prevent escalation in violence and harms associated with violence.

Future Research Directions

In order to address the limitations of the current study, next steps should include using data from multiple time points such that putative predictors are measured prior to the outcome of interest. For example, an important follow-up to the suggestive results concerning the mediation of factors predicting women's IPV by relationship satisfaction would be analyses conducted longitudinally with predictors assessed prior to relationship satisfaction, and violence assessed thereafter. Measurement of these variables at multiple time points would also help to clarify the association of relationship satisfaction and violence with respect to which is the antecedent and which is the consequence as measured in this sample.

The limitations regarding the use of multiple regression may be addressed in future studies using an alternative method, hierarchical linear modeling, which is able to accommodate nested data and to compare differences at the individual and dyadic level, and as such the next study may make use of this statistical technique to make better use of the data available from a sample comprised of couples. The use of hierarchical linear modeling would also be advantageous in that simultaneous analysis of men and women will allow for more thorough investigation of the moderating effect of gender on factors predicting violence. It is evident that many of the patterns of results differ by gender in this study, and direct comparison of men and women within the same analyses can further shed light on the different mechanisms by which individual and dyadic factors exert their influence on men's and women's IPV.

The ambiguous findings regarding the interaction between men's depressive symptoms and attachment anxiety predicting their physical IPV could be further probed with a sample displaying greater variability in the variables of interest to determine whether, for example, high levels of attachment anxiety only confer greater risk for physical violence in the context of high levels of depression. Replication of all of the analyses in a more diverse or high-risk sample would help to increase the generalizability of the findings herein.

In the future, the mediated moderation model tested in this study may be reconceptualised using a framework such as the actor-partner interdependence model (APIM; Kashy & Kenny, 1999) and evaluated with statistical techniques such as structural equation modeling or hierarchical linear modeling to investigate the bidirectional effects that partners have on one another within a relationship. Using this model and these statistical analyses, the influence of each partner's attachment on his or her own violence as well as the other partner's violence, and the relationship between both partners' perpetration can be investigated more parsimoniously. APIM is also appropriate for modeling of longitudinal relationships, which should be taken advantage of in future research. The APIM framework could also be used in subsequent studies to examine other cross partner effects of additional variables, such as how depression in one partner affects the propensity to use violence in the other partner, especially with respect to the gender of the individual reporting depressive symptoms.

Clinical Implications

Despite the prevalence of IPV during the transition to parenthood and the well documented effects of IPV on couples' functioning, and the physical and mental health of

partners and their children, prenatal healthcare, psychoeducational, and support services often do not assess for IPV or specifically target its prevention (Anderson, Marshak, & Hebbeler, 2002; Petch & Halford, 2008).

This study found that men's attachment anxiety was related to their own and their partner's aggression, that women's depressive symptoms were related to their own psychological aggression, and that relationship satisfaction mediated the association between depressive symptoms and insecure attachment and women's psychological and physical IPV. As such, these factors may be important targets for intervention during the transition to parenthood to reduce the occurrence of IPV.

Given the strong associations between men's attachment anxiety and both men's and women's IPV perpetration, it may be prudent for clinicians who work with couples to take note if their male clients espouse elevated levels of fear of abandonment or desire for excessive closeness to their partners, and of any communication patterns or relationship dynamics that may aggravate these attachment needs and signal a possible escalation to violence in either or both partners.

Some treatment interventions have utilized an attachment-focused approach in which insecure attachment is addressed in individual and group therapy paradigms. The goal is to provide psychoeducation regarding the impact of insecure attachment on one's relationships and individual functioning, to identify problem areas in existing relationships such as closeness-distance struggles, and to increase secure attachment in individuals. Existing research suggests that these interventions may be effective in improving attachment security and individual functioning within relationships (Honarian, Younesi, Shafiabadi, & Nafissi, 2010; Kilman, Laughlin, Carranza, Downer, Major, &

Parnell, 1999; Kilman, Urbaniuk, & Parnell, 2006; Kinley & Reyno, 2013). In addition, treatment outcome research from programs targeting perpetrators of IPV also demonstrate post-intervention changes in attachment and accompanying changes in violence. The findings show that individuals who undergo a shift in attachment from more anxious or avoidant orientations to a more secure attachment style also evidence better outcomes in other areas, including decreases in IPV perpetration (Lawson, Barnes, Madkins, & Francios-Lamonte, 2006; Lawson, & Brossart, 2009).

Attachment-focused interventions may be applied to prenatal settings, either individually or in a dyadic format when appropriate as judged by a clinician, to help individuals achieve or maintain a securely attached orientation while undergoing the transition to parenthood. A framework such as Emotionally Focused Therapy (Greenberg & Johnson, 1988; Johnson, Makinen, & Millikin, 2001; Makinen & Johnson, 2006) may be effectively applied to prenatal couples' interventions to address insecure attachment and each individual's attachment needs in an effort to resolve conflict while avoiding violence and aggression. Individual attachment-based therapies may be more appropriate for couples experiencing severe levels of IPV, where there may be greater risk of harm to partners.

Emotionally Focused Therapy is among other intervention paradigms that have also been investigated for use in treating depression through joint couple therapy, especially when it is comorbid with relationship discord. There is preliminary support for joint couple therapy's efficacy in treating depression and increasing relationship functioning (Barbato & D'Avanzo, 2008; Denton, Golden, & Walsh, 2003; Dessaulles,

Johnson, & Denton, 2003). Therefore dyadic interventions targeting depression and relationship discord present a promising avenue for prenatal intervention as well.

Interventions that may improve relationship satisfaction would be especially important for couples during the transition to parenthood as this study showed that relationship satisfaction is a mediator of other factors contributing to female-perpetrated IPV, and as such screening for relationship functioning could be a useful practice in prenatal care settings. Relationship satisfaction is often a target for change in couples interventions as discussed above, and targeting relationship satisfaction may disrupt the channel through which other influences increase the risk for IPV. However, it is also possible that clinicians who wish to improve relationship satisfaction may also need to address upstream contributors, namely depressive symptoms and attachment insecurity in order to effect change. Clinicians should keep in mind both distal and proximal factors influencing risk for IPV.

