Childhood Physical Abuse and Dating Violence: The Role of

Attachment Security and Personality Symptoms

by

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Abstract

Dating violence (DV) is a common experience among college-age Canadians, affecting between one quarter and one third of both men and women. A significant predictor of DV perpetration and victimization is childhood physical abuse (CPA). While there is evidence of an intergenerational transmission of violence from CPA to both victimization and perpetration of DV in young adulthood, there remain gaps in our understanding of what factors influence these relationships throughout an individual's development. Using survey data collected from a convenience sample of 660 University of Manitoba students, this study analyzed the strength of a model of violence development from CPA to DV including the mediating effects of personality symptoms and attachment security. The current study suggested partial support for theoretical frameworks that have been applied to the understanding of the relationship between CPA and DV, namely social learning theory, the criminological framework, and attachment based theories. CPA was correlated with DV perpetration and victimization. However, in multivariate analyses, witnessing interparental violence, rather than experiencing CPA, was a direct predictor of DV perpetration and victimization. CPA predicted DV indirectly through witnessing interparental violence. More severe dating violence items were significantly predicted by other variables in the model. Antisocial personality symptoms increased odds of severe DV perpetration and victimization while borderline personality symptoms increased odds of severe DV victimization. Attachment insecurity had the strongest impact on dating violence perpetration in the female subsample. These findings, suggesting a number of distinct pathways in the intergenerational transmission of violence, should be further tested in larger and more diverse samples. It would be

beneficial to include additional risk and protective variables in future research in order to understand what impacts each distinct pathway to dating violence, under what circumstances, as well as the influence of these variables at different points in individuals' development. This research is valuable for understanding the impact of childhood abuse on young adult attachment, personality, and dating violence. Further, it is hoped that this research will be helpful for establishing appropriate and comprehensive DV interventions which take into account mediating influences from the intergenerational transmission of violence.

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CHAPTER I: Introduction

Statement of Problem

In Canada, dating violence (defined as physical violence within a dating relationship) makes up 7% of violent crime and 28% of intimate partner violence nationwide (Hotton-Mahony, 2010). Hotton-Mahony (2010), analyzing police reported data, also found that about one-fifth of women, since age 16, have experienced violence in a dating relationship.   These statistics reflect only the violence which has been made known to law enforcement. Self-report data on adolescents and young adults typically present an even higher dating violence prevalence than that of substantiated or law enforcement data. These studies often rely on standardized measurement tools, for example, the Conflict Tactics Scale (CTS; Straus, 1979) and the Conflict in Adolescent Dating Relationships Inventory (Wekerle et al., 2001; Wolfe & Wekerle, 1998; Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004). Such research among Canadian college-age samples has found that between 25% and 36% of men and women respectively have experienced violence in recent dating relationships (Brownridge, 2006; Conally et al., 2010; Straus, 2004). Similar prevalence statistics have been noted in American community and college samples, with reported rates between 16% and 29% (Gover et al., 2008; Miller et al., 2011; Sunday et al., 2011); and internationally, with reported rates between 17% and 45% (Straus, 2004). In an American longitudinal study, 68.5% of participants experienced dating violence at one or more data collection points over young adulthood (Narayan, Englund, & Egeland, 2013). Further, the social concern of dating violence has been observed in high-school samples. A national study of high-school students, which asked a single dichotomous question of dating violence (if the responder

had been slapped or hit by a dating partner), found that 8.8% of teens were victims of

dating violence by age 17 years (Finkelhor, Turner, Ormrod, & Hamby, 2010).   Higher

prevalence rates, ranging from 19% to 27%, have been identified in high-school samples

using standardized, multi-item measures of dating violence experience (O'Leary, Slep,

Avery-Leaf, & Cascardi, 2008; Wolfe, Scott, Wekerle, & Pittman, 2001). In sum, there

is variation in dating violence prevalence depending on measurement tools, sample sizes,

and age. The highest prevalence has been seen in self-report, multi-item responses

acquired from college samples regarding a current or recent dating relationship, while the

lowest prevalence has been measured by single item physical dating assault inquiry at the

community level.

      The prevalence of dating violence has implications in health and social research

for a number of reasons. Victimization has been associated with increased risk of

depression, anxiety, low self-esteem (Lewis & Fremouw, 2001), alcohol use and

suicidality (Vézina & Hébert, 2007), delinquency (Ellis, Crooks, & Wolfe, 2008), and

trauma symptoms (Abel, 2001). Further, with significant implications from a

developmental perspective, while dating violence may be less prevalent than intimate

partner violence in cohabitating or married relationships (Sunday et al., 2011), it is

significantly predictive of later intimate partner violence, both perpetration and

victimization (O'Leary, Malone, & Tyree, 1994; Wolfe & Wekerle, 1998). In other

words, a major risk associated with dating violence is an ongoing and escalating pattern

of intimate partner violence.

      In research, one of the most frequently studied predictors of physical dating

violence is childhood physical abuse in family of origin. Over the last two decades,

childhood physical abuse (CPA) has been defined in various ways to measure both its

prevalence and its consequences over a lifetime. First, measuring injury, Gershoff (2002)

defined physical abuse by the physical injury resulting from an act of violence or

aggression toward a child. Others have expanded this definition to include both physical

injury and the potential for physical injury (Gilbert et al., 2009) or the potential for

physical injury and the fear of physical injury (Yexley, Borowsky, & Ireland, 2002). In

contrast the Canadian Incident Study of Reported Child Abuse and Neglect (CIS),

studying cases of maltreatment substantiated by child welfare services, measured

physical maltreatment using five reported items including: shake, push, grab or throw; hit

with hand; punch kick or bite; hit with object; and other physical abuse (Trocmé &

Wolfe, 2001). Similarly, the parent-to-child version of the Conflict Tactics Scale

(CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) has been used to identify

self-reported assault items. Using this measure, physical abuse has been defined by

items: hit with fist, kick, hit with instrument, throw or knock down, choke, beat up, use

weapon, and burn or scald. This standardized measure has also coded severity by the

frequency and the types of conflict tactics used (Bender et al., 2007; Straus et al., 1998).

As with adult dating violence, prevalence data vary depending on the definition

and the tools used to measure childhood physical abuse. According to Straus and Stewart

(1999) and Afifi, Brownridge, Cox, and Sareen (2006), the prevalence of physical abuse

in North America has been understated by the substantiated rates given in police and

child welfare data. The CIS, for example, found that, excluding Quebec, 5.31 per 1,000

(less than 1%) of Canadian children have experienced substantiated physical abuse

(Trocmé et al., 2005). North American self-report, retrospective data of the adult

population, on the other hand, has found the experience of childhood physical abuse in

4.2% (Finkelhor et al., 2010) and 8.6% (Miller et al., 2011) of the population.

From early dating violence research, a direct association has been proposed to

link childhood physical abuse with dating violence by social learning theorists. Social

learning theory argues that dating violence develops from parental attitudes and

behaviours that condone and reinforce violence in relationships (Lavoie, et al., 2002;

Straus, 2004). Developing from this basis but acknowledging the need to include the

confounding effects of other variables, researchers have proposed an intergenerational

transmission of violence model that includes parental warmth as well as parental

antisocial traits in accordance with a criminological or antisocial orientation perspective

(Simons et al., 1998). This perspective, too, has been foundational in the understanding

of childhood physical abuse and dating violence; however, as will be shown, it does not

provide a complete explanation of the variation seen in dating violence development.

Therefore, building on clear evidence of an association between childhood

physical abuse and dating violence that is both non-linear and influenced by multiple

factors (Lewis & Fremouw, 2001, Malinosky-Rummell & Hansen, 1993; Vézina &

Hébert, 2007), the addition of personal and environmental factors has been considered in

the intergenerational transmission of violence, including attachment and personality.

Individuals with insecure attachment, compared with secure, are more likely, in general,

to have experienced childhood abuse and neglect (Cyr, Euser, Bakermans-Kranenburg, &

vanIjzendoorn, 2010) and are more likely to be violent in interpersonal relationships

(Critchfield, Levy, Clarkin, & Kernberg, 2008; Hansen, Waage, Eid, Johnsen, & Hart,

2011; Henderson, Bartholomew, Trinke, & Kwong, 2005). In fact, childhood

maltreatment itself has become less predictive of violence after controlling for attachment (Salzinger, Rosario, & Feldman, 2007) and parental bonding features (Gao, Raine, Chan, Venables, & Mednick, 2010). Insecure attachment styles have been associated with personality disorders (Waltz, Babcock, Jacobson, & Gottman, 2000); further, attachment development, itself, may be foundational to the process of personality development (Critchfield et al., 2008; Fonagy, 1999 & 2000). Finally, personality disorder traits, specifically antisocial personality and borderline personality, have been associated with childhood physical abuse (Fonagy & Luyten, 2009; Jaffee, Caspi, Moffit, & Taylor, 2004) and intimate partner violence (Fonagy, 2000; Lyddon & Sherry, 2001; Medeiros & Straus, 2006; Whisman & Schonbrun, 2009). Chan, Straus, Brownridge, Tiwari, and Leung (2008), in an international study of university student dating violence, found that key borderline personality traits, including suicidal ideation, depression and self-harming behaviour, were related to an increased risk of male and female perpetration of dating violence. Further, Medeiros and Straus (2006) found that antisocial personality traits increased risk of dating violence in a college sample.

The Current Research

While the study of various intergenerational models of violence are presented in research, reasonably little research has looked at either antisocial or borderline personality disorder symptoms in dating violence and presented a theoretical model of childhood abuse to dating violence through attachment and personality traits. This thesis proposes, then, that childhood physical abuse predicts later dating violence and that the pathway is impacted by personality disorder symptoms and relationship attachment insecurity. It examines theories of intergenerational transmission of violence; examines

evidence for the mediating influence of attachment development and personality traits on

violence development; and puts forward the analysis of a model which includes these

variables. This research direction is valuable for establishing a theoretical model of the

intergenerational transmission of violence through childhood physical abuse to young

adult dating violence. The connection between severe physical abuse in childhood and

the adult use of physical assault and violence in a dating relationship is a key social issue.

Extending our knowledge on the effects of abuse, including the role of attachment and

personality in the intergenerational transmission of violence, will shed light on potential

origins of intimate partner violence, including dating violence. It will also support the

development of effective prevention and intervention within an attachment framework

and throughout development.

CHAPTER II: Literature Review

Frameworks for Understanding the Intergenerational Transmission of Violence

Social Learning Theory

The high prevalence of dating violence, both perpetration and victimization, has given importance to research on the development of romantic partner violence and what factors influence its evolution. The social learning theory, which has provided a framework for the intergenerational transmission of violence, argues that severe physical punishment and physical abuse may lead to an acceptance of violence as appropriate both in relationships and as a means to change behaviour (Straus, 2004). Similarly, an individual may learn to use violence in dating relationships from violent and maladaptive relationship models presented in family of origin (Lavoie et al., 2002).   Childhood experience of violence may perpetuate maladaptive attitudes regarding violence and gender (Reitzel-Jaffe & Wolfe, 2001).

The transmission of violence from parental physical maltreatment directly to childhood and adolescent use of violence has been established using child welfare substantiated abuse statistics. For example, Trocmé et al. (2005) found that 19% of physically abused children were violent with their peers; this was a more significant result than observed with any other type of substantiated childhood abuse. Similarly, Mersky and Reynolds (2007) found an association between substantiated childhood physical maltreatment and later violent offences in adolescence. Hostile parenting, including severe physical punishment and witnessing interparental violence, has been associated with higher rates of self-report and parent-report physical aggression in

children and adolescents (Hotton, 2003; Thomas, 2004; Yexley et al., 2002). These studies, while controlling for other variables, found support for the assumption that witnessing and experiencing childhood physical abuse have a significant direct influence on the use of aggression and violence later in life.

The social learning theory continues to be an important explanation for romantic relationship violence perpetration. Beginning with early research into dating violence and childhood maltreatment, a reasonably consistent direct association has been established between these phenomena (Marshall & Rose, 1988). This association is maintained for dating violence perpetration predicted by physical abuse alone (Douglas & Straus, 2006; Duke, Pettingall, McMorris, & Borowsky, 2010; Kwong, Bartholomew, Henderson, & Trinke, 2003; Simons, Lin, Gordon, 1998; Tyler, Brownridge, & Melander, 2011) as well as by various types of childhood abuse (Sunday et al., 2011; Whitfield, Anda, Dube, & Felitti, 2003; Wolfe et al., 2001).

While significant direct effects have been found consistently in research linking childhood physical abuse to dating violence perpetration, there remains variation in the effect sizes measured. For example, Gover et al. (2008) found that individuals who reported childhood physical abuse were 43% more likely to perpetrate dating violence than those who reported no childhood maltreatment. Wolfe et al. (2001) found that maltreated females were 450% more likely to perpetrate dating violence and maltreated males were 350% more likely to do so. Sunday et al. (2011), in a prospective study measuring violence by a combination of self-report maltreatment scores and child welfare substantiation, found that abused adolescents were two times as likely to perpetrate physical and verbal intimate partner violence as adults compared with a no abuse cohort.

The range in measured effect among studies may reflect the variety of violence definitions, measurement tools, samples, and timeframes used in dating violence research.

Similarly, in dating violence literature specifically, there has been some variation in the data relating childhood maltreatment to later relationship violence victimization. From a social learning perspective, the role of victim or the assumption of normalcy in relationship violence may be learned from the family of origin. Some researchers have argued that relationship violence victimization is associated directly with physical abuse (Kwong et al., 2003; Milletich, Kelley, Doane, & Pearson, 2010; Whitfield et al., 2003), while others have found that this relationship is not significant (Sunday et al., 2011). Along with definition, measures, and sampling differences, the contradiction in results may suggest, as Coid et al. (2001) proposed, that the severity of childhood abuse victimization will influence the experience of relationship violence victimization.

