

Intimate Partner Violence: Conservative Masculine Attitudes, Personality, and Romantic Attachment Style

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Errata

p 7 para 2, 7th line: replace semi-colon with comma after “disorders” and before “specifically”

p 24 para 2, 3rd line: “Hare” for “R.D.”

p 69 para 4, 4th line: replace semi-colon with comma after “attachment” and before “avoidance”

p 85 section 2.5.2, 7th line: “Bonferroni” for “Bonferoni”

p 162 para 4, 1st line: “Hare, R.D.” for “R.D., H”

p 90 para 1, 2nd line: “the” for “he”

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Abstract

Intimate partner violence (IPV) is becoming increasingly recognised as a severe mental and physical health concern. Recidivism rates are higher among individuals who engage in IPV than any other violent offenders, and existing treatment programs have minimal effect on the reduction of recidivism beyond the impact of being arrested. Additionally, IPV is not an issue that affects women exclusively. The most common violent relationship is one in which both partners engage in IPV (labelled *mutuality*), and, overall, an equivalent number of females as males have been found to engage in IPV (labelled *symmetry*).

Several factors have been found to be associated with male perpetrated IPV, including insecure romantic attachment styles and personality pathology. Borderline and antisocial personality are the most commonly investigated personality variables. Few studies have investigated the role that psychopathy might play; particularly the sub-factors of psychopathy. Additionally, there has been a lack of research on the effects of traditional conservative masculine attitudes, although there is some evidence to suggest a relationship with IPV. Typologies have been created to categorise men who engage in IPV into groups based on combinations of variables. However, less is known about which variables can be used to reliably distinguish men who engage in IPV from those who do not.

A sample of 49 men from the general community, and an additional 49 men from Men's Behaviour Change Programs (MBCPs) across Victoria were recruited for the study. The participants were then assigned to either a

Physically Violent (PV) or Physically Non-Violent (PNV) group based on a positive endorsement of any physical assault toward their partner within the past 12 months—using the Conflict Tactics Scale 2. Based on this method, 45 men were assigned to the PV group, and 53 men were assigned to the PNV group. Participants then completed a battery of tests measuring romantic attachment style, pathological personality traits, and conservative masculine attitudes. They were also assessed on what motivated their violence.

The results of the study were consistent with the findings of previous research that found, among violent couples, the most common relationship was one in which both the male and female partners were violent (mutuality). Gender symmetry was also found. Additionally, among men who engaged in IPV, those who were motivated by impulsive aggression tended to have higher scores on a measure of borderline personality, whereas those who were motivated by premeditated aggression tended to score higher on the behavioural factor of psychopathy.

The results of a logistic regression revealed that borderline personality traits and conservative masculine attitudes best predicted physical IPV. When borderline personality was deconstructed into the nine criteria outlined in the DSM-IV, the identity disturbance criterion was found to be most significant. Total psychopathy score did not reliably discriminate between the two groups, nor did the individual sub-factors of psychopathy.

The theoretical implications of these findings shed new light on what might be contributing to the violent behaviour in men who engage in IPV. Men who have a fragile sense of identity and, also, a set of beliefs consistent with traditional conservative ideals about masculinity, may look to that set of

beliefs to help define their identity. Therefore, if their partner behaves in a manner that violates these expectations of gender roles (either by behaviour that contradicts these expectations, or by pressuring the male partner to behave contradictory to these expectations), it could be interpreted as a direct challenge or threat to their already fragile sense of identity. If, implicit in these conservative masculine attitudes, is the belief that engaging in physically aggressive behaviour to solve problems is acceptable male behaviour, it seems likely that their interpretation of their partner's behaviour would lead them to engage in IPV.

Declaration

This thesis contains no material that has previously been accepted for the award of any other degree or diploma at a university or other institution. To the best of my knowledge, this thesis contains no material previously written or published by any other person, except where due reference to such work has been made. Further, the research reported in this thesis was conducted within the principles of ethical research involving humans and was approved by the Monash University Research Ethics Committee, the Victoria Department of Justice human Research Ethics Committee, and the Research Coordinating Committee of Victoria Police.

Signature_____

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Introduction

Thesis Outline

This thesis reports on an investigation of variables that predict intimate partner violence (IPV) in men. An investigation of prevalence rates among both men and women is also reported. The thesis is comprised of four chapters, including a literature review, a report of the methods used in the study, the results of the study, and a discussion of the results.

Chapter one provides a review of the literature on IPV, and begins with an overview of male and female prevalence rates of IPV, followed by a discussion of the role that adult attachment style plays in relation to IPV. A summary of the research that has investigated personality and IPV will then be reported. Methods that previous researchers have used to categorise men who engage in IPV into distinct types will then be discussed, followed by an examination of the limited number of studies that have investigated the role of conservative masculine attitudes and IPV. A discussion of variables that motivate the use of violence toward an intimate partner follows. Lastly, a rationale for the study will be presented.

Chapter two sets out the methodology that was employed in the study. The chapter gives an overview the sample, and outlines the procedure used to recruit them and to collect data from them. Participants were recruited from the general community and from men's behaviour change programs (MBCP). The research materials used in the study are evaluated in detail, and ethical considerations are explored. The proceeding section outlines the data screening procedures and statistical analyses used.

Chapter three reports on the results of the study. Demographic data is presented, followed by summaries of each group's scores on the psychometric instruments. Details of the procedure used to assign participants into either the Physically Violent (PV) or Physically Non-Violent (PNV) group are then outlined. The data is presented in order of the aims outlined in the current section. The prevalence of IPV among the participants and their partners are presented, followed by the prevalence of personality disorder among the sample. The relationship that variables thought to motivate use of IPV have with the other independent variables are then presented, followed by the results of the logistic regression to determine which variables predict physical IPV among the men in the sample.