Conclusion

The unique developmental period that the couples in this sample were undergoing at the time of the study, that is the transition to parenthood, is a crucial opportunity for prevention and intervention efforts aimed at reducing risk and maintenance of IPV. The transition to parenthood is a time when levels of depression, attachment orientations, and relationship satisfaction are likely to be in flux. Therefore it is important to study couples during this developmental period specifically, as there may be issues that are relevant to expectant first-time parents contributing to the risk for violence and aggression that are not readily observable in the general population. In order to best serve couples and to maximize positive outcomes for violence prevention and intervention during the

transition to parenthood, it is crucial that we continue endeavouring to understand the factors, such as depressive symptoms, attachment insecurity, and relationship dissatisfaction, contributing to risk and maintenance of IPV, the mechanisms by which they exert their influence and the moderating effect of gender in these relationships. Only then can we mobilize the resources available in a focused and targeted way to help partners emerge from the transition to parenthood with healthy well-adjusted families.

References

Allison, C. J., Bartholomew, K., Mayseless, O., & Dutton, D. G. (2008). Love as a battlefield attachment and relationship dynamics in couples identified for male partner violence. *Journal of Family Issues*, *29*(1), 125-150.

Anderson, B. A., Marshak, H. H., & Hebbeler, D. L. (2002). Identifying intimate partner violence at entry to prenatal care: clustering routine clinical information. *Journal of Midwifery & Women's Health*, *47*(5), 353-359.

Anderson, K. L. (2002). Perpetrator or victim? Relationships between intimate partner violence and well-being. *Journal of Marriage and Family, 64*(4), 851-863.

Archer, J. (2000). Sex differences in physical aggression to partners: A reply to Frieze (2000), O'Leary (2000), and White, Smith, Koss, and Figueredo (2000). *Psychological Bulletin, 126*(5), 697-702.

Babcock, J. C., Jacobson, N. S., Gottman, J. M., & Yerington, T. P. (2000). Attachment, emotional regulation, and the function of marital violence: Differences between secure, preoccupied, and dismissing violent and nonviolent husbands. *Journal of Family Violence*, *15*(4), 391-409.

Barbato, A., & D'Avanzo, B. (2008). Efficacy of couple therapy as a treatment for depression: a meta-analysis. *Psychiatric Quarterly*, *79*(2), 121-132.

Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships, 7*(2), 147-178.

Bartholomew K., & Horowitz, L.M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology,*

61(2), 226-244.

Bookwala, J., & Zdaniuk, B. (1998). Adult attachment styles and aggressive behavior within dating relationships. *Journal of Social and Personal Relationships, 15*(2), 175–190.

Bowen, E., Heron, J., Waylen, A., & Wolke, D. (2005). Domestic violence risk during and after pregnancy: findings from a British longitudinal study. *BJOG: An International Journal of Obstetrics & Gynaecology*, *112*(8), 1083-1089.

Boy, A., & Salihu, H. M. (2004). Intimate partner violence and birth outcomes: a systematic review. *International journal of fertility and women's medicine*,*49*(4), 159-164.

Boyd, J. H., Weissman, M. M., Thompson, W. D., & Myers, J. K. (1982). Screening for depression in a community sample: understanding the discrepancies between depression symptom and diagnostic scales. *Archives of General Psychiatry*, *39*(10), 1195.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), Attachment theory and close relationships (pp. 46–76). New York: Guilford Press.

Campbell, J. C., & Lewandowski, L. A. (1997). Mental and physical health effects of intimate partner violence on women and children. *Psychiatric Clinics of North America*, *20*(2), 353-374.

Carbone-López, K., Kruttschnitt, C., & Macmillan, R. (2006). Patterns of intimate partner violence and their associations with physical health, psychological distress, and substance use. *Public Health Reports*, *121*(4), 382.

Cascardi, M., Langhinrichsen, J., & Vivian, D. (1992). Marital aggression: Impact, injury, and health correlates for husbands and wives. *Archives of Internal Medicine*, *152*(6), 1178-1184.

Coker, A. L., Davis, K. E., Arias, I., Desai, S., Sanderson, M., Brandt, H. M., & Smith, P. H. (2002). Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine, 23,* 260-268.

Coker, A. L., Smith, P. H., McKeown, R. E., & King, M. J. (2000). Frequency and correlates of intimate partner violence by type: physical, sexual, and psychological battering. *American journal of public health*, *90*(4), 553.

Denton, W. H., Golden, R. N., & Walsh, S. R. (2003). Depression, marital discord, and couple therapy. *Current Opinion in Psychiatry*, *16*(1), 29-34.

Dessaulles, A., Johnson, S. M., & Denton, W. H. (2003). Emotion-focused therapy for couples in the treatment of depression: A pilot study. *The American Journal of Family Therapy*, *31*(5), 345-353.

Doumas, D.M., Pearson, C.L., Elgin, J.E., & McKinley, L.L. (2008). Adult attachment as a risk factor for intimate partner violence: The "mispairing" of partners' attachment styles. *Journal of Interpersonal Violence, 23*(5), 616-634.

Dutton, M. A., Green, B. L., Kaltman, S. I., Roesch, D. M., Zeffiro, T. A., & Krause, E. D. (2006). Intimate partner violence, PTSD, and adverse health outcomes. *Journal of Interpersonal Violence*, *21*(7), 955-968.

Dutton, D. G., Saunders, K., Starzomski, A., & Bartholomew, K. (1994). Intimacy-anger and insecure attachments as precursors of abuse in intimate relationships. Journal of *Applied Social Psychology, 24*(15), 1367–1386.

Dutton, D. G., & White, K. R. (2012). Attachment insecurity and intimate partner violence. *Aggression and Violent Behavior*, *17*(5), 475-481.

Dykman, B.M., Horowitz, L.M., Abramson, L.Y., & Usher, M. (1991). Schematic and situational determinants of depressed and nondepressed students' interpretation of feedback. *Journal of Abnormal Psychology, 100*(1), 45-55.

El-Bassel, N., Gilbert, L., Wu, E., Chang, M., Gomes, C., Vinocur, D., & Spevack, T. (2007). Intimate partner violence prevalence and HIV risks among women receiving care in emergency departments: implications for IPV and HIV screening. *Emergency Medicine Journal*, *24*(4), 255-259.

Feeney, J., Alexander, R., Noller, P., & Hohaus, L. (2003). Attachment insecurity, depression, and the transition to parenthood. *Personal Relationships*, *10*(4), 475-493.