Much of the strength of the social learning theory in predicting romantic relationship violence from family of origin violence has rested on the impact of witnessing parental intimate partner violence on dating relationship violence. Jankowski, Leitenberg, Henning and Coffey (1999) found that witnessing violence in the home was associated with an increase in reported dating violence perpetration in a college sample, in particular, witnessing the same-sex parent's violence. This suggests the social learning theory as the same-sex parent's use of violence acts as a model for adult relationships. Using comparable retrospective, self-report measurements for family and dating violence as used by Jankowski et al. (1999), Milletich et al. (2010) found that the extent of dating violence perpetration was related to witnessing the same-sex parent's intimate partner

violence perpetration.   While Yexley et al. (2002) also found a multiple effect of both physical abuse and witnessing interparental violence in childhood, other researchers have argued that witnessing interparental violence alone is more powerfully predictive of relationship violence than physical abuse (Duke et al., 2010; Malik, Sorenson, & Aneshensel, 1997; Narayan et al., 2013; Smith, Ireland, Park, Elwyn, & Thornberry, 2011).

Altogether, research has found that the relationship between family of origin violence and relationship violence through the social learning perspective is not simply modeled or learned behaviour transmission, rather it is further moderated by gender (Gover et al., 2008), parental warmth (Tyler et al., 2011), and age (Kwong, et al., 2003). The transmission is mediated also by severity (Coid et al., 2001), additional adverse events and abuses (Abel, 2001; Duke et al., 2010; Miller et al., 2011; Milletich et al., 2010; Wolfe et al., 2001; Wolfe et al., 2004), and antisocial traits (Brownridge, 2006; Tyler et al., 2011). The social learning theory may account for part of the variation in violence development but may not, on its own, provide a complete understanding of the intergenerational transmission of violence.

Criminological Perspective

The criminological framework for the intergenerational transmission of violence proposes that relationship violence is predicted by childhood maltreatment and low parental warmth through the transmission of the parent's antisocial personality traits to the child (Kaplan, Sunday, Labruna, Pelcovitz, & Salzinger, 2009; Simons et al., 1998; Straus, 2004). Therefore, the antisocial orientation begins to be evident in childhood and

adolescence with conduct problems, substance use, and delinquency. Williamson,

Borduin, and Howe (1991), in a study of 50 mother-adolescent dyads, found that both

severe physical discipline and physical abuse (defined by physical injury), were

associated with conduct problems including aggression, intrusiveness, non-compliance,

and poor social interaction. Throughout development this pattern continues, supported

by longitudinal and cross-sectional research using various measures of parental

maltreatment, physical abuse, and severe physical discipline; these studies show that

childhood physical abuse is associated with higher rates of externalizing and delinquent

behaviours in childhood and adolescence (Bender et al., 2007; Crooks, Scott, Wolfe,

Chiodo, & Killip, 2007; Lansford et al., 2007; Mersky & Reynolds, 2007; Narayan et al.,

2013; Straus, Sugarman, & Giles-Sims, 1997) and a slower age appropriate decline of

these behaviours (Maikovich, Jaffee, Odgers & Gallop, 2008).

Research has, in turn, provided evidence that childhood externalizing behaviour

and conduct problems are related to adult use of violence in romantic relationships

(Narayan et al., 2013; Temcheff et al., 2008); and that the intergenerational transmission

of violence is mediated by antisocial traits (Brownridge, 2006; Lavoie et al., 2002;

Swinford, Demaris, Cernkovich, & Giordano, 2000; White & Widom, 2003).   Simons et

al. (1998) were among the first to test the social learning theory against the

criminological framework and suggest the latter more appropriate for a complex

relationship between physical abuse and dating violence. These researchers, in a

longitudinal study of children and adolescents, found a direct association between

antisocial traits, adolescent delinquency and drug use, and dating violence perpetration

which were influenced by childhood exposure to frequent harsh punishment. This study

controlled for other parental qualities, such as involvement and support, and found that low parent involvement increased risk of delinquency which in turn increased risk of dating violence. Tyler et al. (2011) further substantiated that low parental warmth adds to the associations among physical maltreatment, delinquency, substance use, and dating violence; and that delinquency and substance use themselves predict dating violence.

Criminological research has provided evidence of a distinct pathway from maltreatment to use of dating violence between genders. In a longitudinal study designed to prospectively measure violent and non-violent delinquency development, and other social factors, physical abuse in young childhood was found to be predictive of delinquency more for females than males (Lansford et al., 2007). Wolfe et al. (2001) found that while males were more likely to be involved in adolescent delinquent behaviour, the rate of increase in delinquency due to childhood maltreatment was higher for females in the sample. Tyler et al. (2011) found that the relationship between delinquency and dating violence was more significant for males than for females. Therefore, while the increase in delinquency is greater for females, the criminological model of violence transmission may, altogether, be a better fit for predicting male violence.

Some researchers have argued that, while the criminological framework may account for a part of the prevalence of intimate partner violence, it does not present a complete picture on the intergenerational transmission of violence (Fergusson et al., 2008; Kaplan et al., 2009), in particular for females.   In a review of literature, Schwartz, Hage, Bush, and Key Burns (2006) suggested an underlying role of attachment development, including conflict skills, emotional regulation, and relationship models, in

the association between family of origin experiences and intimate partner violence.

Therefore, in an effort to gain a fuller understanding of the multiple factors that influence

violence development, additional factors will be analyzed.

Personality and Attachment in the Intergenerational Transmission of Violence

Two decades ago, Kaufman and Ziegler (1989) suggested that the association

between childhood experiences of physical abuse and adult use of violence is complex,

influenced indirectly by a variety of factors. Researchers who have studied violence as a

personality pathology or by typology as well as through the developmental

psychopathology framework have suggested that various factors in a person's biological

and environmental context work together to inform that person's development (Sroufe,

2009; Shiner, 2009). Instead of the transmission of antisocial traits and tendencies alone,

many risk and resiliency factors, along with a history of physical child abuse, have been

seen to increase the likelihood of violence in dating relationships. Calkins and Keane

(2009) and Beauchaine et al. (2009) presented research that adult violence develops over

time as relational and environmental interactions shape behaviour, models of self and

others, and personality traits. Jennings, Richards, Tomsich, Gover, and Powers (2013),

research dating violence using CTS items in a university sample; they argue against a

direct causal link between childhood abuse and dating violence. Instead they suggest that

other temperament, behavior, and social risk factors are over-represented in dating

violence victims and perpetrators; these risk factors inform the violence development

(Jennings et al., 2013). Similarly, pathological behaviours, like violence, have been seen

as process outcomes dependent on patterns of response to the environment (Sroufe,

2009), and can be added to a model of dating violence along with other ecological and personal factors (Dardis, Dixon, Edwards, & Turchik, 2014).

From a developmental psychopathology perspective, intimate partner violence, including dating violence, has been seen as a symptom of personality pathology. This pathology has been predicted by developmental processes, most notably attachment development (Dutton, Saunders, Starzomski, & Bartholomew, 1994; Follingstad, Bradley, Helff, & Loughlin, 2002; Lee & Hoaken, 2007; Roberts, Yang, Zhang, & Coid, 2008; van Ijzendoorn, 1997; Vezina & Hebert, 2007).   Also the attachment development perspective, in turn, has used personality traits to establish a link to adult violence. Brennan and Shaver (1998) provided evidence that the processes of attachment and personality disorders are mirroring developmental phenomena. Upon this developmental basis, Lyddon and Sherry (2001) suggested that personality disorder symptoms, including violence, are functional responses to perceptions of self and others based on an individual's attachment history; their stability reflects the feedback and attachment responses evoked from "self" and "other" in relationship.

Attachment Development

Attachment theory proposes that experiences in early relationships become the foundation for a model of self and of others in later relationships. Based on a caregiver's level of responsiveness and attunement, a child will form patterns of relationship and social behaviour. In childhood, attachment strategies include: secure, anxious-avoidant, anxious-resistant or disorganized attachment (Ainsworth, 1979). A securely attached child will show preference for a known caregiver, seek and accept comfort when

distressed, and mirror the emotional regulation of this adult caregiver. Conversely, a child whose attachment is not secure will show avoidance, fear, or ambivalence toward a primary caregiver and will have difficulty regulating emotions. According to attachment theory, this early process shapes a child's view of self and others, the child's internal working model, over the life course.

Bartholomew and Horowitz (1991) proposed that childhood attachment strategies develop through adolescence and adulthood as the lens through which an individual perceives relational interactions and relationships. Four adult styles are influenced both by childhood attachment and by environmental and social interactions through development. Relationship experiences reinforce or disprove the validity of a child's perceived model. A *secure* attachment in adulthood is represented by a stable and positive sense of self and others as well as appropriate emotional regulation. A *dismissing-avoidant* adult attachment is characterized by social isolation and emotional restriction coupled with hostility and lack of empathy toward others. A *preoccupied* attachment is characterized by over-dependency but distrust of others in relationships and emotional dysregulation (Fonagy, 2000). A *fearful-avoidant* adult attachment is marked by fear of abandonment and insecurity leading to self-protective avoidance of relationships.

Many researchers have suggested that early caregiver disruption or abuse affects a child's view of others in relationships and is positively associated with insecure attachment styles both in childhood and adulthood (Bartholomew & Horowitz, 1991; Cyr et al., 2010; Lee & Hoaken, 2007; Vézina & Hébert, 2007). Childhood history of physical abuse is associated with avoidant and anxious (preoccupied) attachment styles

(Allen, Hauser, & Borman-Spurrell, 1996; Bookwala & Zdaniuk, 1998; Bouchard, Sabourin, Lussier, & Villeneuve, 2009; Finzi, Ram, Har-Even, Shnit, & Weizman, 2001).

White and Widom (2003) suggested that attachment is influential in the relationship between severe childhood abuse and aggressive behaviour. Research has found that indicators of secure attachment, including parental bond (Vézina & Hébert, 2007) and parental warmth, relatedness, and autonomy (Bender et al., 2007), moderate the association between physical abuse and harsh discipline and aggressive behaviour. The effects of attachment insecurity have also been established. A consistent strong association has been made between insecure attachment styles and intimate partner violence (Critchfield et al., 2008; Dutton et al., 1994; Hansen et al., 2011; Henderson et al., 2005; Waltz et al., 2000). Similarly, interpersonal traits, like control, impulsivity, risk-taking, and hostility, which increase the potential of violence occurring within an intimate relationship, have been noted in insecure attachment research samples (Follingstad et al., 2002; Kobak, Zajac, & Smith, 2009).

Wolfe and Wekerle (1998) analyzed the maltreatment and self-reported attachment ratings among high school students and suggested a model of dating violence predicted by these variables. They found that multiple maltreatment types predict male and female dating violence, and that avoidant attachment predicted female dating violence victimization and perpetration and male dating violence perpetration. The attachment rating which reflected both dependence and fear of relationships, parallel to a preoccupied attachment pattern, predicted male dating violence victimization.

Not only has attachment been related to the development of adolescent and adult violence, it has also been associated with the development of violence-marked personality disorders, in particular, antisocial and borderline personality disorders (Kobak et al., 2009; Riggs et al., 2007). In fact, Waltz and colleagues (2000) suggested they are mirroring developmental experiences. To better understand the role attachment plays in personality development, Lyddon and Sherry (2001) proposed that personality symptoms are a functional response to perception of self and others based on attachment strategy. An attachment model addressing the process of attachment development as it relates to borderline and antisocial development is helpful as a means of clarifying the relational and emotional dysfunction which may present as romantic partner violence.

Borderline Personality Development

Borderline personality disorder is one of ten personality disorders identified in the American Psychiatric Association's 5th edition *Diagnostic and statistical manual of mental disorders* (DSM-5; APA, 2013). It is expected that borderline personality disorder affects 0.7% of the general population, usually within a younger, more urban, and lower socioeconomic status subset of adult individuals (Torgersen, Kringlen, & Cramer, 2001; Paris, 2005). A review of borderline personality disorder prevalence and course in Canada suggests that while a small proportion of the population experience this disorder, a larger proportion, in particular of the women affected, seek treatment compared with other personality disorders (Paris, 2005).

Borderline personality disorder is defined by patterns of unstable interpersonal relationships, a shifting between idealization and devaluation of these relationships

(APA, 2013). Further, it is marked by efforts to avoid abandonment, an unstable sense-of-self, impulsivity, reactivity, and inappropriate intense anger (APA, 2013). In light of these characteristics, the opportunity for maladaptive conflict or violence in romantic relationships is heightened. Borderline personality disorder has been associated in research with general verbal and physical violence (Critchfield et al., 2008). Various researchers have provided evidence that borderline personality symptoms, jealousy, fear of abandonment, impulsivity, emotional dysregulation, and a history of abuse victimization, increase the risk of intimate partner violence (Beauchaine et al., 2009; Goldenson, Spidel, Greaves, & Dutton, 2009; Goldstein, 2003; Whisman & Schonbrun, 2009). Researchers have found that the degree of borderline personality symptoms in one individual is correlated with the prevalence of reported conflict frequency, hostility, and intimate partner violence in his or her relationship (Chen et al., 2004; Selby, Braithwaite, Joiner, & Fincham, 2008; South, Turkheimer, & Oltmanns, 2008). In fact, Holtzworth-Munroe and Stuart (1994) have described a subset of male intimate partner battering as characterized by borderline personality symptoms.

Early research into personality disorders has found that borderline personality is associated with chronic early caregiver disturbance and separation as well as with early abuse (Zanarini, Gunderson, Marino, Schwartz, & Frankenburg, 1989). Roberts et al. (2008) studied the link between child maltreatment and adult personality features. Their research concluded that borderline personality symptoms, attention seeking behaviour and emotionality, are correlated with sexual abuse and out of home care; however, they did not evidence a main effect of severe physical abuse on these personality symptoms. Conversely, Fonagy and Luyten (2009) as well as Beauchaine and colleagues (2009)

argued in their research that the development of borderline personality traits is associated with physical maltreatment. Two longitudinal studies have presented a contextual relationship among maltreatment, attachment, and borderline personality disorder criteria. Crawford, Cohen, Chen, Anglin, and Ehrensaft (2009) and Cole, Llera, and Perberton (2009) both found abuse and early attachment loss to be significantly associated with borderline personality development.