The final chapter begins by summarising the study's results, comparing them with those of previous studies, and reporting whether the results support the aims and hypotheses of the study. Theoretical and practical implications of the results are then presented, followed by a discussion of the limitations of the study. Lastly, suggested future directions for research in the field are discussed.

Research Aims and Hypotheses

The study focused on four main research aims, as outlined below:

1. To determine the prevalence of IPV that is engaged in by male partners, female partners, and both partners in heterosexual relationships. Based on the results of previous research (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012; Straus & Ramirez, 2007), it was predicted that:

- a. Of the couples who engaged in physical violence—operationalised as the endorsement of at least one item on the *Physical Assault (within the Last 12 Months)* scale of the CTS-2—the most common relationships would be those in which both partners engaged in physical violence; (i.e., *mutuality*).
- b. There would be an approximately equivalent number of females engaging in physical IPV as males; (i.e., *symmetry*).

2. To determine the prevalence of personality disorder among men who engage in IPV. Given the results of previous research (Ross & Babcock, 2009), it was predicted that:

- a. BPD would be the most common personality disorder among men who engage in IPV.

3. To explore the relationships that variables thought to motivate use of IPV have with personality, attachment style, conservative masculine attitudes, and severe violence. Several hypotheses were constructed to explore this aim. Based on the results of previous research (Chase, O'Leary, & Heyman, 2001), it was predicted that:

- a. Premeditated aggression score, and not impulsive aggression score, would be significantly correlated with score on the Self-Centred Impulsivity scale of the Psychopathic Personality Inventory – Revised, among participants who engage in IPV.

Given the results of previous studies (Ross & Babcock, 2009; Tweed & Dutton, 1998), which found that impulsive aggression was associated with BPD in men who engage in IPV, it was predicted that:

- b. Impulsive aggression score, and not premeditated aggression score, would be significantly correlated with score on a measure borderline personality traits, among participants who engage in IPV.

Given that studies have revealed that individuals who engage in IPV, and have a form of anxious attachment style, are also more likely to engage in impulsive violence (Edwards, Scott, Yarvis, Paizis, & Panizzon, 2003; Tweed & Dutton, 1998), it was predicted that:

- c. Impulsive aggression score, and not premeditated aggression score, would be significantly correlated with score on a measure of anxious attachment, among men who engage in IPV.

Based on Tweed's and Dutton's (1998) finding that premeditated IPV perpetrators tend to engage in more severe violence than impulsive IPV perpetrators, it was predicted that:

- d. Premeditated aggression score, and not impulsive aggression score, would be significantly correlated with score on a measure of severe physical IPV.

Given that attachment theory postulates anxious attachment style is based on a negative model of self—and, therefore, cognitions of inferiority and jealousy may theoretically be associated with this attachment style, it was predicted that:

- e. Score on the Violence out of Jealousy scale would be significantly correlated with anxious attachment score among men who engage in IPV.

4. To determine which variables best discriminate between a group of men who engage in physical IPV, and a group of men who do not. This was the primary aim of the study. Although no specific hypothesis was constructed for this exploratory aim, the results of a study by Mauricio, Tein, and Lopez (2007), into the mediating effects of BPD, led to the related hypothesis that:

- a. Anxious attachment style would no longer be a significant predictor of physical IPV once borderline personality traits are included in the model.

Chapter 1

Literature Review

1.1 Background

Intimate partner violence (IPV) is comprised of a pattern of coercive behaviours between people who are, or were formerly, in an intimate relationship. These behaviours may include physical, psychological, or sexual abuse (AMA, 1992). IPV is becoming increasingly recognised in Australia and globally as a significant mental and physical health concern with severe social, legal, and economic consequences (AMA, 1998; WHO, 2002). In Australia, it affects more than twice the number of women than Major Depressive Disorder (ABS, 2005; Goldney, Fisher, Dal Grande, Taylor, & Hawthorne, 2007); 17% of Australian women aged 18 years and over report having experienced past physical or sexual violence from their partners (ABS, 2005). One study found that, in Victoria, IPV is associated with more death, disability, and illness for women aged 15 to 44 years, than any other preventable factor (VicHealth, 2004). In the USA, approximately 30% of all female homicide victims are killed by their partners (U.S. Department of Justice, 1998).

Treatment programs have been found to have little effect on IPV recidivism (Babcock, Green, & Robie, 2004; Lin et al., 2009). A formal meta-analytic study conducted on the effectiveness of treatment programs found that they had minimal effect on the reduction of recidivism beyond the impact of being arrested (Babcock, Green, et al., 2004). Individuals who engage in

IPV have been found to have the highest recidivism rate of all violent offenders, irrespective of whether they had attended a treatment program (Kropp & Hart, 2000). Furthermore, researchers have suggested that treatment programs may even increase risk of harm to victims, given that treatment participation can create a false sense of safety for the victim and encourage them to return to their partners (Babcock & Steiner, 1999; E. W. Gondolf, 1998).

Several factors have been found to be associated with male perpetrated IPV, including insecure romantic attachment styles (D. G. Dutton, Starzomski, & Ryan, 1996) and personality pathology (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000). Much less is known about the effects of traditional conservative masculine attitudes, although there is some evidence to suggest a relationship (Haj-Yahia & Edleson, 1994). The most commonly investigated variables in the area of IPV are personality disorders; specifically borderline personality disorder, and antisocial personality disorder. Personality has been used as the primary basis of distinguishing between different *types* of men who engage in IPV (Holtzworth-Munroe et al., 2000). However, less is known about which variables can be reliably used to predict whether or not an individual engages in IPV.

Furthermore, there is a gap in the literature concerning the relationship between IPV and other types of personality pathology, including psychopathy. This is an interesting area for further study as there is evidence that what motivates the violence perpetrated by men with antisocial or borderline personality (which are characterised by impulsive acts), may be different from what motivates those with psychopathic callous unemotional traits (who tend

to engage in more instrumental or premeditated aggression; Chase et al., 2001; Ross & Babcock, 2009; Tweed & Dutton, 1998; Woodworth & Porter, 2002).