Fincham, F. D., Beach, S. R., Harold, G. T., & Osborne, L. N. (1997). Marital satisfaction and depression: Different causal relationships for men and women? *Psychological Science*, *8*(5), 351-356.

Foshee, V.A., Benefield, T.S., Ennett, S.T., Bauman, K.E., & Suchindran, C. (2004). Longitudinal predictors of serious physical and sexual dating violence victimization during adolescence. *Preventive Medicine, 39*(5), 1007-1016.

Foshee, V.A., Reyes, H.L.M., & Ennett, S.T. (2010). Examination of sex and race differences in longitudinal predictors of the initiation of adolescent dating

violence perpetration. *Journal of Aggression, Maltreatment & Trauma, 19*(5), 492-516.

Fournier, B., Brassard, A., & Shaver, P. R. (2011). Adult attachment and male aggression in couple relationships: The demand-withdraw communication pattern and relationship satisfaction as mediators. *Journal of interpersonal violence*, *26*(10), 1982-2003.

Fraley, R. C., & Waller, N. G. (1998). Adult attachment patterns. *Attachment theory and close relationships*, 77-114.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of personality and social psychology*, *78*(2), 350.

Friedman, S.H., & Loue, S. (2007). Incidence and prevalence of intimate partner violence by and against women with severe mental illness. *Journal of Women's Health, 16*(4), 471-480.

Fritz, T., Patti, A., & O'Leary, K. D. (2004). Physical and psychological partner aggression across a decade: A growth curve analysis. *Violence and victims*, *19*(1), 3-16.

Gewirtz, A. H., & Edleson, J. L. (2007). Young children's exposure to intimate partner violence: Towards a developmental risk and resilience framework for research and intervention. *Journal of Family Violence*, *22*(3), 151-163.

Godbout, N., Dutton, D., Lussier, Y., & Sabourin, S. (2009). Early exposure to violence, domestic violence, attachment representations, and marital adjustment. *Personal Relationships, 16*, 365-384.

Gormley, B. (2005). An adult attachment theoretical perspective of gender symmetry in intimate partner violence. *Sex Roles*, *52*(11-12), 785-795.

Gotlib, I.H., Lewinsohn, P.M., & Seeley, J.R. (1998). Consequences of depression during adolescence: Marital status and marital functioning in early adulthood. *Journal of Abnormal Psychology, 107*(4), 686-690.

Gottman, J. M., McCoy, K., Coan, J., & Collier, H. (1996). The specific affect coding system (SPAFF) for observing emotional communication in marital and family interaction. *What predicts divorce*, 112-195.

Gracia, E., & Herrero, J. (2006). Acceptability of domestic violence against women in the European Union: A multilevel analysis. *Journal of epidemiology and community health*, *60*(2), 123-129.

Graham, A. M., Kim, H. K., & Fisher, P. A. (2012). Partner aggression in high-risk families from birth to age 3 years: Associations with harsh parenting and child maladjustment. *Journal of family psychology*, *26*(1), 105.

Greenberg, L. S., & Johnson, S. M. (1988). *Emotionally focused therapy for couples*. New York: Guilford Press.

Guo, S. F., Wu, J. L., Qu, C. Y., & Yan, R. Y. (2004). Physical and sexual abuse of women before, during, and after pregnancy. *International Journal of Gynecology & Obstetrics*, *84*(3), 281-286.

Hall, W. A., & Long, B. C. (2007). Relations among prenatal role quality, life satisfaction, and dual-earner parents' postnatal depression. *Journal of Prenatal and Perinatal Psychology and Health*, *21*(3), 231.

Hautzinger, M., Linden, M., & Hoffman, N. (1982). Distressed couples with and without

a depressed partner: An analysis of their verbal interaction. *Journal of Behavioural Therapy & Experimental Psychiatry, 13*(4), 307-314.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524.

Heckert, D. A., & Gondolf, E. W. (2000). Assessing assault self-reports by batterer program participants and their partners. *Journal of Family Violence*,*15*(2), 181-197.

Henning, K., Jones, A. R., & Holdford, R. (2005). "I didn't do it, but if I did I had a good reason": Minimization, Denial, and Attributions of Blame Among Male and Female Domestic Violence Offenders. *Journal of Family Violence*, *20*(3), 131-139.

Heyman, R. E., & Schlee, K. A. (1997). Toward a better estimate of the prevalence of partner abuse: Adjusting rates based on the sensitivity of the Conflict Tactics Scale. *Journal of Family Psychology, 11*(3), 332-338.

Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child abuse & neglect*, *32*(8), 797-810.

Honarian, M., Younesi, J., Shafiabadi, A., & Nafissi, G. (2010). "The impact of couple therapy based on attachment" in deterministic thinking and marital satisfaction among couples. *Int J Psychol Counselling*, *2*, 91-99.

Huth-Bocks, A. C., & Hughes, H. M. (2008). Parenting stress, parenting behavior, and children's adjustment in families experiencing intimate partner violence. *Journal of family violence*, *23*(4), 243-251.

Inoue, Y., Tonooka, Y., Yamada, K., & Kanba, S. (2004). Deficiency of theory of mind in patients with remitted mood disorder. *Journal of affective disorders*,*82*(3), 403-409.

Jacobson, N. S., & Christensen, A. (1998). *Acceptance and change in couple therapy: A therapist's guide to transforming relationships*. New York: Norton

Janssen, P. A., Holt, V. L., Sugg, N. K., Emanuel, I., Critchlow, C. M., & Henderson, A. D. (2003). Intimate partner violence and adverse pregnancy outcomes: a population-based study. *American journal of obstetrics and gynecology*, *188*(5), 1341-1347.

Jasinski, J. L., & Kantor, G. K. (2001). Pregnancy, stress and wife assault: Ethnic differences in prevalence, severity, and onset in a national sample. *Violence and victims*, *16*(3), 219-232.

Johnson, M. P. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family*, 283-294.

Johnson, M.P. (2010). *A typology of domestic violence: Intimate terrorism, violent resistance, and situational couple violence*. Lebanon, NH: Northeastern University Press.

Johnson, M. P., & Leone, J. M. (2005). The differential effects of intimate terrorism and situational couple violence findings from the national violence against women survey. *Journal of family issues*, *26*(3), 322-349.