Cole and colleagues (2009) found that the influence of abuse on borderline personality development was best described in the context of attachment development. According to Fonagy and Luyten (2009), borderline personality developed from an insecure, disorganized attachment in childhood. This insecure attachment is predicted by childhood maltreatment and leads to a skewed view of self and others. Fonagy and Luyten (2009), then, evidenced that the development of borderline personality symptoms is significantly associated with preoccupied adult attachment strategies. Other researchers have also linked borderline personality symptoms with a preoccupied attachment style, related to unstable affect, impulsivity, and reactive anger (Brennan & Shaver, 1998; Bouchard et al., 2009; Critchfield et al., 2008; Goldstein, 2003; Lyddon & Sherry, 2001), and suggested that attachment mediates the relationship from abuse (Allen et al., 1996; Dutton et al., 1994; Zweig-Frank & Paris, 2002). According to Oliver, Perry, and Cade (2008) these borderline personality relational conflict symptoms are reflective of an internal attachment tension in which preoccupied individuals fear both abandonment and closeness.

Goldstein (2003) presented findings from a longitudinal study of borderline personality disorder. Only one of twelve participants who had any borderline personality

disorder symptoms rated as securely attached; participants with multiple borderline symptoms scored in insecure attachment categories. Critchfield et al. (2008), in a clinical study of diagnosed borderline personality disorder individuals, found that the overall sample tended to have preoccupied attachment style, presenting with both anxious and avoidant traits. More specifically, in another borderline personality disorder clinical sample analyzed by Bouchard et al. (2009), 60% of the clinical sample had a preoccupied attachment, 40% rated with another insecure attachment, and no participant had a secure attachment style. In contrast, almost 70% of the control group rated with a secure attachment style.

As suggested, research has proposed that personality symptoms are a functional response to perceptions of self and others based on attachment strategy. Cole et al. (2009) argued that hyper-vigilance and poor self-regulation are effects of abuse that influence personality disorder. To better understand the role attachment plays in personality development, an attachment activation model will be described; it addresses attachment process and clarifies the relationship between insecure attachment and the relational and emotional dysfunction symptoms seen in borderline personality disorder.

Attachment activation model. Mikulincer, Shaver, and Pereg (2003) introduced a three step process of attachment activation. An individual frequently appraises threat, identifies an available secure base or self competency to manage the threat, and utilizes skills to down regulate the threat arousal response. This process has been seen as the basis for emotional and physiological self-regulation which is positively associated with healthy romantic relationships (Yuan, McCarthy, Holley, & Levenson, 2010) and is negatively associated with borderline personality disorder (Zeigler-Hill & Abraham,

2006; Hoffman, Fruzzetti, & Swenson, 1999). With an underlying preoccupied attachment strategy, an individual with clinically significant borderline personality symptoms may first assume threat more frequently in romantic relationship conflicts and interactions. Secondly, this individual may not trust him/herself or his/her partner to effectively manage the relational threat; this increases the threat arousal. Finally, an individual with borderline personality symptoms may then utilize high dependency or high avoidance skills to down-regulate and cope. These skills may not be effective in emotional regulation or they may establish a maladaptive pattern of down-regulation.

In concurrence with this model, Oliver et al. (2008) argued that the tension between fear of abandonment and fear of intimacy seen in borderline personality keeps this attachment system consistently activated. Saavedra, Chapman, and Rogge (2010) suggested that hostile conflict may amplify the outcomes of an insecure attachment by activating the attachment system. With fewer skills to self-regulate emotions and behaviour, the threat of relationship rejection or abandonment may define romantic conflict, leading to frantic attempts to manage conflict and maintain the relationship. Critchfield et al. (2008) proposed that the use of violence in the borderline population is a reflection of the insecure attachment activation system, maladaptively regulating emotions and interfering with relationship quality. Further, partner violence itself has been explained by a fear, both of not having attachment needs met and of ultimate relationship breakdown (Dutton et al., 1994). In this way, attachment, as a developmental process, provides an explanation for the use of violence in romantic relationships among individuals with more borderline personality symptoms.

Antisocial Personality Development

Antisocial personality disorder is defined as a "pervasive pattern of disregard for and violation of, the rights of others that begins in childhood or early adolescence and continues into adulthood" (APA, 2013). Antisocial personality disorder is marked by impulsivity, aggression, lack of empathy, and disregard of legal and social expectations (APA, 2013). The American Psychological Association estimates that antisocial personality disorder affects 3% of the male population and 1% of the female population (APA, 2000). McGlashan et al. (2000) provide evidence that antisocial personality disorder is often co-morbid with borderline personality disorder. Beauchaine et al. (2009) proposed that, particularly for males, antisocial traits like mood dysregulation, impulsivity, lack of empathy, and general aggression are integral to violence development and predicted, in part, by childhood abuse.

In the literature relating adult violence to history of severe physical abuse, antisocial personality symptoms have frequently been indicated in the association. In fact, research has suggested that a subset of intimate partner violence is best described by antisocial personality traits (Holtzworth-Munroe & Stuart, 1994). They suggest that these perpetrators, making up one third of male perpetrated relationship violence perpetration, may be egocentric, entitled, and impulsive, prone to frequent violence in relationships as well as in community. Additionally, a need for control in relationships, which can be associated with aggression and violence, has been found among samples with clinically significant antisocial personality symptoms (Follingstad et al., 2002). Medeiros and Straus (2006) also found that antisocial personality symptoms increased risk of dating violence in a college sample.

Roberts et al. (2008) suggested antisocial personality is influenced by childhood experience of abuse and harsh discipline. Silverman, Reinherz, and Giraconia (1996) used a longitudinal design in studying physical abuse in adolescents over 6 years. They measured indicators of aggression and delinquency. Twenty percent of physically abused males demonstrated these antisocial symptoms, compared with 4% of non-abused males. Females who had been abused showed these traits in 8% of cases, while non-abused females reported these traits in less than 1% of cases. Further, longitudinal twin studies exploring the genetic and environmental impact on antisocial personality disorder have found that, controlling for genetic influence of an antisocial parent, physical abuse continues to have an important role in the development and change in conduct problems and antisocial symptoms over time (Burt, McGue, Carter, & Iacono, 2007; Jaffee et al., 2004).

Uncertainty regarding how relationship violence is transmitted from antisocial symptoms in a parent to antisocial symptoms in a child has been cited in research. In studies of both children and adults, antisocial personality symptoms, including hostility, impulsivity, distrust of others, and aggression, have been associated with an avoidant attachment style (Egeland, Yates, Appleyard, & van Dulmen, 2002; Finzi et al., 2001; Lyddon & Sherry, 2001). Moreover, dysregulated and alienating parenting, indicators of insecure attachment risk, have mediated the pathway between physical abuse and antisocial behaviour (Egeland et al., 2002). In fact, controlling for poor parenting nurturance and bonding, the association between abuse and clinically significant antisocial personality symptoms decreased (Gao et al., 2010; Johnson, Cohen, Chen, Kasen, and Brook, 2006). In this way, the abusive parenting tactics may act as an

instigator of avoidant attachment insecurity (van Ijzendoorn, 1997) rather than as a model

for aggression and antisocial symptoms.

Attachment development model. From an attachment based developmental

perspective, as was seen in borderline personality development, there may be attachment

patterns which contribute to antisocial personality symptoms. This is seen, beginning in

childhood, as a deviation from typical attachment development. In infancy and

toddlerhood, children begin to develop the capacity to self-regulate, control impulse, and

respond to another person's affective state. In the case of an abusive caregiver, a child

may develop the perspective that relationships are hostile and threatening; a developing

child may then avoid reflection on and involvement in what he or she perceives as trauma

inducing (Fonagy, 1999). Therefore, a child may develop avoidance to relationship

vulnerability by avoiding both relationship intimacy and perspective taking. McGauley,

Yakeley, Williams, and Bateman (2011) suggested that this notion lays the foundation for

low empathy and high avoidance in the antisocial personality disorder. In contrast with

hypersensitivity and hyperarousal evident in borderline personality attachment process,

antisocial personality is marked by hypoarousal in another's distressing situation, that is,

a turning off of empathic emotion (Lobbestael & Arntz, 2010).

Additionally, in the case of abuse and the development of avoidance strategies, a

child may lose out on learning key relationship tools. First, an abused child does not

experience adaptive patterns of safe relationship interaction, as argued by Lobbestael and

Arntz (2010). These interpersonal interactions may reinforce or refute relationship

models and influence the development of personality disorder symptoms throughout

childhood and adolescence (Beauchaine et al., 2009; Calkins & Keane, 2009). A child

who is distrustful or irritable in relationship interactions may often be responded to in a similar manner. Secondly, an avoidant child does not experience adaptive self-regulation modeled within a parental bonding relationship (Gao et al., 2010); instead, he or she may be left to develop the impulsive anger, hostility, and mood dysregulation described in antisocial personality symptom criteria. Evidence in longitudinal research has suggested that those children who had not mastered self-regulation were at higher risk of demonstrating antisocial symptom behaviours in adolescence (Calkins & Keane, 2009).

Other Variables Impacting Model

Research has suggested that both maltreatment and disruptions in attachment development will not affect every child in the same way (Ciccheti & Rogosch, 2002); further, it has been argued that there are a variety of pathways to adult personality disorder traits (Frick & Viding, 2009) and dating violence (Dardis et al., 2014). For this reason, before proposing a model of violence transmission, a number of risk and protective factors in the development of violence are outlined.

First, the risk for childhood abuse experience has been associated with socioeconomic and household variables. Low socioeconomic status, including poverty and low parental education, have been positively associated with the experience of childhood maltreatment (English et al., 2003; Temcheff et al., 2008; Wolfe et al., 2001). Further, the risk of a single adverse event in childhood, including physical violence, is correlated with multiple adverse events, for example, poverty, low parental education, and community violence (Duke et al., 2010; Wolfe et al., 2001). Additionally, co-occurring maltreatment increases risk in violence development. It is estimated that

between 25-28% of children have experienced at least one form of severe childhood

maltreatment (Whitfield et al., 2003), and various maltreatment types are highly

correlated with physical abuse (Carr & VanDeusen, 2002; Duke et al., 2010; Fergusson el

al., 2008; Miller et al., 2011; Wolfe et al., 2001). In particular, the association between

witnessing intimate partner violence and experiencing physical abuse has been

established (Capaldi, Kim, & Pears, 2009). Duke and colleagues (2010) found that

60.5% of physically maltreated children had witnessed parental domestic violence.

Further, 52.9% of those children who had witnessed violence experienced physical abuse.

Another risk consideration in studying the transmission of physical violence is that of

frequency and severity of abuse. Both Coid et al. (2001) and Lewis and Fremouw (2001)

found that severity mediated the effects of abuse on romantic relationship violence

development. An intergenerational model of violence transmission must, therefore, take

into account the risk of multiple childhood experiences, their duration and severity.

Further, individual factors influence the risk of relationship violence. Ethnic

minority status has been associated with a lower prevalence of perpetrating both dating

and intimate partner violence, as well as with a higher prevalence of victimization (Abel,

2001; Tyler et al., 2011). Further, numerous studies have suggested that age is negatively

associated with perpetrations of intimate partner violence (Abel, 2001; Kwong et al.,

2003), antisocial violent offence (Hansen et al., 2011), and borderline relationship

violence (Torgensen et al., 2001). In a longitudinal study Temcheff et al. (2008) found

that socioeconomics and family composition were both influential in predicting later

experience of violence, both perpetration and victimization. Long-term poverty, in

particularly when it is couple with family of origin maltreatment experience, has been seen to compound the risk for violence perpetration (Mersky & Reynolds, 2007).

As research evidences, dating violence is experienced by both men and women (Malik et al., 1997; Straus, 2004); and gender has been found to influence various elements of violence development. Beauchaine et al. (2009) and Fonagy (1999) addressed the gender differences seen in violence development from a developmental psychopathology perspective. They argued that males will be more likely to develop antisocial traits and females borderline traits when provided with similar biological and environmental risks. Allen et al. (1996) found that maltreated males exhibited higher rates of antisocial behaviour while females presented with more preoccupied attachment and anger, as would be expected in a borderline presentation. Comparably, in attachment research, Bartholomew and Horowitz (1991) found that preoccupied attachment was more common in females and avoidant or dismissing attachment in males. That being said, in community intimate partner violence research, higher prevalence of preoccupied attachment has been noted in violent males than violent females (Bookwala & Zdaniuk, 1998; Henderson et al., 2005). Goldenson et al. (2009) argued that borderline personality symptoms are significantly associated with both male and female perpetrations of intimate partner violence. There continues then to be some uncertainty in literature regarding how gender influences the transmission of violence.

CHAPTER III: Materials and Methods

Research has only begun to examine the role personality disorder symptoms have in the experience of dating violence (Chan et al., 2008; Medeiros & Straus, 2006), and how personality symptoms may shape the intergenerational transmission of violence through attachment security. Further study is required to better understand this developmental model at a community level. Dating violence affects between one-quarter and one-third of college-age Canadians (Straus, 2004); it is not exclusively an extreme nor clinical concern. Neither is attachment insecurity (Henderson et al., 2005). While inpatient psychiatric and inmate violence research has value in establishing extreme patterns, the impact of personality symptoms on the relationship between abuse and dating violence is not yet understood at a general population or community level. Based on literature connecting personality symptoms and attachment development, research analyzing the role of attachment on the intergenerational transmission of violence through personality features is valuable and essential for a comprehensive understanding of dating violence. Because there continues to be uncertainty in this literature regarding gender differences, further research is needed to understand maltreatment and dating violence that includes a distinct analysis of male and female victimization and perpetration of violence.