The current chapter will begin by outlining the male- and female-initiated prevalence of IPV. The relationship that adult romantic attachment styles have with IPV will then be explored, followed by an examination of the research on the relationship between IPV and personality. The typologies, that men who engage in IPV can be categorised into, will then be discussed, followed by an examination of the limited number of studies that have investigated the role of conservative masculine attitudes and IPV. Variables that are believed to motivate violence toward intimate partners will then be discussed, along with an examination of how these variables relate to personality and attachment style among men who engage in IPV. Lastly, a rationale for the present study will be presented, along with aims and hypotheses.

1.1.1 Prevalence. A large Australian Bureau of Statistics survey of 11800 women found that 15% had experienced violence by a former romantic partner, and 2.1% by a current romantic partner (ABS, 2005). Women were most at risk during the 45-54 years age group. In New Zealand, 31.8% of women have experienced physical IPV at least once in their lifetime, and 4.7% have experienced it at least once in the previous 12 months (Fanslow & Robinson, 2011). The lifetime prevalence rate in the USA was found to be 20.4% (Hien & Ruglass, 2009)

Additionally, recent studies have shown that IPV is not an issue that affects women exclusively (Chan, 2012; Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012ab; Langhinrichsen-Rohling, Misra et al., 2012; Straus, 2011; Straus & Ramirez, 2007). Approximately 19.3% of men have experienced IPV (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012a). Research has found that, when there was violence in a heterosexual romantic relationship, most commonly, both partners engaged in it (71.2%), followed by only the female partner (19.0%), followed by only the male partner (9.8%; Straus & Ramirez, 2007). A subsequent comprehensive review found the same order of prevalence; 57.9% of the violence was bi-directional, 28.3% was female exclusive, and 13.8% was male exclusive (Langhinrichsen-Rohling, Misra et al., 2012). The phenomenon wherein both partners of an intimate relationship engage in violence is labelled *mutuality*. Whereas, the phenomenon wherein an approximately equivalent number of females and males—at a population level—engage in IPV is labelled *symmetry* (Straus, 2011). Research has shown that 28.3% of women and 21.6% of men engage in IPV (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012b).

Mutually violent relationships have also been found to be the most common type of violent intimate relationship in studies of *severe* violence (e.g., behaviour such as choking, kicking, and attacks directed toward a romantic partner). A meta-analytic review of these studies, with a combined sample of 15,853 participants, found that a median of 42% of severe violent relationships involved both partners engaging in severe violence; 26% involved only the female partner; and 16% involved only the male partner (Straus, 2011). While it remains difficult to determine how much female

perpetrated violence results from self-defensive behaviour, studies that have investigated who hit first in violent incidents found that 30% to 73% of incidents were initiated by the female partner (DeKeseredy, Saunders, Schwartz, & Shahid, 1997; Moffitt, Caspi, Rutter, & Silva, 2001; Saunders, 1986; Straus, 2005). This was further explored in a more recent review that found rates of self-defence reported by men ranged from 0% to 50%, and reports by women ranged from 5% to 65.4% depending on whether the samples were taken from perpetrator or non-perpetrator populations (Langhinrichsen-Rohling, McCullars, & Misra, 2012). These studies indicate that IPV is a pervasive problem that affects both men and women.

1.2 Attachment Style: Its Origins and its Potential Relevance to IPV

The following section begins by giving an account of the childhood origins of adult romantic love and attachment style. A discussion of the literature examining the relationship between these adult attachment styles and IPV will follow. Lastly, the relationship that personality pathology has with adult attachment style in men who engage in IPV is examined.

1.2.1 The origins of adult romantic love. Adults are believed to engage in romantic relationships using attachment styles that reflect those that Bowlby (1973, 1980, 1982) found children use toward their caregivers. He defined attachment as an individual's propensity to make strong emotional bonds with other individuals (J. Bowlby, 1977). Bowlby argued that a child's attachment to their caregivers serves an evolutionary function to keep them safe. These different bonds, or attachment styles, in infants are derived from internal working models of the self and other, and are formed through the

child's interaction with their caregivers (J. Bowlby, 1973). Bowlby hypothesised that these internal working models can be conceptualised as consisting of two dimensions: A model of the other, which is characterised by a judgement of the caregiver as being either someone who usually replies to requests for support or not, and a model of the self, which is characterised by a judgement of the self as being either someone toward whom people are likely to respond in a helpful manner or not. Whereas secure attachments (positive internal working models of self and others) result in healthy relationship patterns, insecure attachment (negative models of self and others) promote maladaptive relationships (Ainsworth, Blehar, Waters, & Wall, 1978).

Ainsworth et al. (1978) further developed attachment theory to identify three discrete types of infant attachment: secure, anxious-resistant, and avoidant. These patterns of attachment were derived from observing infants' responses to separation from and reunification with their caregiver. Securely attached children react positively toward their caregiver's return following a separation and, if distressed, seek out the caregiver and receive comfort. Anxious-resistant children generally act ambivalently toward their caregiver and gain no comfort when reunited with them. Children classified as having an avoidant attachment style avoid proximity with the caregiver upon reunion. This model can also be understood via Bowlby's (1973) theory of the model of self and the model of others. Securely attached individuals have a positive model of self and others, anxious individuals have a negative model of self, and avoidant individuals have a negative model of others (Kim Bartholomew, 1990).