Johnson, S.L., & Jacob, T. (1997). Marital interactions of depressed men and women. *Journal of Consulting and Clinical Psychology, 65*(1), 15-23.

Johnson, S. M., Makinen, J. A., & Millikin, J. W. (2001). Attachment injuries in couple relationships: A new perspective on impasses in couples therapy. *Journal of Marital and Family Therapy*, *27*(2), 145-155.

Jose, A., & O'Leary, K. D. (2009). Prevalence of partner aggression in representation and clinic samples. In K. D. O'Leary & E. M. Woodin (Eds.), *Psychological and physical aggression in couples: Causes and interventions* (pp. 15-35). Washington, DC, US: American Psychological Association.

Kahn, J., Coyne, J.C., & Margolin G. (1985). Depression and marital disagreement: The social construction of despair. *Journal of Social and Personal Relationships, 2*(4), 447-461.

Kan, M. L., & Feinberg, M. E. (2009). Measurement and correlates of intimate partner violence among expectant first-time parents. *Violence and victims*,*25*(3), 319-331.

Kar, H. L., & O'Leary, K. D. (2010). Gender symmetry or asymmetry in intimate partner victimization? Not an either/or answer. *Partner Abuse*, *1*(2), 152-168.

Kashy, D. A., & Kenny, D. A. (1999). The analysis of data from dyads and groups. In H. T. Reis & C. M. Judd (Eds.), Handbook of research methods in social psychology. New York: Cambridge University Press.

Katz, J., & Beach, S.R.H. (1997). Romance in the crossfire: When do women's depressive symptoms predict partner relationship dissatisfaction? *Journal of Social and Clinical Psychology, 16*(3), 243-258.

Kilmann, P. R., Laughlin, J. E., Carranza, L. V., Downer, J. T., Major, S., & Parnell, M. M. (1999). Effects of an attachment-focused group preventive intervention on insecure women. *Group Dynamics: Theory, Research, and Practice*, *3*(2), 138.

Kilmann, P.R., Urbaniak, G.C., & Parnell, M.M. (2006). Effects of attachment-focesed versus relationship skills-focused group interventions for college students with insecure attachment patterns. *Attachment & Human Development, 8*(1), 47-62.

Kim, H.K., & Capaldi, D.M. (2004). The association of antisocial behavior and depressive symptoms between partners and risk for aggression in romantic relationships. *Journal of Family Psychology, 18*(1), 82-96.

Kinley, J. L., & Reyno, S. M. (2013). Attachment style changes following intensive short-term group psychotherapy. *International Journal of Group Psychotherapy*, *63*(1), 53-75.

Klohnen, E. C., & Luo, S. (2003). Interpersonal attraction and personality: what is attractive--self similarity, ideal similarity, complementarity or attachment security? *Journal of Personality and Social Psychology*, *85*(4), 709.

Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: a systematic review. *American journal of obstetrics and gynecology*, *202*(1), 5-14.

Lawson, D.M., Barnes, A.D., Madkins, J.P., & Francios-Lamonte, B.M. (2006). Changes in male partner abuser attachment styles in group treatment. *Psychotherapy: Therapy, Research, Practice, Training, 43*(2), 232-237.

Lawson, D.M., & Brossart, D.F. (2009). Attachment, interpersonal problems, and treatment outcome in group therapy for intimate partner violence. *Psychology of Men & Masculinity, 10*(4), 288-301.

Leathers, S. J., & Kelley, M. A. (2000). Unintended Pregnancy and Depressive Symptoms Among First-Time Mothers and Fathers. *American Journal of Orthopsychiatry*, *70*(4), 523-531.

Lehrer, J. A., Buka, S., Gortmaker, S., & Shrier, L. A. (2006). Depressive symptomatology as a predictor of exposure to intimate partner violence among US female adolescents and young adults. *Archives of pediatrics & adolescent medicine*, *160*(3), 270.

Levendosky, A. A., & Graham-Bermann, S. A. (2001). Parenting in battered women: The effects of domestic violence on women and their children. *Journal of Family Violence*, *16*(2), 171-192.

Lipsky, S., Caetano, R., Field, C.A., & Bazargan, S. (2005). The role of alcohol use and depression in intimate partner violence among black and Hispanic patients in an urban emergency department. *The American Journal of Drug and Alcohol Abuse, 31*(2), 225-242.

Luo, S., & Klohnen, E. C. (2005). Assortative mating and marital quality in newlyweds: a couple-centered approach. *Journal of personality and social psychology*, *88*(2), 304.

Macy, R. J., Martin, S. L., Kupper, L. L., Casanueva, C., & Guo, S. (2007). Partner violence among women before, during, and after pregnancy: Multiple opportunities for intervention. *Women's Health Issues*, *17*(5), 290-299.

Makinen, J. A., & Johnson, S. M. (2006). Resolving attachment injuries in couples using emotionally focused therapy: steps toward forgiveness and reconciliation. *Journal Consulting and Clinical Psychology*, *74*(6), 1055.

Marcus, S. M., Flynn, H. A., Blow, F. C., & Barry, K. L. (2003). Depressive symptoms among pregnant women screened in obstetrics settings. *Journal of Women's Health*, *12*(4), 373-380.

Marshall, A.D., Jones, D.E., & Feinberg, M.E. (2011). Enduring vulnerabilities, relationship attributions, and couple conflict: An integrative model of the occurrence and frequency of intimate partner violence. *Journal of Family Psychology, 25*(5), 709-718.

Martin, S. L., Beaumont, J. L., & Kupper, L. L. (2003). Substance use before and during pregnancy: links to intimate partner violence. *The American journal of drug and alcohol abuse*, *29*(3), 599-617.

Martin, S. L., Mackie, L., Kupper, L. L., Buescher, P. A., & Moracco, K. E. (2001). Physical abuse of women before, during, and after pregnancy. *JAMA: the journal of the American Medical Association*, *285*(12), 1581-1584.

Mayseless, O. (1991). Adult attachment patterns and courtship violence. *Family Relations, 40*(1), 21-28.

Miller, D. T., & Porter, C. A. (1983). Self−blame in victims of violence. *Journal of Social Issues*, *39*(2), 139-152.