To this end, the current cross-sectional, community-level research study, using standardized indicators of physical abuse and dating violence, tested the appropriateness of this model in the examination of the intergenerational transmission of violence (model illustrated in Figure 1). The effect of child physical maltreatment was expected to be seen in a heightened risk of dating violence indirectly through insecure attachment. As

suggested in the literature, physical maltreatment was expected to be associated with insecure attachment patterns (Cyr, et al., 2010). Additionally, a direct relationship was hypothesized between child maltreatment and personality disorder symptoms as well as an indirect relationship through attachment pattern (Calkins & Keane, 2009). Furthermore, it was expected that both adult attachment security and personality symptoms would be associated with dating violence (Fonagy, 2000; Lyddon & Sherry, 2001). It was also expected that the pathway from physical maltreatment to dating violence, through these indicators, would show some variation between male and female participants (Bartholomew & Horowitz, 1991; Beauchaine, et al., 2009).

Specifically the hypotheses of the current study are:

- Hypothesis 1. Childhood physical abuse will be positively associated with, and predictive of, dating violence victimization and perpetration.

- Hypothesis 2. Childhood physical abuse will be positively associated with, and predictive of, a less secure attachment. Further, less secure attachment will be associated with, and predictive of, dating violence perpetration and victimization.

- Hypothesis 3. Childhood physical abuse will be positively associated with, and predictive of, higher antisocial and borderline personality symptom scores. Further, levels of personality symptoms will be positively associated with, and predictive of, dating violence perpetration and victimization.

- Hypothesis 4. A less secure attachment will be positively associated with, and predictive of, higher personality symptom scores.

- Hypothesis 5. Models incorporating antisocial and borderline personality symptoms and attachment will be more predictive of dating violence victimization and dating violence perpetration than a direct model from physical abuse to dating violence alone (See Figure 1).

- Hypothesis 6. The models established will be different for males than for females in this study.
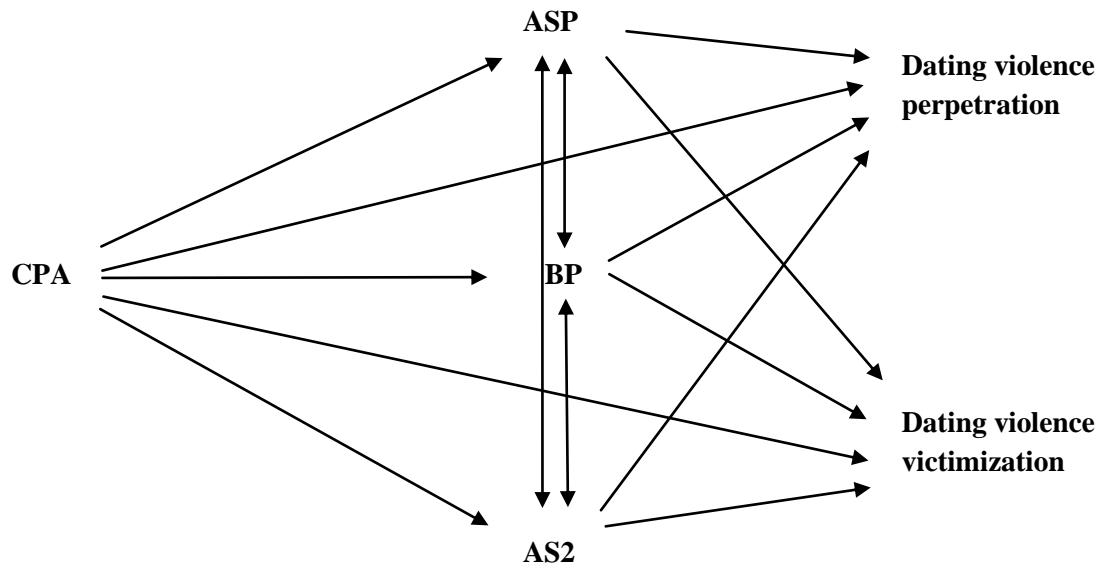
*Childhood physical abuse (CPA); antisocial personality symptoms (ASP); borderline personality symptoms (BP); insecure attachment- attachment security cluster two (AS2)

Figure 1. Relationship between childhood physical abuse and dating violence through independent variables.

Method

Data for the current study were collected at the University of Manitoba as part of the larger International Parenting Study, developed by Straus and Fauchier (n.d.).

Students, 18 years and older, were recruited by a mass email sent to all registered

undergraduate students with university webmail addresses; they were asked to volunteer

to complete the on-line questionnaire. Participation was encouraged by an incentive

draw of $500. Participants' personal information was entered into a separate database for

the purpose of the draw. Anonymity was ensured by separation of identifying

information from the questionnaire data. Only the IPS researchers at the University of

New Hampshire received the electronic data and participant list. These, however, could

not be linked to each other at any time. The questionnaire data obtained by the

University of Manitoba researchers were stripped of participants' names. Informed

consent was obtained prior to commencement of the survey; participants were given the

choice to refuse to respond to any questions in the questionnaire and participants were

able to exit the questionnaire at any point. Due to the potentially unsettling nature of

some questions, participants were provided, upon exiting the survey, with debriefing

statements and available support resources.

Ethical approval for research and use of data was granted by the Joint-Faculty

Research Ethics Board at the University of Manitoba Fort Garry Campus at the time of

data collection in 2010.

Measures

Childhood Experience of Physical Abuse

The Parent-to-child version of the Conflict Tactics Scale (CTSPC; Straus et al.,

1998) was used to identify childhood physical abuse victimization at the reference age of

10 years old (the same reference age was used for each IPS site sample). CTSPC is a

frequently used measurement tool for physical assault; it is recommended for the strength

of content and construct validity as the items describe specific physical assault

behaviours and have tended to correlate adequately with theoretical expectations (Straus,

2007). Further, while the internal reliability of this measure has been typically low

(ranging from $\alpha = 0.25$ to 0.92) due to the rarity of the events measured; the test re-test

correlation has been adequate (0.50; Straus, 2007). The CTSPC scale acts as a

standardized measure of assault events. The presence and the frequency of physical

assault items are measured on an 8-point Likert scale ranging from "This never

happened" to "More than 20 times in that year." In the current research study the

following 5 items were asked pertaining to physical assault tactics used by mother and

father separately:

"Hit with fist or kicked hard"

"Hit on some part of the body besides the bottom with something like a belt,

hairbrush, stick or some other hard object"

"Threw or knocked down"

"Grabbed around the neck and choked"

"Beat up, that is, hit over and over as hard as they could"

For analysis, responses were coded dichotomously as 0, no assault items

experienced in identified childhood year, and 1, one or more assault items experienced in

the identified year.

Current Experience of Dating Violence

Dating violence experience was measured using the revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The short-form scale is described in Straus and Douglas (2004) as comparable in validity to the full scale CTS2. The CTS2 has been frequently used to measure partner violence and been recommended for its acceptable validity and external reliability (mean test re-test coefficient, 0.72; Straus, 2007). For the current research study, analysis was narrowed down to those respondents who identified being either currently in a dating relationship but not living with, or married to, their partner or being single but having had a romantic relationship in the past that lasted more than one month. The experience of dating violence in current or recent relationship was measured using 4 items:

"I pushed, shoved, or slapped my partner"

"I punched or kicked or beat-up my partner"

"My partner pushed, shoved, or slapped me"

"My partner punched or kicked or beat me up"

For overall dating violence perpetration outcome analysis, these items were coded as 0- no assault tactics or 1, one or more assault tactic items. For the severe dating violence perpetration outcome analysis, the "I punched or kicked or beat-up my partner" was coded 1 and the no assault or minor assault item coded 0. The same scoring was used for dating violence victimization, using "my partner..." items.

Adult Attachment

For the purpose of identifying current attachment security, respondents were

given the 18 item Relationship Scales Questionnaire (Bartholomew & Horowitz, 1991).

Five items each are used in identifying *secure* and *dismissing* orientations, while four

items each are used in identifying *fearful* and *preoccupied* orientations (Griffin &

Bartholomew, 1994). The questionnaire uses a Likert scale ranging from "not at all like

me" to "very much like me." As suggested by Griffin and Bartholomew (1994) these

orientations are not a categorical measure of an attachment type; rather, they reflect an

attachment orientation along a two-dimensional *self* and *other* axis. The items are

calculated to reflect a sense-of-self rating (secure + dismissing scores minus fearful +

preoccupied scores) and a sense-of-other rating (secure + preoccupied scores minus

fearful + dismissing scores). The *self* score reflects the reporter's sense-of-self in the

relationship illustrated in dependence on the other and anxiety regarding the relationship

(Griffin & Bartholomew, 1994). The *other* score reflects the sense-of-other people in

relationships and is described in the avoidance of relationship dimension.

The following items were used:

"I find it easy to get emotionally close to others" (secure)

"I am comfortable depending on other people" (secure)

"I am comfortable having other people depend on me" (secure)

"I worry about being alone" (Reverse coded- secure)

"I worry about having others not accept me" (Reverse coded- secure)

"I prefer not to depend on others" (dismissing)

"I am comfortable without close emotional relationships" (dismissing)

"It is very important to me to feel independent" (dismissing)

"It is very important to me to feel self-sufficient" (dismissing)

"I prefer not to have other people depend on me" (dismissing)

"I want to be completely emotionally intimate with others" (preoccupied)

"I find that others are reluctant to get as close as I would like" (preoccupied)

"I am comfortable without close emotional relationships" (Reverse coded-preoccupied)

"I worry that others don't value me as much as I value them" (preoccupied)

"I find it difficult to depend on others" (fearful)

"I am somewhat uncomfortable getting close to others" (fearful)

"I find it difficult to trust others completely" (fearful)

"I worry that I will be hurt if I allow myself to become too close to others" (fearful)

The RSQ items have adequate validity (Ravitz et al., 2010). The model of self by the model of other correlation statistic in this study (*Phi* = 0.358) suggests the two dimensions are correlated but not co-linear in this sample similar to that of other samples studied (Ravitz et al., 2010). Due to low reliabilities among secure, dismissing, and

preoccupied prototype scales (αs = 0.47, 0.39, and 0.40 respectively) compared with

other researchers' findings (αs = 0.46, 0.64, and 0.79 respectively; Ravitz et al., 2010), a

cluster analysis was performed to identify attachment patterns among cases that could be

more reasonably used in analysis. Using a Ward hierarchical cluster analysis, cases were

clustered into 4 response patterns based on self-report ratings of the RSQ. The first group

(attachment security 1- AS1) had the highest sense-of-*self* and *other* calculations and the

highest mean secure scores. The second group (attachment security 2- AS2) that

emerged as significantly different from the secure group had the lowest rated sense-of-

self and *other* across the four clusters.   The four cluster rather than the three cluster

outcome was chosen because two distinct patterns emerged along the *self* and *other* axis.

The third attachment cluster (attachment security 3- AS3) had a higher model-of-*self* and

lower model-of-*other* as compared with the fourth cluster (attachment security 4- AS4).

This process provided patterns of responses to all 18 items of the RSQ rather than

depending on information in predetermined prototypes (4-5 items), thereby maximizing

the information collected in spite of the low reliability of the four subscales.

For analysis purposes, membership in each attachment security cluster was coded

1 if a given respondent's attachment pattern fell within that cluster and 0 if it did not fall

within the cluster.

Personality Disorder Symptoms

Both borderline personality disorder and antisocial personality disorder traits were

measured using the Personality and Relationship Profile (Straus, Hamby, Boney-McCoy,

& Sugarman, 1999). The scale items reflect symptoms of each personality disorder

according to the DSM-5 (APA, 2013). This measure has been used in various student

and community samples throughout the United States and internationally, not as a

diagnostic tool, but rather to identify patterns and relationships among personality

symptoms and various risk and outcomes variables (Hines, 2008; Straus, 2008; Straus et

al., 1999). The reliability coefficient for the two personality disorder symptoms scales

was adequate in this study (BP, $\alpha = 0.80$; ASP, $\alpha = 0.71$). A 4-point Likert scale was

used to score each item from "strongly disagree" to "strongly agree." The sum of the

scores in each subscale provides a measure of personality disorder symptoms. Of the

original 9 borderline personality (BP) items in this profile, including instability and self-

harm features, the following 8 items were included in this study:[1]

"My relationships have big ups and downs"

"I change suddenly from being one kind of person to another"

"My mood is always changing"

"I often feel empty"

"I'd do almost anything to keep people from leaving me"

"I often get hurt by things that I do"

"I've told others I will kill myself"

"I have had thoughts of cutting or burning myself"

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[1] One item ("I go back and forth, thinking my partner is perfect or terrible") was inadvertently omitted during the survey compilation. The reliability co-efficient for the remaining 8 items of the scale was $\alpha = 0.80$.

The antisocial personality (ASP) items in this profile include deceit, impulsivity/rule breaking, and mistreatment of others features. All of the 9 items were included in this study, as follows:

"I often lie to get what I want"

"I lie to make myself look better"

"I often break things that belong to others on purpose"

"I often do things that are against the law"

"I often do things that other people think are dangerous"

"I have trouble following the rules at work or in school"

"I don't think about how what I do will affect other people"

"I only treat people badly if they deserve it"

"I feel sorry when I hurt someone" (Reverse coded)

As suggested by Straus et al. (2010), the sum scores of each scale were calculated. Each scale was dichotomized at the 90th percentile to identify the highest levels of these personality symptoms. In the 90th percentile ASP group, subjects identified 1or more ASP symptom; in the BP group, subjects identified with 4 or more BP symptoms. These scales were each coded 1, membership is 90th percentile personality scores, and 0, below 90th percentile scores.

Witnessing Interparental Violence

Finally, the impact of witnessing interparental violence (WIPV) during childhood on the intergenerational transmission of violence was also measured using the short form CTS2 (Straus et al., 1996). The following 4 items were used to identify how often, from "never" to "more than 20 times in that year," the respondent was exposed to violence at age 10:

"Your mother pushed, shoved, or slapped your father"

"Your father pushed, shoved, or slapped your mother"

"Your mother punched or kicked or beat-up your father"

"Your father punched or kicked or beat-up your mother"

These items were coded as 0, never exposed to all WIPV items, or 1, exposed one or more times to WIPV.