Over time, children internalise their experiences with their caregivers so that early patterns of attachment come to form a model for later adult relationships outside of the family (Ainsworth et al., 1978; J. Bowlby, 1977). Researchers have proposed that romantic love is influenced by attachment processes similarly to affectional bonds formed in childhood (Hazan & Shaver, 1987). While the object of adult romantic attachment is not theorised to replace that of childhood attachment, romantic partners are considered the primary attachment figure for the adult (Ainsworth, 1989). It is theorised that adults seek out relationships to regain the same experience of security that was present in their childhood relationship with their caregiver.

Adult romantic attachment styles can be divided into four prototypes: *secure*, *preoccupied*, *dismissive*, and *fearful* (Figure 1.2.1; Kim Bartholomew, 1990). Individuals can be categorised into each prototype based on their model of self and their model of others. However, each group represents an idealised version of the attachment style; individuals' models of self and others are derived from many heterogeneous experiences and are therefore not expected to uniformly match any one prototype. Secure attachment is theorised to be the result of warm and responsive parenting, and is related to high self-efficacy and an absence of severe interpersonal problems (Kim Bartholomew, 1990). The preoccupied prototype is theorised to be associated with inconsistent parenting, and is characterised by an overly dependent interpersonal style resulting from feelings of unworthiness and an excessive desire to gain others' approval. The fearful prototype is theorised to result from rejecting or psychologically unavailable caregivers. This prototype is characterised by conceptualisations of others as insensible and unavailable,

and, furthermore, that they themselves may not be worthy of being loved. These conceptualisations can lead to a pervasive distrust of others and fear of rejection. Lastly, the dismissive prototype is characterised by an overall deactivation of the attachment system. Dismissive individuals distance themselves from relationships and develop conceptualisations of themselves as fully adequate in order to maintain a positive self-image despite rejection from their caregivers (Kim Bartholomew, 1990; K. Bartholomew & Horowitz, 1991).

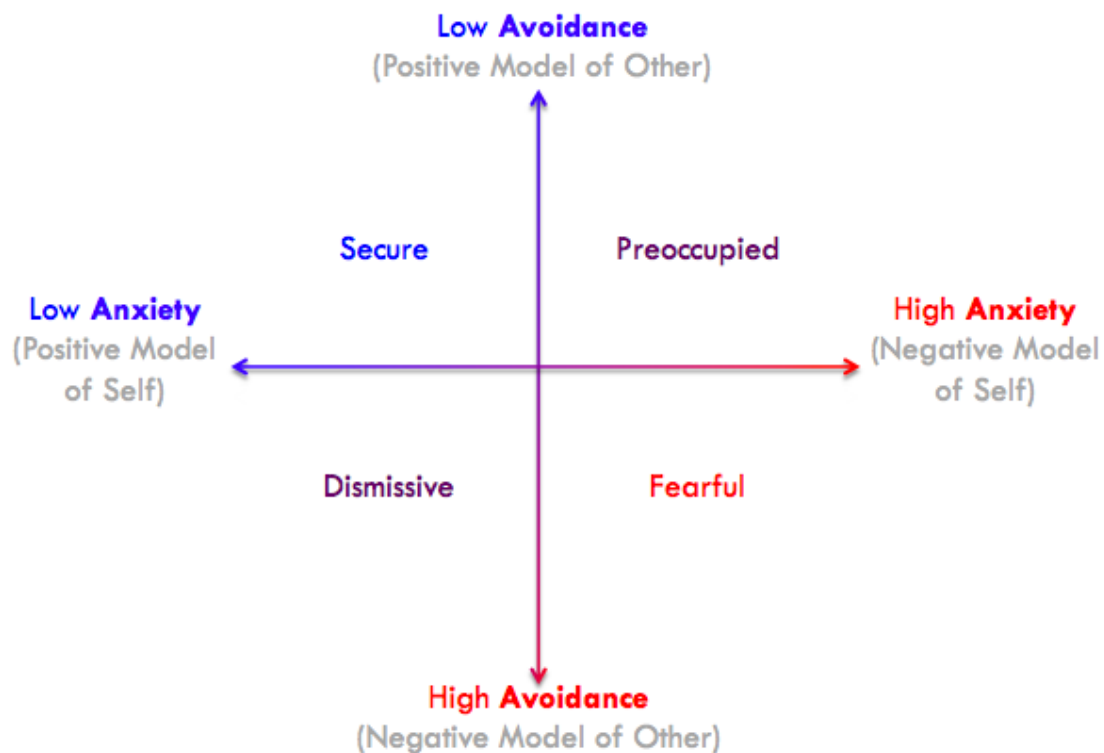


Figure 1.2.1 **Styles of adult attachment** (Kim Bartholomew, 1990).

1.2.2 Romantic attachment styles and IPV. Bowlby (1988) theorised that children may behave aggressively to communicate to their caregivers that their attachment needs are not being met. He labelled this type of aggression *functional anger* as it functions to communicate to the caregiver the child's

discontent with being separated, and potentially to maintain a secure attachment with them. Functional anger usually occurs during separation from the caregiver when the child perceives the caregiver as being unavailable. More recently, this theory has been applied to adult romantic relationships to explain IPV (Kesner, Julian, & McKenry, 1997). Men who engage in IPV may use violence as a dysfunctional coping mechanism at times when they perceive that an attachment need is not being met by their intimate partner. Violence may be used as a tool to deal with perceived unresponsiveness or rejection by their partners (Kesner et al., 1997). Attachment variables have been found to explain a significant proportion of violence toward intimate partners (Kesner et al., 1997).