Moffitt, T., Caspi, A., Rutter, M., & Silva, P. A. (2001). Sex, antisocial behavior, and mating: Mate selection and early childbearing. In T.Moffitt, A.Caspi, M.Rutter, & P. A.Silva (Eds.), *Sex differences in antisocial behavior: Conduct disorder, delinquency, and violence in the Dunedin longitudinal study* (pp. 184– 197). New York: Cambridge University Press.

Norlander, B., & Eckhardt, C. (2005). Anger, hostility, and male perpetrators of intimate partner violence: A meta-analytic review. *Clinical psychology review*, *25*(2), 119-152.

O'Leary, K. D. (2004). Psychological abuse: A variable deserving critical attention in domestic violence. In K. D. O'Leary & R. D. Maiuro (Eds.), *Psychological abuse in violent domestic relations* (pp. 3-28). New York, NY: Springer Publishing Company Inc.

Orcutt, H. K., Garcia, M., & Pickett, S. M. (2005). Female-perpetrated intimate partner violence and romantic attachment style in a college student sample.*Violence and Victims*, *20*(3), 287-302.

Petch, J., & Halford, W. K. (2008). Psycho-education to enhance couples' transition to parenthood. *Clinical Psychology Review*, *28*(7), 1125-1137.

Petty, S. C., Sachs-Ericsson, N., & Joiner Jr, T. E. (2004). Interpersonal functioning deficits: temporary or stable characteristics of depressed individuals?. *Journal of affective disorders*, *81*(2), 115-122.

Pietromonaco, P.R., & Barrett, L.F. (2000). The internal working models concept: What do we really know about the self in relation to others? *Review of General Psychology, 4*(2), 155-175.

Radecki-Bush, C., Farrell, A.D., & Bush, J.P. (1993). Predicting jealous responses: The influence of adult attachment and depression on threat appraisal. *Journal of Social and Personal Relationships, 10*(4), 569-588.

Radloff, L. S. (1977). The CES-D scale a self-report depression scale for research in the general population. *Applied psychological measurement*, *1*(3), 385-401.

Riggs, D. S., Caulfield, M. B., & Street, A. E. (2000). Risk for domestic violence: Factors associated with perpetration and victimization. *Journal of clinical psychology*, *56*(10), 1289-1316.

Riggs, S. A., & Kaminski, P. (2010). Childhood emotional abuse, adult attachment, and depression as predictors of relational adjustment and psychological aggression. *Journal of aggression, maltreatment & trauma*, *19*(1), 75-104.

Roberts, N., & Noller, P. (1998). The associations between adult attachment and couple violence: The role of communication patterns and relationship satisfaction. In J. A. Simpson, & W. S. Rholes (Eds.), *Attachment Theory and Close Relationships* (pp. 317-345). New York, NY: The Guilford Press.

Santor, D. A., Zuroff, D. C., Ramsay, J. O., Cervantes, P., & Palacios, J. (1995). Examining scale discriminability in the BDI and CES-D as a function of depressive severity. *Psychological Assessment*, *7*(2), 131.

Sarkar, N. N. (2008). The impact of intimate partner violence on women's reproductive health and pregnancy outcome. *Journal of Obstetrics & Gynecology*, *28*(3), 266-271.

Scharfe, E. (2007). Cause of consequence?: Exploring causal links between attachment and depression. *Journal of Social and Clinical Psychology, 26*(9), 1058-1064.

Schumacher, J. A., Feldbau-Kohn, S., Smith Slep, A. M., & Heyman, R. E. (2001). Risk factors for male-to-female partner physical abuse. *Aggression and Violent Behavior*, *6*(2), 281-352.

Schumacher, M., Zubaran, C., & White, G. (2008). Bringing birth-related paternal depression to the fore. *Women and birth*, *21*(2), 65-70.

Segrin, C. (2000). Social skills deficits associated with depression. *Clinical Psychology Review, 20*(3), 379-403.

Segrin, C., & Abramson, L. Y. (1994). Negative reactions to depressive behaviors: a communication theories analysis. *Journal of abnormal psychology*, *103*(4), 655.

Senchak, M., & Leonard, K. E. (1992). Attachment styles and marital adjustment among newlywed couples. *Journal of Social and Personal Relationships*, *9*(1), 51-64.

Shapira, B., Zislin, J., Gelfin, Y., Osher, Y., Gorfine, M., Souery, D., ... & Lerer, B. (1999). Social adjustment and self-esteem in remitted patients with unipolar and bipolar affective disorder: a case-control study. *Comprehensive psychiatry*, *40*(1), 24-30.

Shaver, P. R., & Clark, C. L. (1994). The psychodynamics of adult romantic attachment. In J. M. Masling & R. F. Bornstein (Eds.), *Empirical perspectives on object relations theories* (pp. 105-156). Washington, DC: American Psychological Association.

Shaver, P. R., & Hazan, C. (1993). Adult romantic attachment: Theory and evidence. *Advances in personal relationships, 4*, 29-70.

Segrin, C., Powell, H.L., Givertz, M., & Brackin, A. (2003). Symptoms of depression, relational quality, and loneliness in dating relationship. *Personal Relationship, 10*(1), 25-36.

Simpson, L. E., & Christensen, A. (2005). Spousal agreement regarding relationship aggression on the Conflict Tactics Scale-2. *Psychological assessment*, *17*(4), 423.

Simpson, J. A., & Rholes, W. S. (Eds.). (1998). *Attachment theory and close relationships*. The Guilford Press.

Simpson, J. A., Rholes, W. S., Campbell, L., & Wilson, C. L. (2003). Changes in attachment orientations across the transition to parenthood. *Journal of Experimental Social Psychology*, *39*(4), 317-331.

Simpson, J.A., Rholes, W.S., & Nelligan, J.S. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology, 62*(3), 434-446.

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 15-28.

Stets, J. E., & Straus, M. A. (1990). Gender differences in reporting marital violence and its medical and psychological consequences. *Physical violence in American families: Risk factors and adaptations to violence in*, *8*(145), 151-65.

Stith, S. M., Green, N. M., Smith, D. B., & Ward, D. B. (2008). Marital satisfaction and marital discord as risk markers for intimate partner violence: A meta-analytic review. *Journal of Family Violence*, *23*(3), 149-160.

Stith, S. M., Smith, D. B., Penn, C. E., Ward, D. B., & Tritt, D. (2004). Intimate partner physical abuse perpetration and victimization risk factors: A meta-analytic review. *Aggression and violent behavior*, *10*(1), 65-98.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of family issues*, *17*(3), 283-316.