Analysis

Of 1327 respondents to the original IPS survey, a subset, those currently in dating relationship or having had a past dating relationship which lasted more than a month, was used in this analysis. This subset included 660 students responding to the questionnaire. Bivariate analysis was used to obtain initial descriptive statistics in this study. Correlation statistics were calculated for relationships between variables in the proposed model using *Phi* coefficient, appropriate for a 2 x 2 table (StatSoft Inc., 2013), as each variable was measured dichotomously. These provided an understanding of presence and strength of associations among the variables in the study.

Logistic regression was chosen for the multivariate analysis of the hypothesized

model because the dependent variables (DV perpetration and victimization) were

measured dichotomously. Two models were tested using logistic regression analyses,

first with DV perpetration as the dependent variable and secondly with DV victimization

as the dependent variable. Childhood physical abuse was added to models as an

independent variable, expected to increase the odds of DV outcome. The 90th percentile

score for WIPV,[2] ASP and BP, as well as membership/non-membership in the second

attachment pattern group (AP2), which was the group with the lowest attachment

security, were added into the model as mediating variables. They were expected to

impact the odds of each DV outcome. Each mediating variable was then regressed as a

dependent variable against the other variables in the model. In this way the odds ratios

predicted between each variable in the model were calculated. Further, gender and

ethnicity were added as control variables to the regression.[3] This process was repeated

for severe dating violence outcomes both for the total sample and the female subsample.[4]

These logistic regression results were presented as modified path models (see Hagenaars,

1993; Straus & Yodanis, 1996) for both total and severe dating violence perpetration as

well as victimization.

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[2] Although WIPV initially was a control variable, it was later added to model due to the observed strength of its relationships to the other variables in the model.

[3] Initially, due to the gender differences seen in correlations among variables in the study, a set of models were conducted for both males and females. However, the small male subsample size impacted the strength of the test; therefore, the total sample was used in the logistic regression and a gender control variable was added.

[4] The male subsample size was too small to allow the statistical test to be completed with the severe DV outcomes.

CHAPTER IV: Results

Descriptive and Correlation Statistics

Sample Description

The University of Manitoba sample from the IPS was made up of 1378 undergraduate students, 29.5% of whom reported being male and 70.5% female (less than 0.3% did not identify with either male or female gender). The sample's reported age range was from 18 years to "over 40" years; the median age being 22 years. Seventy-one percent of the sample identified themselves as White (64% of males and 74% of females).

For the purpose of this research study, a sample was identified of those reporting that they were currently in a dating relationship (not currently in a cohabitating relationship) or had been in a dating relationship that lasted for more than a month in the past. This subset included 660 students, 75.5% female, 24.3% male, and 0.3% who did not identify as either female or male. The gender of this sample is not reflective of the University of Manitoba student population; 55% of University of Manitoba student population are female in 2013. Of those in the dating subsample who reported their age (23% did not identify their age), the median age was 21.5 years for males and 21 years for females. Seventy-four percent of the subsample identified as White (71% of males and 75% of females).

The parents of the students in this sample reflected a population average in household income, ranging between $50,000- 60,000 annually (see Statistics Canada, 2012), as well as with respect to the proportion of two-parent households (74%; Statistics

Canada, 2007). In some respects, though, the sample respondents' households were of a higher socio-economic profile when compared with the average of the population. For example, for 70% of the research sample, both parents worked; the population statistic is less than 62% (Statistics Canada, 2004). Ninety-three percent of the respondents reported that they resided in owner-occupied housing; the Manitoba average home ownership in 2009 was 66% (Statistics Canada, 2011). Compared with statistics from Manitoba showing that 18% of the population is university educated and 27% college educated (Statistics Canada, 2012), respondents in this sample reported that more than 45% of parents were university educated and 72% were college educated. Overall, this sample reflected students from an average to above average socio-economic background.

Conflict Tactic Items

Among the 660 students studied, 84.7% reported no childhood physical abuse (CPA) items (CTS-PC items) used by either parent during the reporting year (age 10). Of the 15.3% who endorsed CPA items, 3% reported father-only abuse, 4.5% reported mother-only abuse, and 7.7% reported abusive items by both father and mother figures. While 13.3% of females reported experiencing CPA, for males 21.9% reported experiencing CPA (the correlation between being male and experiencing CPA was positive and significant: $Phi = 0.10$; $p \leq 0.001$). Within the sample, 9.5% reported witnessing inter-parental violence (WIPV) during the reporting year: 9.4% of males and 9.6% of females. Almost 6% of the sample reported both experiencing CPA and witnessing IPV: 6.9% of males and 5.6% of females. Experiencing CPA and WIPV were significantly correlated for both males and females ($Phi = 0.40$ and 0.43; $p \leq 0.01$).

Regarding dating violence (DV) in young adulthood, 81.9% of sample reported no victimization or perpetration. In the total sample, 6.7% reported DV victimization, 8.9% reported DV perpetration, and 4.5% reported both victimization and perpetration. The correlation statistic (*Phi* = 0.555; $p \leq 0.01$) reflects that overlap of DV victimization experience with DV perpetration. While 5.0% of males reported DV perpetration, 10.2% of females reported perpetration (being female was significantly correlated with DV perpetration, *Phi* = 0.079; $p \leq 0.05$). DV victimization was reported by 5.8% of females and 9.5% of males. This gender difference did not reach statistical significance.

Personality Disorder Symptoms

Not unlike other Canadian data using the PRP scale, the current research found lower average scores in both antisocial and borderline personality symptoms as compared with American student samples (Hines, 2008 & Straus, 2008). The median antisocial personality symptoms (ASP) score was 14 (*SD* = 3.33), the range 9 - 28, and the 90th percentile was at 19. At the 90th percentile, the responder had identified 1 or more ASP symptoms as being like him or herself. The median score among females was 13 and the 90th percentile at 18. For males, the median score was 15 and the 90th percentile was 21. This is a trend seen in Straus et al.'s (2010) research with males score higher on ASP items. There was a significant positive correlation between total ASP score and being male (*Phi* = 0.28; $p \leq .001$). This was the only statistically significant gender difference in personality scores.

The median borderline personality symptoms (BP) score was 15 (*SD* = 3.7), the range was 8 - 28, and the 90th percentile was at 20. At the 90th percentile, the responder

had identified 4 or more BP symptoms as being like him or herself. The median for males and females was the same, 15. However, the 90th percentile for males was 21 and for females it was 20. This gender difference, with males having a slightly higher BP score, did not reach statistical significance. ASP and BP scores were significantly positively correlated for males, females, as well as for the full sample of students (*Phi*s = 0.48, 0.26, and 0.33 respectively; $p \leq 0.001$).

Attachment Security Items

The examination of the plots and data generated using a Ward hierarchical cluster analysis procedure on the 660 cases in the sample suggested that there were 4 patterns of attachment responses among the sample. Interestingly, the first attachment pattern group (AS1), which rated the highest on an axis of *self* and *other*[5] (*M*s = 1.8 and 1.4 respectively) and had the highest scores in the secure prototype items (M = 3.2), also rated lowest in dismissing, preoccupied, and fearful prototypes (*M*s = 2.4, 2.1, and 1.6 respectively) compared with the other groups. The second group (AS2) responders rated lowest in both the model-of-self and the model-of-other scores (Ms = -0.3 and -0.9 respectively). This group also rated lowest among the groups in secure prototype items (M = 2.3) and highest in the fearful prototype items (M = 3.0). AS2 also rated higher for both dismissing and preoccupied items (*M*s = 2.8 and 2.5 respectively), compared with other groups. The third cluster, AS3 had a higher model-of-self and lower model-of-other as compared with AS4 (M =1.0 & M = 0.2 and M = 0.04 & M = 0.7 respectively).

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[5] Pseudo-model of self score calculated using secure and dismissing prototype scores minus preoccupied and fearful prototype scores. Pseudo-model of other score calculated using secure and preoccupied prototype scores minus dismissing and fearful prototype scores similar to Griffin and Bartholomew (1994).

Upon initial observation, these two groups appeared to divide into an insecure anxious group as reflected in a low model-of-self (AS3) and an insecure avoidant group as reflected by a low model-of-other (AS4).

Table 1

Mean scores on model of self and others axes by attachment security clusters

Attachment dimension	Cluster			
	AS1 (*M*)	AS2 (*M*)	AS3 (*M*)	AS4 (*M*)
Sense of self axis	1.8	-0.3	1.0	0.04
Sense of other axis	1.4	-0.9	0.2	0.7

Note. Attachment security (AS)

Membership in the AS1 group resulted in significantly different DV perpetration ($p \leq 0.05$), victimization ($p \leq 0.01$), 90th percentile ASP ($p \leq 0.05$), and 90th percentile BP ($p \leq 0.001$) scores, and was negatively correlated with each outcome variable. Membership in the AS2 group resulted in significantly different DV perpetration ($p \leq 0.001$), DV victimization ($p \leq 0.05$), 90th percentile ASP ($p \leq 0.05$), and 90th percentile BP ($p \leq 0.001$) scores, and was positively correlated with each outcome variable. These correlations held true within each gender subset. The other two insecure clusters, AS3 and AS4, did not show any significant differences or correlations among other variables in the model; therefore, they were left out of further analysis.

Group AS1, with the highest secure items rating, was made up of 127 students (19% of sample), 30 males (24% of group) and 97 females. Group AS2, with the lowest secure items rating, was made up of 210 students (32%), 42 males (20%) and 167 females. In groups AS3 (*n* = 174, 26%) and AS4 (*n* = 149, 23%), males accounted for

31% ($n = 54$) and 23% ($n = 34$) of groups respectively. The highest percentage of males was in AP3 group; however, this difference was not statistically significant. In fact, no significant gender differences were found between groups or prototype scores within sample or within groups.

Relationships among Variables

Having experienced CPA was significantly correlated ($p \leq 0.01$) with WIPV, being in the AS2 group, being among the 90th percentile of ASP and BP symptom scores, as well as having been perpetrator and victim of DV as hypothesized (see Tables 2-4).

For females ($n = 498$), having experienced CPA was significantly correlated ($p \leq 0.01$) with WIPV, 90th percentile ASP and BP, in the AS2 group, DV perpetration and victimization. Further, WIPV was, itself, significantly correlated with each of the outcome variables ($p \leq 0.01$). For females, being in the 90th percentile of ASP scores was significantly correlated to 90th percentile BP ($p \leq 0.01$) and to DV perpetration ($p \leq 0.05$); ASP was not significantly correlated with either DV victimization or being in the AS2 group. Conversely, BP was significantly correlated with both DV perpetration and victimization as well as with being in the AS2 group ($p \leq 0.01$). AS2 group membership was significantly correlated with DV victimization ($p \leq 0.01$) and DV perpetration ($p \leq 0.05$).

For males ($n = 160$) in the sample having experienced CPA was positively correlated with WIPV and being among the 90th percentile ASP scores ($p \leq 0.01$).

Table 2

Correlations among variables in model

	1	2	3	4	5	6	7	8	9	10	11	12
1.CPA	1.000	.420**	.247**	.173**	-.058	.143**	-.102**	.002	.132**	.139**	.163**	.175**
		.000	.000	.000	.136	.000	.009	.959	.001	.000	.000	.000
2.WIPV		1.000	.198**	.203**	-.132**	.166**	-.042	-.015	.205**	.182**	.187**	.240**
			.000	.000	.001	.000	.279	.699	.000	.000	.000	.000
3.ASP			1.000	.253**	-.088*	.083*	-.008	-.002	.123**	.152**	.217**	.191**
				.000	.024	.034	.846	.969	.002	.000	.000	.000
4.BP				1.000	-.153**	.289**	-.175**	.007	.151**	.130**	.127**	.174**
					.000	.000	.000	.858	.000	.001	.001	.000
5.AS1									-.086*	-.100**	-.009	-.034
									.028	.010	.820	.390
6.AS2									.139**	.091*	.029	.038
									.000	.019	.461	.328
7.AS3									-.067	-.036	.022	.003
									.086	.358	.581	.945
8.AS4									-.004	.030	-.049	-.014
									.917	.441	.234	.726
9.DVP									1.000	.555**		.333**
										.000		.000
10.DVV										1.000	.464**	
											.000	
11.Severe DVP											1.000	.780**
												.000
12.Severe DVV												1.000

Note. ** correlations significant at $p \leq 0.01$ and *correlations significant at $p \leq 0.05$

Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); 90th%-ile antisocial personality symptoms (ASP); 90th %-ile borderline personality symptoms (BP); attachment security clusters 1-4 (AS1-4); dating violence perpetration/victimization(DVV/P)

Table 3

Correlations among variables in model for females

	1	2	3	4	5	6	7	8	9	10	11	12
1.CPA	1.000	.434**	.218**	.172**	-.088	.161**	-.122**	.025	.161**	.130**	.125**	.104*
		.000	.000	.000	.051	.000	.006	.582	.000	.004	.005	.020
2.WIPV		1.000	.197**	.178**	-.126**	.143**	-.039	-.001	.204**	.151**	.109**	.134**
			.000	.000	.005	.001	.380	.976	.000	.001	.015	.003
3.ASP			1.000	.295**	-.064	.081	-.027	-.003	.105*	.078	.215**	.181**
				.000	.155	.071	.541	.944	.019	.082	.000	.000
4.BP				1.000	-.147**	.286**	-.159**	-.021	.146**	.124**	.139**	.169**
					.001	.000	.000	.645	.001	.006	.002	.000
5.AS1									-.083	-.101**	.009	-.016
									.066	.025	.834	.727
6.AS2									.153**	.096*	.031	.024
									.001	.033	.485	.600
7.AS3									-.065	-.019	.030	.013
									.147	.677	.504	.771
8.AS4									-.028	.006	-.074	-.025
									.534	.891	.098	.579
9.DVP									1.000	.556**		.297**
										.000		.000
10.DVV										1.000	.481**	
											.000	
11.Severe DVP											1.000	.752**
												.000
12.Severe DVV												1.000

Note. ** correlations significant at $p \le 0.01$ and *correlations significant at $p \le 0.05$

Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); 90th%-ile antisocial personality symptoms (ASP); 90th %-ile borderline personality symptoms (BP); attachment security clusters 1-4 (AS1-4); dating violence perpetration/victimization(DVV/P)

Table 4

Correlations among variables in model for males

	1	2	3	4	5	6	7	8	9	10	11	12
1.CPA	1.000	.400**	.285**	.180*	.017	.131	-.090	-.053	.087	.141	.261**	.303**
		.000	.001	.023	.832	.099	.258	.505	.276	.075	.001	.000
2.WIPV		1.000	.237**	.280**	-.155	.247**	-.048	-.062	.221**	.264**	.430**	.498**
			.002	.000	.051	.002	.545	.434	.005	.001	.000	.000
3.ASP			1.000	.219**	-.144	.155	-.036	.013	.288**	.237**	.257**	.201*
				.005	.070	.051	.648	.872	.000	.002	.001	.011
4.BP				1.000	-.176*	.308**	-.221**	.093	.182*	.147	.092	.189*
					.026	.000	.005	.244	.021	.063	.249	.017
5.AS1									-.110	-.100	-.066	-.077
									.165	.210	.404	.334
6.AS2									.059	.101	.022	.086
									.461	.206	.780	.277
7.AS3									-.042	-.094	-.001	-.030
									.594	.239	.988	.710
8.AS4									.091	.095	.041	.015
									.252	.232	.608	.854
9.DVP									1.000	.615**		.514**
										.000		.000
10.DVV										1.000	.430**	
											.000	
11.Severe DVP											1.000	.863**
												.000
12.Severe DVV												1.000

Note. ** correlations significant at *p* ≤ 0.01 and *correlations significant at *p* ≤ 0.05

Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); 90th%-ile antisocial personality symptoms (ASP); 90th %-ile borderline personality symptoms (BP); attachment security clusters 1-4 (AS1-4); dating violence perpetration/victimization(DVV/P)

Childhood physical abuse was correlated significantly with being in the 90th percentile

BP scores ($p \leq 0.05$). The correlation between CPA and DV, both victimization and

perpetration, was not statistically significant. On the other hand, WIPV was significantly

correlated with being in ASP, BP, and AS2 as well as DV victimization and perpetration

($p \leq 0.01$). As with their female counterparts, being in the 90th percentile for BP and ASP

scores were significantly correlated ($p \leq 0.01$) for the males in this study. Further, ASP

was significantly correlated with DV perpetration and victimization ($p \leq 0.01$) while BP

was significantly correlated with being in the AS2 group ($p \leq 0.01$) and DV perpetration

($p \leq 0.05$).

Logistic Regression Model

All logistic regression results are detailed in Table 5. Results show that, while

correlated with DV, CPA did not significantly increase the odds of either DV

victimization or perpetration. For the total sample and female subsample, the odds ratios,

while not significant, were in the expected direction. For males, however, there was a

non-significant decrease in odds of both DV outcomes from CPA.

Severe DV perpetration was predicted by ASP in the total sample ($OR = 7.37$; $p \leq$

0.01). Severe DV victimization was predicted by WIPV, ASP, and BP in the total sample

(ORs $= 7.20, 5.02,$ and 5.38; $p \leq 0.05$). For the female subsample, severe DV

perpetration was predicted by ASP ($OR = 5.90$; $p \leq 0.05$) while severe DV victimization

was predicted by BP ($OR = 6.44$; $p \leq 0.05$).

As for the mediating variables, the logistic regression model indicated some direct

relationships to DV outcome. For the total sample, WIPV significantly increased odds of

DV victimization ($OR = 2.80$). In the case of DV perpetration, WIPV and being female increased odds of outcome ($ORs = 2.97$ and 2.79). While not reaching statistical significance in the total sample, 90th percentile ASP and being in the AS2 cluster neared significance in increasing odds of DV perpetration ($OR = 2.12$ and $OR = 1.73$; $p = 0.07$). For females, WIPV and being in the AS2 cluster significantly increased odds of DV perpetration ($ORs = 2.79$ and 1.92 respectively; $p \leq 0.05$). For males, being in the 90th percentile ASP group significantly increased the odds of DV perpetration ($OR = 11.32$), though not significantly for DV victimization ($OR = 3.35$; $p = 0.051$). For males, DV victimization was also directly impacted by WIPV in this model ($OR = 4.45$); while not at a statistically significant level ($p = 0.06$), it came close to significance considering the relatively low rate of DV. Overall, the control and mediating variables in this model had a more significant impact on the odds of DV perpetration as compared with DV victimization.

The three independent variables regressed against each impacting variable produced further significant results. For the total sample, CPA, being male, being non-White and 90th percentile BP scores each significantly impacted the ASP outcome ($ORs = 2.53, 0.20, 0.48,$ and 4.80 respectively). Nearing significance, WIPV impacted the odds of ASP in the total sample ($OR = 2.15$; $p = 0.06$). For females, CPA, being non-White and 90th percentile BP each significantly increased odds of being among the 90th percentile ASP ($ORs = 2.66, 0.42,$ and 7.40; $p \leq 0.05$, $p \leq 0.05$, and $p \leq 0.001$ respectively). For males, CPA to ASP produced a non-significant odds ratio of 2.45 ($p = 0.06$).

Table 5

Binary logistic regression analysis results

	Odds ratios for dependent variables							
	WIPV	90th %-ile ASP	90th %-ile BP	AS2 group	DV perpetration	DV victimization	Severe DV perpetration	Severe DV victimization
Independent variables								
female (n = 598)								
CPA	14.59***	2.66*	1.27	1.69	1.36	1.55	2.18	1.89
WIPV	.	2.16	1.86	1.57	2.79*	2.36	1.95	3.48
Ethnicity (White)	0.86	0.42*	0.79	0.67	0.53*	0.62	0.78	1.65
90th percentile ASP	.	.	7.31***	0.68	1.27	1.20	5.90*	4.83
90th percentile BP	.	7.40***	.	5.48***	1.65	1.92	3.29	6.44*
AS2 group	.	0.74	5.50***	.	1.92*	1.51	0.76	0.67
Model χ²	64.03***	49.79***	67.72***	45.56***	30.70***	15.78*	15.51*	15.72*
Pseudo R²	0.26	0.13	0.25	0.24	0.12	0.09	0.19	0.23
male (n = 160)								
CPA	13.89***	2.45	1.44	0.97	0.30	0.85	.	.
WIPV	.	2.05	2.85	3.17	8.52	4.49	.	.
Ethnicity (White)	1.01	0.60	1.05	0.64	1.04	0.54	.	.
90th percentile ASP	.	.	2.49	1.35	11.32**	3.35	.	.
90th percentile BP	.	2.38	.	4.67**	2.78	1.52	.	.
AS2 group	.	1.40	4.85**	.	0.67	1.06	.	.
Model χ²	20.58***	19.19**	21.20***	17.53**	15.01*	13.78*		
Pseudo R²	0.26	0.17	0.24	0.16	0.27	0.18		
total (N = 660)								
CPA	14.51***	2.53**	1.33	1.43	1.18	1.29	2.31	2.43
WIPV	.	2.15	2.11	1.84	2.97**	2.80*	3.80	7.20*
Gender (female)	1.56	0.20***	1.36	1.50	2.79*	0.69	2.02	1.02
Ethnicity (White)	0.89	0.48**	0.84	0.67*	0.59	0.60	0.69	1.39
90th percentile ASP	.	.	4.83***	0.93	2.12	1.95	7.37**	5.02*
90th percentile BP	.	4.80***	.	5.11***	1.70	1.75	2.75	5.38*
AS2 group	.	0.99	5.20***	.	1.73	1.39	0.67	0.72
Model χ²	84.84***	68.75***	86.28***	90.19***	43.53***	29.87***	29.46***	34.00***
Pseudo R²	0.26	0.14	0.24	0.27	0.14	0.11	0.26	0.32

Note. $* p \leq 0.05$; $**p \leq 0.01$; $***p \leq 0.001$
Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); antisocial personality symptoms (ASP); borderline personality symptoms (BP); attachment security cluster 2 (AS2); dating violence (DV)

The AS2 cluster membership significantly increased the odds of 90th percentile BP scores for total sample, as well as for the female and male samples (ORs = 5.20, 5.50, 4.85; $p \leq 0.001$, $p \leq 0.001$, and $p \leq 0.01$ respectively). For the total sample, 90th percentile BP was predicted by ASP ($OR = 4.83$; $p \leq 0.001$) and, non-significantly by WIPV ($OR = 2.11$; $p = 0.051$). In the female subsample, ASP also significantly impacted BP ($OR = 7.31$; $p \leq 0.001$).

Regarding the AS2 group, 90th percentile BP significantly increased its odd ratios for the total sample ($OR = 5.11$; $p \leq 0.001$) as well as for both females ($OR = 5.48$; $p \leq 0.001$) and males ($OR = 4.67$; $p \leq 0.01$). For the total sample, being non-White increased odds of AS2 cluster membership ($OR = 0.67$; $p \leq 0.05$).

In a separate model to understand WIPV as the dependent variable impacted by CPA (due to the higher significance of WIPV predicting DV victimization and perpetration overall in the analysis), female, male, and total sample analyses showed a statistically significant increase in the probability (ORs = 14.59, 13.89, and 14.51; $p \leq 0.001$ respectively) of reporting WIPV. There was no significant increase in odds for either gender or ethnicity in this model.

CHAPTER V: Discussion

Findings

The preliminary results of the analysis concur with the literature showing that childhood physical abuse is associated with dating violence perpetration and victimization (see Lewis & Fremouw, 2001; Malinosky-Rummel & Hansen, 1993); slightly higher correlations between childhood physical abuse and severe dating violence were found compared to childhood physical abuse and all dating violence outcomes. However, while correlated with all dating violence outcomes as expected in hypothesis 1 (see page 29), childhood physical abuse was not found to be directly predictive of any of the dating violence outcomes in the analysis. Nevertheless, as illustrated by the theoretical model that was used as a basis for the current study, childhood physical abuse was still expected to play a role in dating violence by means of its influence on other predictors of dating violence.

A number of relationships were supported in the current study. In test of hypothesis 2, significantly more of those respondents who had experienced physical abuse in childhood were in the more insecure attachment group (attachment cluster with the lowest model of self and lowest model of other) rather than the more secure group. Consistent with research linking attachment insecurity to relationship violence (Critchfield et al., 2008; Hansen et al., 2011; Henderson et al., 2005), more secure attachment (the higher model of self and other cluster) was negatively correlated with both dating violence victimization and perpetration, while the more insecure attachment group was positively correlated with both dating violence victimization and perpetration.

This relationship supports the hypothesis that adult attachment security is related to both the earlier experience of abuse and the current use of violence in relationships. Unexpectedly, these correlations were not significant when looking specifically at severe dating violence items. This may suggest that attachment plays a more significant role in less severe and more reciprocal dating violence rather than more severe and coercive violence. Among those who are insecurely attached violence may become a strategy to maintain the relationship or deal with attachment activation stress. In more severe cases of violence, additional variables including coercion, control, and generalized violence may also have predictive value and be indicative of a distinct subtype of violence.

Consistent with earlier research, both borderline and antisocial personality symptoms were found to be correlated with childhood physical abuse (Beauchaine et al., 2009; Fonagy & Luyten, 2009) as well as with romantic relationship violence (Beauchaine et al., 2009; Critchfield et al., 2008) as expected in hypothesis 3. Further, both personality variables were positively correlated to the more insecure attachment cluster and negatively correlated to the more secure attachment cluster, suggesting a relationship between personality and attachment patterns predicted in hypothesis 4 (Bouchard et al., 2009; Goldstein, 2003). These bivariate correlations were consistent with the predicted relationship in the hypothesized model (see Figure 1).

The binary logistic regression results in the current study provided partial support of the predictive nature of the relationship between attachment insecurity and personality disorder symptoms as they function in the dating violence model (hypothesis 4). Insecure attachment was predictive of borderline personality symptoms, increasing the likelihood of these symptoms by 520%. Further, as hypothesized, borderline personality symptoms

were predictive of insecure attachment increasing its likelihood by 480%. These findings

provide support for the theoretical understanding of the relationship between attachment

and borderline personality development. It may be that borderline personality symptoms

act as a function of attachment insecurity as they are reinforced in relationships (Oliver et

al., 2008). When an individual relies on aggression rather than more adaptive emotional

regulation skills within the dating relationship, as seen in borderline personality disorder

(Hoffman et al., 1999; Zeigler-Hill & Abraham, 2006), the insecure attachment activation

system acts to reinforce the use of aggression as a tool for agency or control in the

relationship. This may perpetuate the lack of confidence the individual has in him/herself

and the other person to deal with stress and conflict in a different manner using more

adaptive skills.

The theoretical understanding of antisocial personality symptoms as a function of

attachment (Egeland et al., 2002; Finzi et al., 2001; Lyddon & Sherry, 2001) that was

expected to be seen in a predictive relationship between the two variables (hypothesis 4)

was not captured nor substantiated in this study. Attachment insecurity was neither

predicted by, nor predictive of, antisocial personality symptoms. That being said,

antisocial personality and borderline personality were highly predictive of each other.

Attachment insecurity may impact antisocial personality through the borderline

symptoms and may be part of an overlapping pathway to symptom development

(Beauchaine et al., 2009).