Some studies have revealed that anxious attachment styles are generally associated with IPV (Lafontaine & Lussier, 2005; Woike, Osier, & Candela, 1996). Of the anxious attachment styles, the fearful prototype is associated with the highest violence toward intimate partners (D. G. Dutton et al., 1996; Kesner & McKenry, 1998; Mahalik, Aldarondo, Gilbert-Gokhale, & Shore, 2005). It seems likely that the pervasive distrust of others that is associated with the fearful attachment prototype leads men who are categorized as fearfully attached to be suspicious of their wives. These men may then attempt to communicate their suspicion and distrust, as Bowlby (1988) theorised, through acts of aggression. Studies have revealed that individuals who engage in IPV and have a fearful attachment style are also more likely to engage in impulsive violence rather than premeditated violence (see section 1.6.2.1 for a description of impulsive and premeditated violence; Edwards et al., 2003; Tweed & Dutton, 1998). There is also evidence to

suggest that a specific attachment prototype on its own may not necessarily be associated with IPV; instead researchers have proposed that a 'mismatching' of a male partner with an avoidant romantic attachment style and a female with an anxious romantic attachment style is predictive of intimate partner violence (Doumas, Pearson, Elgin, & McKinley, 2008).

Developmental attachment theorists have suggested that none of the attachment prototypes adequately explain IPV, and instead suggest that IPV is best explained in the context of attachment *disorganisation* (West & George, 1999). These theorists have suggested that the attachment prototypes actually reflect more general personality traits rather than attachment (Crowell & Treboux, 1995; George & West, 1999). They propose that disorganised attachment is more relevant to IPV than are the prototypes. Attachment disorganisation is theorised to form when children fail to demonstrate any kind of organised attachment behaviour upon being reunited with their parent (Fonagy, 1999; Main & Solomon, 1990). This form of attachment is thought to be more profound than insecure attachment as it does not appear to reflect any form of strategy to maintain or protect the individual's sense of security. This behaviour has been found to develop into behavioural strategies that attempt to control the caregiver through punitive acts or caregiving behaviour (Main & Cassidy, 1988). All of the studies in this area have measured disorganised attachment retrospectively (there are currently no adult measures available). However, if anxious and avoidant attachment styles actually reflect more general personality traits, it seems likely that any relationship they have with IPV would no longer be significant once personality variables have been controlled.

Table 1.2.2 presents the studies that have investigated links between attachment style and IPV. The studies vary in sample size from 49 to 316 and use a wide variety of measures of attachment. As discussed above, many of the studies found a relationship between IPV and anxious attachment (Lawson & Brossart, 2009; Woike et al., 1996), and IPV and the fearful attachment style (D. G. Dutton et al., 1996; Kesner & McKenry, 1998; Mahalik et al., 2005), especially in men who engage in predominately impulsive violence toward their intimate partners (Tweed & Dutton, 1998).

Table 1.2.2.

Summary of Studies Investigating Adult Attachment Styles and IPV

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Doumas et al., 2008)	70 heterosexual couples from the general population	RQ CTS	CTS score	<ul style="list-style-type: none"> • The “mispairing” of an avoidant male and an anxious female was found to be significantly related to both male and female initiated IPV. • The above relationship remained significant exclusively for males when controlling for their partner’s violence.
(D. G. Dutton et al., 1996)	140 males	SRIBPO TSC-33 MAI RSQ PMWI CTS CTS:FOO EMBU	Court referral or self referral to men’s behavioural change groups	<ul style="list-style-type: none"> • When fearful attachment was combined with other variables (anger, trauma symptoms, and BPO), a correlation of .42 was found with wives reports of abusive behaviour.
(Kesner et al., 1997)	<p>41 males (physically violent toward their wives)</p> <p>50 males (non violent)</p> <p>Similar on age, marital status.</p>	ARI Self-Esteem Scale LES(a) CTS	Participation in a group program for male IPV perpetrators at a community mental health centre	<ul style="list-style-type: none"> • Used attachment variables based on Bowlby’s theory (i.e., perceived quality of early childhood mother-son relationship, self esteem, relationship support, sense of autonomy, and perceived life stressors) to explain violence towards intimate partners. • The attachment variables significantly increased the R^2 of the model by 27% (beyond only demography variables).

Table 1.2.2 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Kesner & McKenry, 1998)	149 heterosexual couples	AAS AHQ CTS FOV LES(b)	7 years cohabitation (no prerequisite for violence)	<ul style="list-style-type: none"> • Used adult attachment variables to predict IPV. • Violent males were less likely to have a secure romantic attachment style, and more likely to have a fearful romantic attachment style.
(Lafontaine & Lussier, 2005)	316 couples from the general population	ECR STAI CTS	Score on the CTS	<ul style="list-style-type: none"> • Anger in couples moderates the strength and the direction of the association between attachment and IPV.
(Lawson & Brossart, 2009)	49 males	AAS CTS IIP-SC	Mandated to treatment for IPV	<ul style="list-style-type: none"> • Pretreatment attachment anxiety and vindictive interpersonal problems were associated with psychological abuse and mild physical abuse following treatment. • Pretreatment attachment avoidance and vindictive interpersonal problems were associated with severe physical violence following treatment. • Pretreatment intrusive interpersonal problems were related to psychological abuse following treatment.
(Mahalik et al., 2005)	143 males	CBI RQ MGRS MCSDS	Court mandated to attend an intervention program for men who engage in IPV	<ul style="list-style-type: none"> • Fearful attachment and gender role stress were associated with controlling behaviours in men who engage in IPV (after controlling for social desirability). • Gender role stress partially mediated the relationship between fearful attachment and controlling behaviours

Table 1.2.2 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Tweed & Dutton, 1998)	79 physically abusive men 44 working class men	RSQ MCMI-II CTS MAI TSC	Referred to treatment for domestic violence Aggression type: MCMI-II score (Antisocial-Narcissistic-Aggressive profile = premeditated; passive-aggressive, borderline, and avoidant elevations = impulsive)	<ul style="list-style-type: none"> • Premeditated IPV perpetrators scored higher than impulsive IPV perpetrators on measures of secure attachment style, physical violence. • Impulsive IPV perpetrators scored higher than premeditated and controls on fearful attachment
(Woike et al., 1996)	113 males university students 196 female university students	TAT RRQ	Stories were scored on 10 categories of violence developed by the researchers	<ul style="list-style-type: none"> • Men with an anxious romantic attachment style developed stories (for the TAT) that contained more violent imagery than the stories developed by other participants • Their stories also had more male perpetrators and female victims.