Testa, M., Hoffman, J. H., & Leonard, K. E. (2011). Female intimate partner violence perpetration: Stability and predictors of mutual and nonmutual aggression across the first year of college. *Aggressive behavior, 37*(4), 362-373.

Tse, W. S., & Bond, A. J. (2004). The Impact of Depression on Social Skills: A Review. *Journal of Nervous and Mental Disease*.

Tzilos, G. K., Grekin, E. R., Beatty, J. R., Chase, S. K., & Ondersma, S. J. (2010). Commission versus receipt of violence during pregnancy: Associations with substance abuse variables. *Journal of interpersonal violence*, *25*(10), 1928-1940.

Vickerman, K. A., & Margolin, G. (2008). Trajectories of physical and emotional marital aggression in midlife couples. *Violence and Victims, 23*, 18-34.

Wegener, D. T. & Fabrigar, L. R. (2000). Analysis and design for nonexperimental data: Addressing casual and noncausal hypotheses. In H. T. Reis & C. M. Judd (Eds.). *Handbook of research methods in social and personality psychology* (pp. 412-445). Cambridge, UK: Cambridge University Press.

Weissman, M. M., Sholomskas, D., Pottenger, M., Prusoff, B. A., & Locke, B. Z. (1977). Assessing depressive symptoms in five psychiatric populations: a validation study. *American Journal of Epidemiology*, *106*(3), 203-214.

Whiffen, V.E., Kallos-Lilly, V., & MacDonald, B.J. (2001). Depression and attachment in couples. *Cognitive Therapy and Research, 25*(5), 577-590.

Williams, N.L., & Riskind, J.H. (2004). Adult romantic attachment and cognitive vulnerabilities to anxiety and depression: Examining the interpersonal basis of vulnerability models. *Journal of Cognitive Psychotherapy, 18*(1), 7-24.

Woodin, E. M., Caldeira, V., & O'Leary, K. (2013). Dating aggression in emerging adulthood: Interactions between relationship processes and individual vulnerabilities. *Journal of Social and Clinical Psychology, 32*(6), 619-650.

Appendix A

Center for Epidemiologic Studies Depression Scale

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

	During the Past Week			
	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7days)
1. I was bothered by things that usually don't bother me.				
2. I did not feel like eating; my appetite was poor.				
3. I felt that I could not shake off the blues even with help from my family or friends.				
4. I felt I was just as good as other people.				
5. I had trouble keeping my mind on what I was doing.				
6. I felt depressed.				
7. I felt that everything I did was an effort.				
8. I felt hopeful about the future.				
9. I thought my life had been a failure.				
10. I felt fearful.				
11. My sleep was restless.				
12. I was happy.				
13. I talked less than usual.				
14. I felt lonely.				
15. People were unfriendly.				
16. I enjoyed life.				
17. I had crying spells.				
18. I felt sad.				
19. I felt that people dislike me.				
20. I could not get "going."				

SCORING: zero for answers in the first column, 1 for answers in the second column, 2 for answers in the third column, 3 for answers in the fourth column. The scoring of positive items is reversed. Possible range of scores is zero to 60, with the higher scores indicating the presence of more symptomology.

Appendix B

Experiences in Close Relationships Inventory

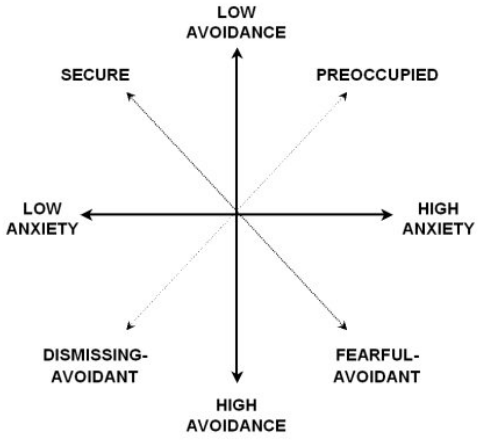
The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1	2	3	4	5	6	7
Disagree Strongly			Neutral/Mixed			Agree Strongly

_____ 1. I prefer not to show a partner how I feel deep down.
_____ 2. I worry about being abandoned.
_____ 3. I am very comfortable being close to romantic partners.
_____ 4. I worry a lot about my relationships.
_____ 5. Just when my partner starts to get close to me I find myself pulling away.
_____ 6. I worry that romantic partners won't care about me as much as I care about them.
_____ 7. I get uncomfortable when a romantic partner wants to be very close.
_____ 8. I worry a fair amount about losing my partner.
_____ 9. I don't feel comfortable opening up to romantic partners.
_____ 10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
_____ 11. I want to get close to my partner, but I keep pulling back.
_____ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.
_____ 13. I am nervous when partners get too close to me.
_____ 14. I worry about being alone.
_____ 15. I feel comfortable sharing my private thoughts and feelings with my partner.
_____ 16. My desire to be very close sometimes scares people away.
_____ 17. I try to avoid getting too close to my partner.
_____ 18. I need a lot of reassurance that I am loved by my partner.
_____ 19. I find it relatively easy to get close to my partner.
_____ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.
_____ 21. I find it difficult to allow myself to depend on romantic partners.
_____ 22. I do not often worry about being abandoned.
_____ 23. I prefer not to be too close to romantic partners.
_____ 24. If I can't get my partner to show interest in me, I get upset or angry.
_____ 25. I tell my partner just about everything.
_____ 26. I find that my partner(s) don't want to get as close as I would like.
_____ 27. I usually discuss my problems and concerns with my partner.
_____ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
_____ 29. I feel comfortable depending on romantic partners.
_____ 30. I get frustrated when my partner is not around as much as I would like.
_____ 31. I don't mind asking romantic partners for comfort, advice, or help.
_____ 32. I get frustrated if romantic partners are not available when I need them.
_____ 33. It helps to turn to my romantic partner in times of need.
_____ 34. When romantic partners disapprove of me, I feel really bad about myself.
_____ 35. I turn to my partner for many things, including comfort and reassurance.
_____ 36. I resent it when my partner spends time away from me.

Scoring:

1. Reverse key items with a box around the number. (1 →7, 2→6, 3→5, 5→3, 6→2, 7→1)
2. Add the total for the even _____ and odd _____ numbers
3. Even = Anxiety; Odd = Avoidance
4. Scores from 18-126; Midpoint is 72 (determine if you're high or low) Note: don't take your "category" too seriously. The measure is not designed to put you into only one category.