Unexpectedly, childhood physical abuse was only predictive of antisocial

personality in this study, predicting borderline personality symptoms only though

antisocial personality. As argued by Roberts et al. (2008), borderline symptoms may be

more strongly associated with other early childhood experiences than with physical abuse

itself. Further, the predictive relationship between physical abuse and borderline

personality may be more significant in extreme cases of more severe or prolonged abuse,
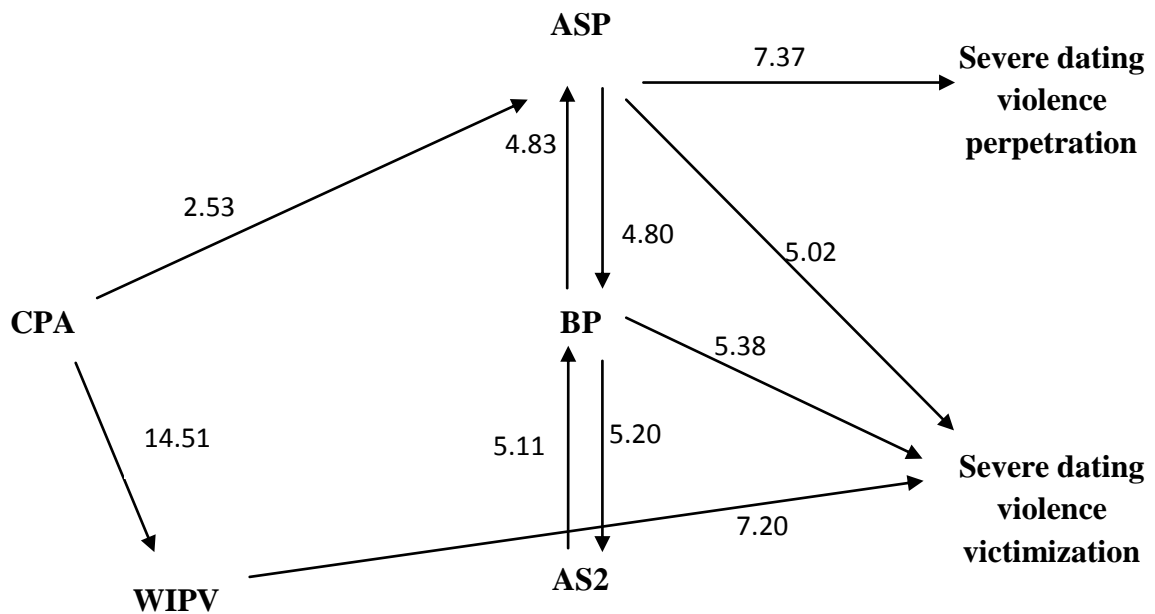
for example.
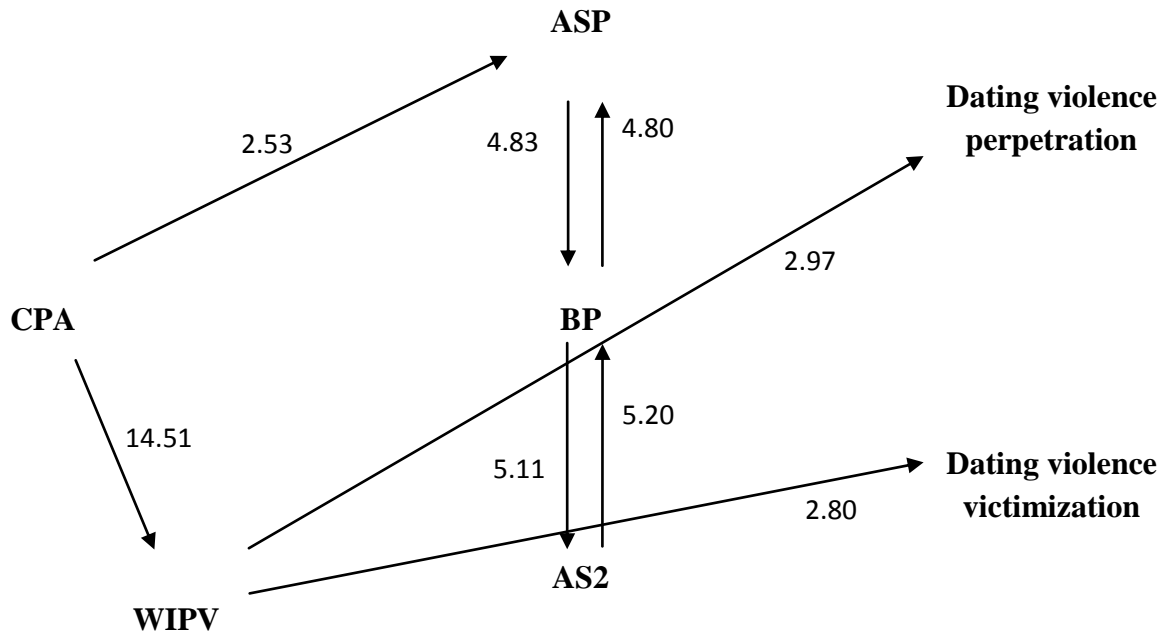
Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); antisocial personality symptoms (ASP); borderline personality symptoms (BP); attachment security cluster 2 (AS2)

Figure 2. Modified path models with odds ratios for overall DV perpetration and

victimization.

A number of important pathways for the intergenerational transmission of

violence across gender were supported in the pseudo path-models presented in this study,

partially supporting hypothesis 5 and 6 (see Figure 2-6). First, the current study looked at

the pathways from childhood physical abuse to all dating violence items (less severe and

more severe items included). For the total sample, controlling for gender, dating violence

perpetration and victimization among college students was predicted by childhood

physical abuse through the childhood experience of witnessing interparental violence

(Figure 2). This finding corresponds with the social learning theoretical framework that

argues an individual learns how to act, and what to expect, in a romantic relationship

from the model established by his or her parents (Lavoie et al., 2002; Straus, 2004). As

suggested by research, witnessing interparental violence seemed to play a significant role

in dating violence regardless of gender (Cui, Durtschi, Donnellan, Lorenz & Conger,

2010; Kwong et al, 2003) and seemed to be more directly significant than childhood

physical abuse itself (Duke et al., 2010; Malik et al., 1997; Narayan et al., 2013; Smith et

al., 2011). Interestingly, for the female-only subsample, childhood physical abuse

increased the odds of dating violence perpetration, but not dating violence victimization,

*Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); antisocial personality symptoms (ASP); borderline personality symptoms (BP); attachment security cluster 2 (AS2)

Figure 3. Modified path models with odds ratios for severe DV perpetration and
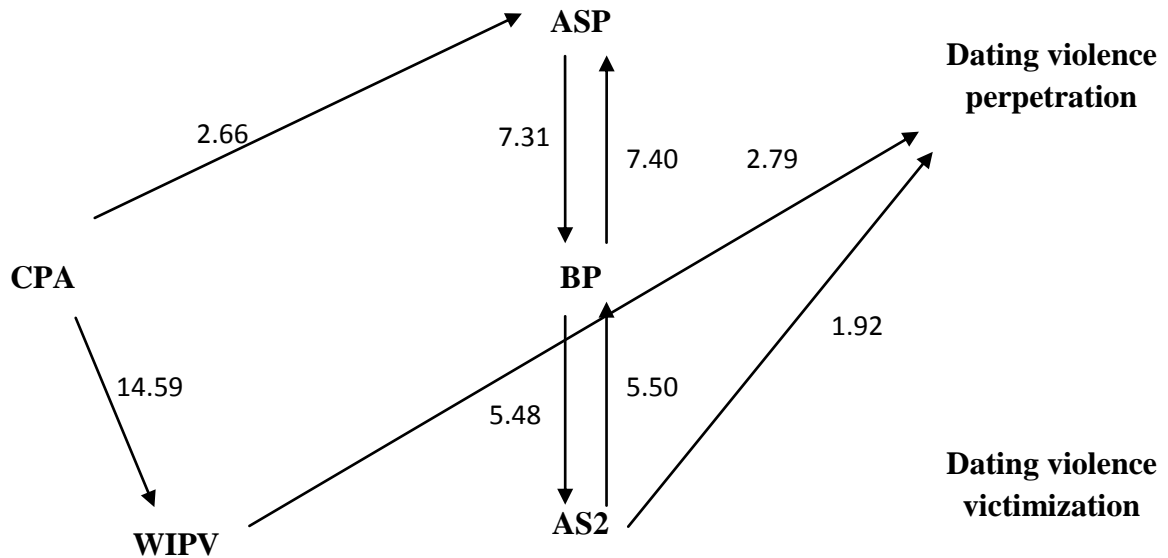
victimization.

*Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); antisocial personality symptoms (ASP); borderline personality symptoms (BP); attachment security cluster 2 (AS2)
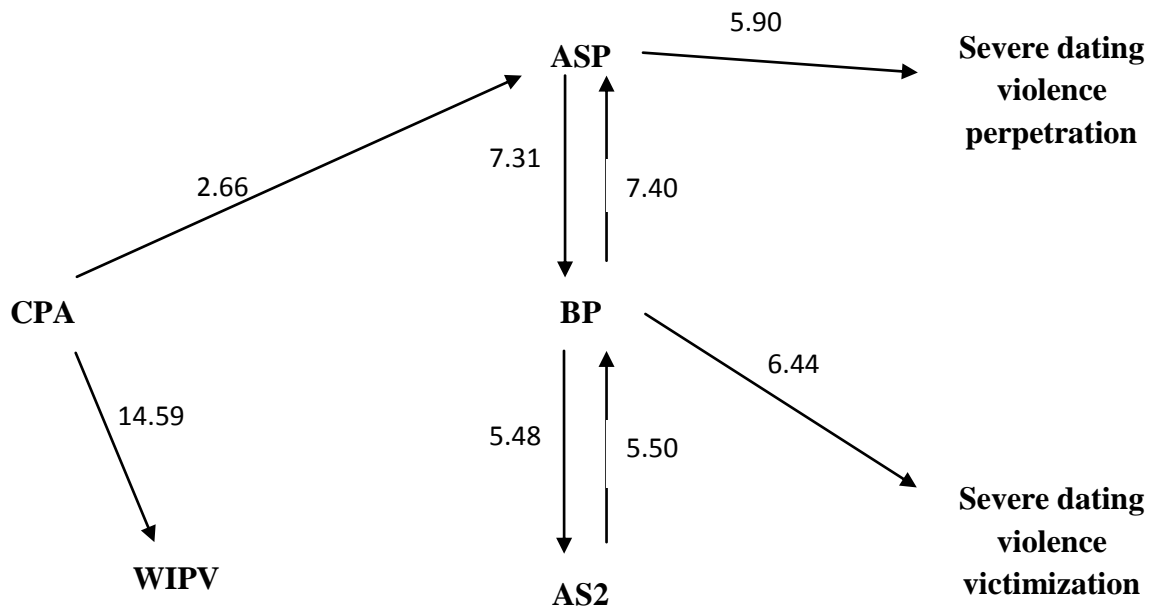
Figure 4. Modified path models with odds ratios for overall female DV perpetration and victimization.

through witnessing interparental violence (Figure 4). In contrast, research by Gover et al.

(2008) and Stith et al. (2000) found that witnessing parental domestic violence

significantly impacted women's relationship victimization in adulthood; both of these

studies found this relationship to be more evident in the female compared to the male

sample.[6] Further research is required to further clarify the connection between

witnessing parental violence and dating violence victimization across gender.

　　　　Another pathway emerged in the female subsample between childhood physical

abuse and dating violence perpetration (Figure 4). In this path, childhood abuse predicted

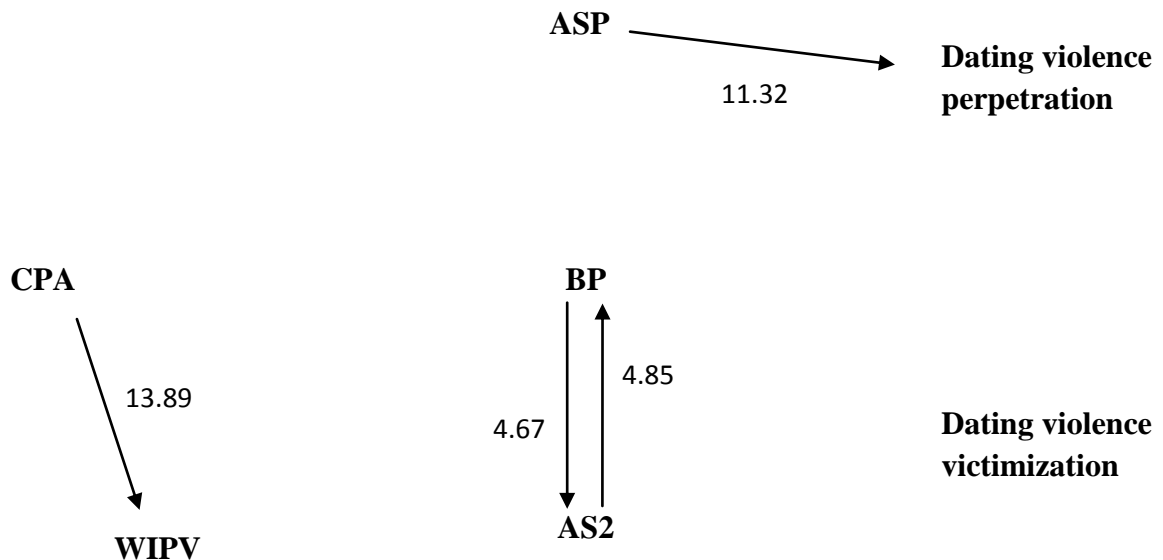antisocial personality symptoms, which in turn predicted insecure attachment through

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[6] Furthermore, Gover et al. (2008) found no significant relationship between WIPV and male dating violence victimization.

borderline personality symptoms. Insecure attachment then predicted dating violence

perpetration. Attachment insecurity was measured both as a low sense-of-self and

agency in relationship causing anxiety about performing in, and maintaining, the

relationship and as a low sense of the partner's trustworthiness in the relationship. For

the college-age female subsample, the use of violence in a dating relationship may then

be reflective of maladaptive skills in reacting to relationship stress and in attempting to

maintain the relationship as described by an attachment activation model. As found by

Monson and Langhinrichsen-Rohling (2002), this attachment related use of violence, in

particular stemming from anxious and preoccupied attachment patterns, is a stronger

pathway for females in romantic relationships than for males.

*Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); antisocial personality symptoms (ASP); borderline personality symptoms (BP); attachment security cluster 2 (AS2)

Figure 5. Modified path model with odds ratios for overall male DV perpetration and

victimization.