AAS, Adult Attachment Style Questionnaire;
 AHQ, The Attachment History Questionnaire;
 ARI, Autonomy/Relatedness Inventory (measures the respondents perceived level of autonomy and degree to which their intimate partner provides emotional support to the respondent);
 CBI, Controlling Behavior Index;
 CTS, The Conflict Tactics Scale;
 CTS:FOO, Conflict in the Family of Origin;
 ECR, Experiences in Close Relationships questionnaire;
 EMBU, Egnä Minnen Beträffande Uppfostran (assesses memories of parental rearing behaviour);
 IIP-SC, Inventory of Interpersonal Problems (measure of interpersonal functioning);

LES(a), Life Experiences Survey;
 LES(b), Life Events Scale;
 MAI, The Multidimensional Anger Inventory;
 MCSDS, Marlowe-Crowne Social Desirability Scale;
 MGRS, The Masculine Gender Role Stress Scale;
 PMWI, The Psychological Maltreatment of Women Inventory;
 SRIBPO, Self-Report Instrument for Borderline Personality Organization;
 STAI, State-Trait Anger Inventory;
 RQ, The Relationship Questionnaire;
 RRQ, Romantic Relationship Questionnaire;
 RSQ, Relationship Scales Questionnaire;
 TAT, Thematic Apperception Test;
 TSC-33, The Trauma Symptom Checklist

1.3 The Relationship Between Personality and IPV

The following section begins by introducing the concept of general personality pathology, particularly the concept of personality disorder as defined by DSM-IV. The literature on the two key personality disorders that are most commonly studied in relation to IPV—borderline personality disorder (BPD) and antisocial personality disorder (ASPD)—will be examined. Finally, the relationship between IPV and the higher order construct of psychopathy (which overlaps with ASPD) will be explored.

1.3.1 Personality disorder and IPV. Personality disorders are defined as pervasive patterns of behaviour, cognitions and emotions that are noticeably distinctive from the accepted norms of an individual's culture (American Psychiatric Association, 2000). They are usually present from an early age, are stable and inflexible over time, and lead to distress or impairment (American Psychiatric Association, 2000). Cognitive theory asserts that personality pathology, particularly personality disorder, is characterised by dysfunctional views of the self, others, and the social world (Beck & Freeman, 1990). These dysfunctional views, or schemas, come to inform life experiences through selective processing and consequently reinforce themselves.

Studies indicate that IPV is associated with personality pathology and personality disorders (Asnis, Kaplan, Hundorfean, & Saeed, 1997; Coid et al., 2006; Donald G. Dutton, 1995; Edwards et al., 2003; Newhill, Eack, & Mulvey, 2009; Raja, Azzoni, & Lubich, 1997; Ross & Babcock, 2009; Vaughn et al., 2010). Men who engage in IPV and have a diagnosable personality disorder

are more violent toward their partners and inflict more injuries than those who have not been diagnosed with a personality disorder (Ross & Babcock, 2009). Antisocial and borderline personality pathology are among the most commonly investigated personality disorders in IPV research, and it has been suggested that both of these disorders should be included in clinical assessments investigating male-perpetrated IPV (Holtzworth-Munroe & Stuart, 1994). There is also a growing body of research indicating that psychopathy is associated with IPV (Chase et al., 2001; Newhill et al., 2009; Stanford, Houston, & Baldridge, 2008; Swogger, Walsh, & Kosson, 2007) and that this disorder may be associated with a different pattern of violent behaviour than is seen in those with ASPD or BPD.

1.3.2 Subclinical personality pathology and IPV. Although it is recognised that there is significant clinical overlap between formal personality disorder diagnoses and violent behaviour, a substantial number of perpetrators of violence do not meet criteria for a formal diagnosis of any personality disorder (Coid et al., 2006). Many, however, have subclinical personality pathology that may influence the mode and motivation of violence in which they engage. In the IPV literature, it has been noted that it may be more useful clinically to measure the degree or severity of personality pathology rather than focus on the presence or absence of a personality disorder diagnosis (Holtzworth-Munroe & Meehan, 2002). For example, when measured dimensionally, the affective facet of psychopathy (rather than the behavioural facets that are more commonly associated with violence; see section 2.4) has been found to correlate with total violent acts committed by prisoners (Sreenivasan, Walker, Weinberger, Kirkish, & Garrick, 2008).

Lending support to this notion, section III of the fifth version of the Diagnostic and Statistical Manual of Mental Disorders includes a dimension-based system of diagnosing personality disorders, rather than a purely categorical system (Miller & Holden, 2010).

1.3.3 Borderline personality disorder. The DSM-IV-TR (American Psychiatric Association, 2000) defines BPD as a pattern of unstable relationships, identity, and affect, as well as a marked impulsivity beginning in early adulthood. Common symptoms of BPD include frantic avoidance of abandonment, chronic feelings of emptiness, recurrent suicidal behaviours, threats, self-mutilation, inappropriate intense anger, and paranoid ideation. Linehan (1993) developed a model of BPD that consists of five factors; Affective dysregulation, interpersonal dysregulation, self dysregulation, behaviour dysregulation, and cognitive dysregulation. Linehan theorised that the affective dysregulation factor is the central component of the disorder as it either directly or indirectly affects the other four factors. Individuals thought to be at high risk of developing BPD have a history of high emotional sensitivity paired with an invalidating family environment (Linehan, 1993).