Appendix C

Dyadic Adjustment Scale

Instructions: Most people have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list, by circling the appropriate number.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1. Handling finances	5	4	3	2	1	0
2. Matters of recreation	5	4	3	2	1	0
3. Religious matters	5	4	3	2	1	0
4. Demonstrations of affection	5	4	3	2	1	0
5. Friends	5	4	3	2	1	0
6. Sexual relations	5	4	3	2	1	0
7. Conventionality (correct or proper behavior)	5	4	3	2	1	0
8. Philosophy of life	5	4	3	2	1	0
9. Ways of dealing with parents	5	4	3	2	1	0
10. Aims, goals, and things believed important	5	4	3	2	1	0
11. Amount of time spent together	5	4	3	2	1	0
12. Making major decisions	5	4	3	2	1	0
13. Household tasks	5	4	3	2	1	0
14. Leisure time interests and activities	5	4	3	2	1	0
15. Career decisions	5	4	3	2	1	0

	All the Time	Most of the Time	More Often Than Not	Occasionally	Rarely	Never
16. How often do you discuss or have you considered terminating your relationship?	0	1	2	3	4	5
17. How often do you or your partner leave each other after a fight?	0	1	2	3	4	5
18. In general, how often do you think that things between you and your partner are going well?	5	4	3	2	1	0
19. Do you confide in your partner?	5	4	3	2	1	0
20. Do you ever regret that you are together?	0	1	2	3	4	5

21. How often do you and your partner quarrel?	0	1	2	3	4	5
22. How often do you and your partner "get on each other's nerves"?	0	1	2	3	4	5

	Every Day	Almost Every Day	Occasionally	Rarely	Never
23. Do you kiss your partner?	4	3	2	1	0

	All of Them	Most of Them	Some of Them	Very few of Them	None of Them
24. Do you and your partner engage in outside activities together?	4	3	2	1	0

How often would you say the following events occur between you and your partner?

	Never	Less Than Once a Month	Once or Twice a Month	Once or Twice a Week	Once a Day	More Often
25. Have a stimulating exchange of ideas	0	1	2	3	4	5
26. Laugh together	0	1	2	3	4	5
27. Calmly discuss something	0	1	2	3	4	5
28. Work together on a project	0	1	2	3	4	5

These are some of the things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship **during the past few weeks**. (CHECK yes or no)

29. Being too tired for sex ☐ yes ☐ no
30. Not showing love ☐ yes ☐ no
31. The numbers on the line represent different degrees of happiness in your relationship. The middle point, "happy", represents the degree of happiness of most relationships. Please **circle the one number** that best describes the degree of happiness, all things considered, of your relationship.

0	1	2	3	4	5	6
Extremely Unhappy	Fairly Unhappy	A little Unhappy	Happy	Very Happy	Extremely Happy	Perfectly Happy

32. Which of the following statements best describes how you feel about the future of your relationship? (Check only **one** box)

- ☐ I want desperately for my relationship to succeed, and would go to almost any length to see it does.
- ☐ I want very much for my relationship to succeed, and will do all I can to see that it does.
- ☐ I want very much for my relationship to succeed, and will do my fair share to see that it does.
- ☐ It would be very nice for my relationship to succeed, but I can't do much more than I am doing now to help it succeed.
- ☐ It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
- ☐ My relationship can never succeed, and there is no more that I can do to keep the relationship going.

Appendix D

Conflict Tactics Scales - Revised

Instructions: No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in bad moods, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you and your partner have differences. Please CIRCLE how many times you did each of these things in the **past year**, and how many times your partner did them in the past year. If you or your partner did not do one of these things in the past year, but it happened in the last year, circle the response marked "Not in last year, but has happened in the last year."

How many times <u>in the past year</u>:

	1 time	2 times	3-5 times	6-10 times	11-20 times	More than 20 times	Never	Not in last year, but has happened in the past
1. Have you showed your partner you cared even though you disagreed?	1	2	3	4	5	6	7	8
2. Has your partner showed care for you even though you disagreed?	1	2	3	4	5	6	7	8
3. Have you explained your side of a disagreement to your partner?	1	2	3	4	5	6	7	8
4. Has your partner explained their side of a disagreement to you?	1	2	3	4	5	6	7	8
5. Have you thrown something at your partner that could hurt?	1	2	3	4	5	6	7	8
6. Has your partner thrown something at you that could hurt?	1	2	3	4	5	6	7	8
7. Have you insulted or sworn at your partner?	1	2	3	4	5	6	7	8
8. Has your partner insulted or sworn at you?	1	2	3	4	5	6	7	8
9. Have you twisted your partner's arm or hair?	1	2	3	4	5	6	7	8
10. Has your partner twisted your arm or hair?	1	2	3	4	5	6	7	8
11. Have you had a sprain, bruise or small cut because of a fight with your partner?	1	2	3	4	5	6	7	8
12. Has your partner had a sprain, bruise or small cut because of a fight with you?	1	2	3	4	5	6	7	8
13. Have you shown respect for your partner's feelings about an issue?	1	2	3	4	5	6	7	8
14. Has your partner shown respect for your feelings about an issue?	1	2	3	4	5	6	7	8

15. Have you made your partner have sex without a condom?
1 2 3 4 5 6 7 8
16. Has your partner made you have sex without a condom?
1 2 3 4 5 6 7 8

17. Have you pushed or shoved your partner?
1 2 3 4 5 6 7 8
18. Has your partner pushed or shoved you?
1 2 3 4 5 6 7 8

19. Have you used force (like hitting, holding down, or using a weapon) to make your partner have anal or oral sex?
1 2 3 4 5 6 7 8
20. Has your partner used force (like hitting, holding down, or using a weapon) to make you have oral or anal sex?
1 2 3 4 5 6 7 8

21. Have you used a knife or gun on your partner?
1 2 3 4 5 6 7 8
22. Has your partner used a knife or gun on you?
1 2 3 4 5 6 7 8

23. Have you passed out from being hit on the head by your partner in a fight?
1 2 3 4 5 6 7 8
24. Has your partner passed out from being hit on the head by you in a fight?
1 2 3 4 5 6 7 8