ASP → Dating violence perpetration

11.32

CPA BP

13.89

4.85

4.67

Dating violence victimization

AS2

WIPV

*Childhood physical abuse (CPA); witnessing inter-parental violence (WIPV); antisocial personality symptoms (ASP); borderline personality symptoms (BP); attachment security cluster 2 (AS2)

Figure 6. Modified path model with odds ratios for overall male DV perpetration and victimization.

Distinct pathways were found in the analysis of severe dating violence items that were not present when analyzing all dating violence, suggesting that severe dating violence, both perpetration and victimization, is a different construct than less severe or more "normal" violence found in community samples. These distinct violence constructs are mediated by different factors in this model. The idea that severe violence is a clinically high risk pathology evolving from different personal and environment risk factors has been introduced in literature (for example, Stets & Straus, 1990). In the current research study, for the total sample, childhood physical abuse predicted antisocial personality symptoms which in turn predicted severe dating violence perpetration and victimization (Figure 3). So, for less severe dating violence antisocial personality

disorder did not directly increase dating violence; but, in the case of more severe violence, it was antisocial personality symptoms rather than attachment development or activation that proved an important predictor. This finding is consistent with research into violence typologies, which recognizes the distinction among violent patterns,[7] as well as with research from the criminological perspective, which finds that childhood abuse impacts antisocial symptoms (Monson & Langhinrichsen-Rohling, 2002; Wolfe et al., 2001) which, in turn, increase use of violence (Tyler et al., 2011). Looking at the female-only subset, this path from physical abuse to antisocial personality predicted only dating violence perpetration (Figure 5). Chilhood physical abuse and antisocial personality did not increase the odds of female-only severe dating violence victimization. Due to the small male subset and the relatively few severe dating violence tactics reported in this study, no pseudo path model was established for male-only subset. It is expected that further research with a larger college or community sample would provide evidence for a gender-specific model of severe dating violence as suggested by past research (Dardis et al., 2014).

For the total sample, the pseudo path model to severe dating violence victimization was predicted by borderline personality symptoms (Figure 3). Contrary to the literature, these findings do not suggest that borderline personality directly increases the perpetration of violence in a dating relationship (Beauchaine et al., 2009; Goldenson et al., 2009; Whisman & Schonbrun, 2009). Rather, the data highlight the impact of borderline personality on relationship violence victimization. In line with an attachment

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[7] It would be expected that severe violence may not be limited to romantic relationships but may also include generally violent behaviour in the community (see Holtzworth-Munroe & Stuart, 1994).

development perspective, as insecure attachment was found to be highly predictive of borderline personality symptoms, it may be that an insecure attachment pattern impacts one's choice of partner, relationship dynamics, and fear of abandonment, thereby, putting an individual at risk of becoming part of, and staying in, a relationship with someone who uses more severely violent strategies.

Unlike for the analysis of all dating violence items, in the case of only severe items, childhood physical abuse predicted witnessing interparental violence which predicted severe dating violence victimization but not perpetration (Figure 3). This finding suggests that witnessing parental violence as a child may be more likely to provide a model for expecting and normalizing severe violence from a dating partner rather than a model for using severe violence in the relationship. This finding does not hold true for female-only subset of the current study (Figure 5), and data were not gathered from the small subset of males who used and experienced severe dating violence; it is therefore, important to do further research into this model for gender variation.

Limitations

There are a number of important findings that have come out of this study. However, the results should be considered with caution based on the limitations of the study. First, the data for this study were collected through a single source questionnaire of self-report and recall items. Self report data, while it reflects a person's belief or understanding of the item, may not provide objective information or may not describe the same reality as another responder. Recall data can be biased as it relies on the memory of

responder and the responder's deliberate or unconscious level of candour regarding the subject. Further, as a single source tool, it relies on the responder alone for all of the information about the subject, limiting the robustness of the tools' reliability. While there are expected biases from this type of methodology, it has allowed for the formation of a number of theoretical models that can be further tested across time and with more in-depth measurement tools.

Secondly, the sample used in this study was a convenience sample and not reflective of the general community or population. As a university student sample, predominantly within the early twenties age range, White, and from an average to above average socio-economic family household, diversity among the sample with regard to dating violence and its predictors was not captured. A number of studies have suggested that age is negatively associated with relationship violence (Abel, 2001; Kwong et al., 2003), antisocial violence (Hansen et al., 2011), and borderline relationship violence (Torgensen et al., 2001). This theoretical age decline could not be captured in the current research sample. Minority ethnicity is associated with a lower prevalence of relationship violence perpetration and higher prevalence of victimization (Abel, 2001; Tyler et al., 2011). There was no significant difference in violence experience or use among the 26% non-White portion of this research sample. It would be expected that a larger sample, including a more contextual ethnicity or minority control variable, for example personal identification, community or family values, country of origin or parental country of origin, may glean a fuller understanding of how violence impacts and develops across culture and ethnicity.

Low socioeconomic status has been positively associated with the experience of childhood maltreatment (English et al., 2003; Temcheff et al., 2008; Wolfe et al., 2001) and with the prediction of later violence, both perpetration and victimization (Temcheff et al., 2008). Long-term poverty, particularly when it is coupled with family of origin maltreatment experience, has been seen to compound the risk for violence perpetration (Mersky & Reynolds, 2007). The models found supporting an intergenerational transmission of violence may not represent the experience of violence development in other populations. These distinct populations may have different risk and protective factors specific to their experience.

Further, the sample in this study was largely female. As research argues, the development of dating violence may have distinct pathways for males and females (Dardis et al., 2014). Therefore, having a larger sample of males to study would have allowed this research to more clearly inform these distinctions. Having few males also impacted the power of the logistic regression results and precluded an analysis of severe dating violence for the male subsample. Future research is needed to verify the gender specific dating violence results of this study and establish a male model of severe dating violence.

Use of the Conflict Tactics Scale brings both limits and benefits to the research design. While this measure does not provide a context for violence, either motive or meaning, it provides a frequently used, standardized set of items that has been rigorously tested for reliability and validity (Straus, 2007). As with other self-report measures, in particular when used as a single source tool, the researcher does not get an objective or outside perspective on the violence experienced. This study used the short-forms of the

physical assault-only subscales for both the CTS2 and CTSPC which, while retaining

adequate psychometric properties (Straus & Douglas, 2004), limited the number of items

used to gauge the presence or absence of CPA, DV and WIPV exposure. This may then

have impacted the prevalence rates of reported violence. For example, the current

research sample reported slightly lower rates of dating violence (18%) compared with

other Canadian university samples (Brownridge, 2006; Conally et al., 2010; Straus,

2004). This may be due to real differences in the prevalence of violence over time and

across samples and/or to methodological differences between the studies. Conally et al.

(2010) included both physical and sexual violence by multiple partners in their measure

of dating violence, which undoubtedly contributed to their higher prevalence compared to

the current study which measured only physical assault items. The use of this tool also

impacts the generalizability and scope of the findings as other physical assault items as

well as additional forms of violence may impact the relationships among variables in the

model. For example, a significant impact on borderline personality symptoms would be

expected from childhood sexual abuse experience (Roberts et al., 2008) which may or

may not add strength to an intergenerational transmission of dating violence model.

Another limitation of this research design was the use of dichotomizing

personality symptom scales. While this may not yield as much information over the

continuum of personality disorder symptoms as an interval level measure, it was done, as

advised in Straus and Yodanis (n.d.) in order to allow a comparison of the more extreme

subgroup with the lower risk majority. It also allowed the personality variables to be

incorporated in the binary regression analysis. This decision makes sense in this

university sample because, unlike a clinical setting, the average population has few to no

antisocial personality disorder symptoms and few borderline personality symptoms (Straus & Yodanis, n.d.). Consequently, another potential limit is noted: the 90th percentile personality symptoms groups in this study were not a clinically diagnosed group. In fact, the respondents in the antisocial group had as few as 1 self-reported symptom of antisocial personality disorder (4 or more self-reported borderline personality symptoms in the 90th percentile borderline personality group). Therefore, the relationships with violence outcomes described are not comparable to relationships established in a clinical sample. Rather, they are a reflection of how these traits impact a lower risk, community sample.

The attachment measure used in this research study was limited and results regarding attachment security should be considered with caution. The RSQ items used identify respondents' conscious understanding of their current romantic relationship. While it is suggested in research that current attachment security is related to early attachment models (Bartholomew & Horowitz, 1991), this tool did not measure how physical abuse impacted parental attachment and, in turn, how this impacted adult relationship attachment. Further, this attachment measure is not observed, stress-activated attachment response data. Theoretically, if an attachment activation model were accurate, the attachment response under stress would be meaningful in the association with personality symptoms and violence outcomes.

While the validity of the RSQ attachment measure was supported with tests suggested by Ravitz et al. (2010),[8] the four subscales had low internal reliability

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[8] The self model by other model correlation coefficient was significant but not likely co-linear at 0.358. Secure items were negatively correlated with fearful items at (-0.685 $p \leq 0.001$) and preoccupied items were negatively correlated with dismissing items (-0.212 $p \leq 0.001$).

compared with other research using this tool (Ravitz et al., 2010). By using cluster analysis to identify patterns of attachment security scores among responders, more information was used while not relying on the less reliable aspects of the scale. Still, the attachment clustering process, while capturing more secure and more insecure attachment, did not distinguish a clearly low self model (anxious) or low other model (avoidant) dimensions, which was expected based on previous research (Griffin and Bartholomew, 1994; Ravitz et al., 2010). As argued by Lee, Reese-Weber, and Kahn (2014), the two dimensions of attachment, while distinct, are highly correlated and this may explain why significant findings were not present between these dimensions. If insecure attachment had divided across these two dimensions, perhaps a correlation would have been found between antisocial personality symptoms and a low sense-of-other similar to the correlation that was found between the lower sense-of-self scores and borderline personality symptoms. However, the hypothesis that a low sense-of-other would be significantly correlated with antisocial personality symptoms was not evidenced in this study. Research has inconsistently connected antisocial personality to this dimension of attachment. For future research, a tool that more directly measures avoidant and anxious attachment dimensions may establish the connection between personality and attachment more clearly.

Implications

In the current research study, dating violence was not established as a direct result of experiencing childhood physical abuse; rather, it developed by way of a number of factors in the model. The results of this research are consistent with a variety of theoretical models in the intergenerational transmission of dating violence. Social

learning theory informs the model of dating violence in particular as a significant proportion of individuals who had witnessed domestic violence as children were both victims and perpetrators of dating violence in young adulthood. Many of these seem to learn from childhood experiences what is acceptable and expected in regard to relationship violence between partners. This research study supports the implementation of prevention strategies for children who have experienced and, more importantly witnessed, family violence providing a more adaptive lens to see relationships and violence by means of education and modeling. Further, prevention strategies will provide beneficial non-violent conflict and behaviour modification templates and reinforce these non-aggressive behaviour models.

The impact of antisocial personality symptoms seems to be most significant both for the male subset and in the case of severe rather than situational dating violence. The criminological perspective or antisocial orientation literature provides a lens to understand this violence development. According to this framework, antisocial personality develops through a number of factors at various points in development, including childhood experiences of maltreatment, early conduct and attention diagnoses, and substance use (Beauchaine et al., 2009; Williamson et al., 1991). Prevention should, then, begin in early years to interrupt the onset of this developmental trajectory. Further research, too, could be done in a larger male community sample using a more specifically avoidant attachment variable to retest the attachment role within this model.

This research study supports the use of attachment theory to understand dating violence development. Based on these research findings, attachment-focused relationship violence interventions, including affect regulation and relationship conflict management

skills, will be effective in female populations where the impact of attachment security on dating violence was most evident. For future research, an attachment measure that directly measures the attachment dimensions of avoidance and anxiety will be useful in substantiating the link between personality symptoms and attachment more clearly. In the study of dating violence as it develops through attachment insecurity, relationship conflict skills and relationship disruptions or traumas may be analyzed as factors contributing to dating violence. Through an attachment lens, relationship violence can be seen as functional for stress regulation and relationship maintenance. Further research may look into observed stress-activated insecure attachment behaviours in this model. Also, longitudinal research would be beneficial to analyze how parent-child attachment security, relationship attachment security, and general (non-romantic) sense of self and others model contribute over time and development to dating violence outcomes.

In this non-clinical sample, students reporting borderline personality symptoms (distinguished from borderline personality disorder) are at heightened risk of dating violence victimization. As this study has found a significant predictive relationship between attachment and borderline personality symptoms, prevention and intervention strategies should continue to be presented through the attachment lens and with attachment-focused relationship skills building. In particular with borderline personality symptoms, while the fear of intimacy is being reinforced by partner violence, the fear of rejection or abandonment may keep an individual in a relationship or pattern of relationships marked by hyper-vigilance, unstable affect, and dependence on the aggressor. Interventions, as suggested by Oliver et al. (2008), may focus on the attachment activation system and decreasing threat arousal by emotional self-regulation

and perspective-taking in conflict resolution. At the same time, these interventions may build into an individual's sense of self as an agent in the relationship and into the possibility of others being trustworthy in the relationship.

The assertion in literature that various theoretical frameworks each highlight important personal and ecological variations in the development of violence over time and across gender (Dardis et al., 2014) is supported in this research study. In the future, these models of the intergenerational transmission of violence should be tested throughout development and with additional risk and protective variables in order to understand what impacts each distinct pathway to dating violence, under what circumstances, with what co-morbid risks and at what point in development. These variables may include length and severity of abuse experience as suggested by Coid et al. (2001) and Lewis and Fremouw (2001). Many researchers have noted that other childhood maltreatment experiences are correlated with physical abuse (Duke et al., 2010; Fergusson et al., 2008; Miller et al., 2011) and may have more impact on young adult dating violence than physical abuse alone (Jennings et al., 2013). Developmental psychopathology researchers maintain that maltreatment and disrupted attachment will not affect each child's development in the same way (Ciccheti & Rogosch, 2002); research should continue to look at personal, family and community protective factors that seem to have decreased the impact of maltreatment on the development of dating violence. Additional research into these models of the intergenerational transmission of violence will further establish prevention and interventions strategies as well as inform the optimal timing in development at which to implement these strategies.

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