Borderline personality disorder is more common among women than men; about 75% of the diagnoses are given to females (American Psychiatric Association, 2000). Borderline personality disorder typically begins with chronic instability in early adulthood. One longitudinal study found that, with treatment, 73.5% of BPD patients were in remission after 6 years (Zanarini et al., 2003). Research has revealed a significant relationship between increasing borderline scores and increasing severity of violence, and 73% of

BPD patients were found to engage in violence during a one-year study period (Mauricio & Lopez, 2009; Newhill et al., 2009; Raine, 1993). One study found the prevalence of BPD among men who engage in IPV was 18.5% (Ross & Babcock, 2009).

1.3.4 Antisocial personality disorder. Antisocial personality disorder can be conceptualised as a persistent abuse of the rights of others beginning at a young age (American Psychiatric Association, 2000). People diagnosed with ASPD often are deceitful, impulsive, aggressive, irresponsible, reckless, indifferent to immoral behaviour, and they often fail to conform to social norms. It is estimated that approximately 3% of males and 1% of females have the disorder, and it has a chronic course (American Psychiatric Association, 2000). Individuals diagnosed with ASPD have been found to be significantly more likely than individuals diagnosed with BPD to engage in severe violence toward their partner following an act of dominant or belligerent behaviour from their partner (Ross & Babcock, 2009). One study, that recruited couples from the community, found the prevalence rate of ASPD among men who engage in IPV was 14.5% (Ross & Babcock, 2009).

Recently, ASPD has been conceptualised as being on a continuum with psychopathy (Coid & Ullrich, 2009). According to this view, ASPD is not a separate disorder to psychopathy but rather taps into certain facets of psychopathy (see section 1.3.5). This perspective influenced the proposed changes for the diagnosis of personality disorders in the DSM-5 (Miller & Holden, 2010). However, the original DSM-IV model was retained until additional evidence can be provided, and the new model was included in the

DSM-5 under the section on emerging measures and models (American Psychiatric Association, 2013).

1.3.5 Psychopathy. Psychopathy is a higher order taxon with “prototypical psychopathy” consisting of affective, interpersonal, and behavioural characteristics (R.D., 1998). The general violence literature indicates that 77% of offenders who have been classified as psychopaths, and only 21% of non-psychopaths, committed at least one violent act towards a person over a 10-year period after being released from prison (Harris, Rice, & Cormier, 1991). This suggests that a high psychopathy score is associated with a significantly higher risk of recidivistic violence.

It should be noted that the prevalence of diagnosable “prototypical psychopathy” in prisoners convicted of IPV related offences (12%-14.4%) is not significantly higher than that of the general population of prisoners (13.8%-26% depending on the location of the study’s population; Cooke, 1995; Echeburua & Fernandez-Montalvo, 2007; Fernandez-Montalvo & Echeburva, 2008; Hobson & Shine, 1998). This has lead to the notion that a continuous rather than dichotomous measure of psychopathy or psychopathic traits may have more utility in understanding the mode and motivation of violence in general and also in relation to IPV.

According to Hare’s conceptualisation of psychopathy, there are distinct interpersonal, affective, and behavioural traits that compose a two-factor structure within the psychopathy construct (R. D. Hare & Neumann, 2005). Each factor consists of two key subfacets (see Table 1.3.5.1); I) The affective factor (composed of an interpersonal dimension and an affective dimension); II) The behavioural factor (composed of an impulsive and

irresponsible lifestyle facet, and an antisocial behaviour facet; R. D. Hare & Neumann, 2005; Vitacco, Neumann, & Jackson, 2005). Other researchers have found similar results; Lillienfeld and Widows (2005a) found a factor conceptually related to Hare's affective factor, that they labelled *fearless dominance*, and one related to the behavioural factor, that they labelled *self-centred impulsivity*. As with Hare's behavioural factor, the self-centred impulsivity factor is associated with ASPD (Edens & McDermott, 2010). One key difference with Lillienfeld's factor structure was the addition of a third factor—labelled *coldheartedness*—that was related to the construct of psychopathy, but that did not relate strongly enough to either of the other two factors to be subsumed by them (Lillienfeld & Widows, 2005a).

Table 1.3.5.1

The Two Factors and Four Facets of Psychopathy (Hare, 2005)

Affective (Factor 1)		Behavioural (Factor 2)	
Interpersonal	Affective	Lifestyle	Antisocial
<ul style="list-style-type: none"> • Smooth interpersonal style • Ability to manipulate others • Deception 	<ul style="list-style-type: none"> • Less impacted by emotional experiences • Their actions contradict any claims to care about those close to them 	<ul style="list-style-type: none"> • Neglects commitments and responsibilities • Difficulty resisting exciting opportunities and stimulation • Difficulty sticking to routines 	<ul style="list-style-type: none"> • Antisocial behaviour, often distressing to others • Not necessarily associated with criminal behaviour

Note: Lillienfeld's and Widows' (2005a) concepts of Fearless Dominance and Self-Centred Impulsivity are related to factor one and factor two respectively.

While there is evidence that the DSM-IV categories of BDP and ASPD are primarily related to psychopathy Factor 2 (the behavioural factor) in violent samples (Huchzermeier et al., 2007) and that psychopathy Factor 2 features are relevant for risk assessment of future IPV (Sreenivasan et al., 2008), there is almost no literature on the relationship between IPV and psychopathy Factor 1, including the affective and interpersonal traits. This is an important area for future research as there is evidence from the general offender literature that psychopathy Factor 1 and Factor 2 may show differential relationships to violence (Vitacco et al., 2005; Walsh & Kosson, 2008).