25. Have you called your partner fat or ugly?
1 2 3 4 5 6 7 8
26. Has your partner called you fat or ugly?
1 2 3 4 5 6 7 8

27. Have you punched or hit your partner with something that could hurt?
1 2 3 4 5 6 7 8
28. Has your partner punched or hit you with something that could hurt?
1 2 3 4 5 6 7 8

29. Have you destroyed something belonging to your partner?
1 2 3 4 5 6 7 8
30. Has your partner destroyed something belonging to you?
1 2 3 4 5 6 7 8

31. Have you gone to the doctor because of a fight with your partner?
1 2 3 4 5 6 7 8
32. Has your partner gone to the doctor because of a fight with you?
1 2 3 4 5 6 7 8

33. Have you choked your partner?
1 2 3 4 5 6 7 8
34. Has your partner choked you?
1 2 3 4 5 6 7 8

How many times in the past year:

	1 time	2 times	3-5 times	6-10 times	11-20 times	More than 20 times	Never	Not in last year, but has happened in the past
35. Have you shouted or yelled at your partner?	1	2	3	4	5	6	7	8
36. Has your partner shouted or yelled at you?	1	2	3	4	5	6	7	8
37. Have you slammed your partner against a wall?	1	2	3	4	5	6	7	8
38. Has your partner slammed you against a wall?	1	2	3	4	5	6	7	8
39. Have you said you were sure that you and your partner could work out a problem?	1	2	3	4	5	6	7	8
40. Has your partner said that they were sure that you and your partner could work out a problem?	1	2	3	4	5	6	7	8
41. Have you needed to see a doctor because of a fight with your partner, but didn't?	1	2	3	4	5	6	7	8
42. Has your partner needed to see a doctor because of a fight with you, but didn't?	1	2	3	4	5	6	7	8
43. Have you beat up your partner?	1	2	3	4	5	6	7	8
44. Has your partner beat you up?	1	2	3	4	5	6	7	8
45. Have you grabbed your partner?	1	2	3	4	5	6	7	8
46. Has your partner grabbed you?	1	2	3	4	5	6	7	8
47. Have you used force (like hitting, holding down, or using a weapon) to make your partner have sex?	1	2	3	4	5	6	7	8
48. Has your partner used force (like hitting, holding down, or using a weapon) to make you have sex?	1	2	3	4	5	6	7	8
49. Have you stomped out of the room or house or yard during a disagreement?	1	2	3	4	5	6	7	8
50. Has your partner stomped out of the room or house or yard during a disagreement?	1	2	3	4	5	6	7	8

51. Have you insisted on sex when your partner did not want to (but did not use physical force)?
1 2 3 4 5 6 7 8

52. Has your partner insisted on sex when you did not want to (but did not use physical force)?
1 2 3 4 5 6 7 8

53. Have you slapped your partner?
1 2 3 4 5 6 7 8

54. Has your partner slapped you?
1 2 3 4 5 6 7 8

55. Have you had a broken bone from a fight with your partner?
1 2 3 4 5 6 7 8

56. Has your partner had a broken bone from a fight with you?
1 2 3 4 5 6 7 8

57. Have you used threats to make your partner have oral or anal sex?
1 2 3 4 5 6 7 8

58. Has your partner used threats to make you have oral or anal sex?
1 2 3 4 5 6 7 8

59. Have you suggested a compromise to a disagreement?
1 2 3 4 5 6 7 8

60. Has your partner suggested a compromise to a disagreement?
1 2 3 4 5 6 7 8

61. Have you burned or scalded your partner on purpose?
1 2 3 4 5 6 7 8

62. Has your partner burned or scalded you on purpose?
1 2 3 4 5 6 7 8

63. Have you insisted on oral or anal sex when your partner did not want to (but did not use physical force)?
1 2 3 4 5 6 7 8

64. Has your partner insisted on oral or anal sex when you did not want to (but did not use physical force)?
1 2 3 4 5 6 7 8

65. Have you accused your partner of being a lousy lover?
1 2 3 4 5 6 7 8

66. Has your partner accused you of being a lousy lover?
1 2 3 4 5 6 7 8

67. Have you done something to spite your partner?
1 2 3 4 5 6 7 8

68. Has your partner done something to spite you?
1 2 3 4 5 6 7 8

69. Have you threatened to hit or throw something at your partner?
1 2 3 4 5 6 7 8

70. Has your partner threatened to hit or throw something at you?
1 2 3 4 5 6 7 8

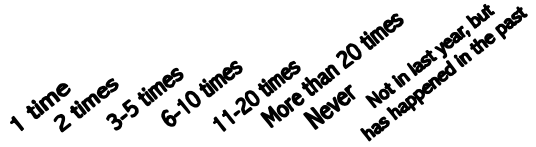
71. Have you felt a physical pain that still hurt the next day because of a fight with your partner?

1 2 3 4 5 6 7 8

72. Has your partner felt a physical pain that still hurt the next day because of a fight with you?

1 2 3 4 5 6 7 8

How many times <u>in the past year</u>:



73. Have you kicked your partner?

1 2 3 4 5 6 7 8

74. Has your partner kicked you?

1 2 3 4 5 6 7 8

75. Have you used threats to make your partner have sex?

1 2 3 4 5 6 7 8

76. Has your partner used threats to make you have sex?

1 2 3 4 5 6 7 8

77. Have you agreed to try a solution to a disagreement your partner suggested?

1 2 3 4 5 6 7 8

78. Has your partner agreed to a solution to a disagreement that you suggested?

1 2 3 4 5 6 7 8

Did you receive any of the following injuries, during the past year, as a result of your partner's behavior in any of the situations described above? (Please check all that apply):

79. _____No injuries
80. _____Temporary red marks
81. _____Minor cuts, bruises, or scrapes
82. _____Significant cuts, bruises, or scrapes
83. _____Broken bones, broken teeth, or injuries to eyes, nose, etc.
84. _____Internal injuries or concussion

Did your partner receive any of the following injuries, during the past year, as a result of your behavior in any of the situations described above? (Please check all that apply):

85. _____No injuries
86. _____Temporary red marks
87. _____Minor cuts, bruises, or scrapes
88. _____Significant cuts, bruises, or scrapes
89. _____Broken bones, broken teeth, or injuries to eyes, nose, etc.
90. _____Internal injuries or concussion