While most studies have found that Factor 2 rather than Factor 1 psychopathy is predominately related to violence proclivity (see Gendreau, Goggin, & Smith, 2002, for a review of 57 studies on general violence) there are other reports to suggest that Factor 1 may be related to violent behaviour (Reidy, Zeichner, Miller, & Martinez, 2007; Vitacco et al., 2005). The discrepant findings may relate to differences in the mode of violence, the study populations, and levels of clinical comorbidity. To date, there are no similar studies looking at the relationship of psychopathy factor scores in samples of men with IPV. One possible explanation for the relatively small number of studies on psychopathy and IPV is confusion over the conceptual distinction between ASPD and psychopathy (Huss, Covell, & Langhinrichsen-Rohling, 2006; Ogloff, 2006). As current psychopathy assessment instruments such as the Psychopathic Personality Inventory - Revised (Lilienfeld & Widows, 2005a) and the Psychopathy Checklist - Revised (Hare, 1991; PCL:SV Hart et al., 1995) offer the advantage of measuring psychopathic traits across more than one factor, these measures could provide a more

useful insight into the relationship between personality pathology and IPV than DSM-IV ASPD diagnostic criteria alone (Costa & Babcock, 2008).

In the general violence literature, it is recognised that the shared variance between ASPD and BPD is considerably high which reduces the unique predictive effect of these constructs on violence (Newhill et al., 2009). In the IPV literature, it is also known that there is considerable overlap between ASPD and BPD characteristics in men who engage in IPV (Mauricio, Tein, & Lopez, 2007; Newhill et al., 2009). For example, Mauricio et al. (2007) reported a correlation of .60 between male IPV perpetrator's scores on measures of BPD and ASPD.

Given the degree of overlap between ASPD and BPD using DSM-IV and DSM-5 criteria, there is clearly a need to broaden assessment measures to capture all the intricacies and one possible approach is the inclusion of a measure of psychopathy that encompasses multiple facets of personality that may relate differentially to IPV. It may therefore provide better insights into the nature of the relationship between cluster B personality pathology (particularly ASPD) and IPV than either BPD or ASPD alone. To illustrate this, one study found that the only facet that was related to men who engage in IPV was the affective facet of Factor 1 psychopathy (i.e., callous unemotional traits; Swogger et al., 2007), and studies looking at jealousy have found that that Factor 1 psychopathy was associated with jealousy in men who engage in IPV, whereas no relationship was found between jealousy and antisocial personality pathology alone (Costa & Babcock, 2008).

Table 1.3.5.2 summarises studies that have investigated the relationship between psychopathy and men who engage in IPV. As mentioned above, prevalence rates of diagnosable psychopathy vary depending on the study and the sample selected. However, most of the studies found a relationship between scores on psychopathy-related variables and those on IPV-related variables.

Table 1.3.5.2

Summary of Psychopathy and IPV Studies

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Costa & Babcock, 2008)	184 couples from general community	CTS-2 GV MCMI-II SRP-II STAXI DAS ATSS	Either partner reporting at least one act of male to female abuse in the past year (CTS-2).	<ul style="list-style-type: none"> • Significant relationship between jealousy and both psychopathy and borderline personality pathology, but not antisocial personality pathology. • There were no significant relationships between any of the personality pathologies and power / control. • Psychopathy, borderline, and antisocial personality pathology each had a significant relationship with anger.
(Echeburua & Fernandez-Montalvo, 2007)	162 participants sentenced for an IPV-related offence	PCL-R IDTW IDTUV IRI SCL-90-R STAXI Impulsivity Scale Self-Esteem Scale	Sentenced for an IPV-related offence	<ul style="list-style-type: none"> • 12% of prisoners met criteria for psychopathy according to the PCL-R • No significant difference in severity of IPV-related crime between psychopathic and non-psychopathic prisoners.
(Fernandez-Montalvo & Echeburua, 2008)	76 male IPV perpetrators in prison	MCMI-II PCL-R	In prison for a severe IPV related offence	<ul style="list-style-type: none"> • 14.4% of prisoners convicted for an IPV related offence met the criteria for psychopathy or probable psychopathy according to the PCL-R
(Huss & Langhinrichsen-Rohling, 2006)	131 males who engage in IPV	PCL-SV MCMI-II CTS-2 MAI	Court referral (59%) or self-referral (41%) for treatment for partner assault	<ul style="list-style-type: none"> • Total psychopathy and Factor 2 psychopathy (but not Factor 1) differed significantly among the Holtzworth-Munroe and Stuart (1994) IPV perpetrator subtypes. • No significant differences between high and low psychopathy amongst psychological, sexual, or physical violence, depression, anger, alcohol, or drug use.

Table 1.3.5.2 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Newhill et al., 2009)	1137 (648 male) psychiatric inpatients (220 met DSM-IV criteria for BPD diagnosis)	SIDP-R PCL-SV CTS	Number and intensity of violent and aggressive behaviours in the ten weeks prior to hospital admission (criteria derived from the CTS)	<ul style="list-style-type: none"> • 73% of participants with BPD engaged in at least one violent act during the one-year study period • There was considerable overlap between personality disorders, and the most effective predictors were combinations • Individuals with BPD and comorbid ASPD were significantly more likely to engage in future violence • The majority (41%) of violent acts consisted of interpersonal altercations that included hitting with a closed fist or inanimate object
(Swogger et al., 2007)	211 male prison inmates	PCL-R (with extended semistructured interview with questions related to IPV)	Domestic battery charge or Self-report of any incidence during the interview	<ul style="list-style-type: none"> • There was no significant difference between the total psychopathy scores of IPV perpetrators and non-IPV perpetrators. • Higher affective facet scores indicated an increased likelihood of being a batterer. • Higher lifestyle facet scores indicated a decreased likelihood of being a batterer.

ATSS, Articulated Thoughts in Simulated Situations Paradigm (scenarios involving their partners);
CTS, The Conflict Tactics Scale;
DAS, Dyadic Adjustment Scale (marital satisfaction);
GV, Generality of Violence;
IDTUV, The Inventory of Distorted Thoughts on the Use of Violence;
IDTW, The Inventory of Distorted Thoughts about Women;
IRI, The Interpersonal Response Index;

MAI, Multidimensional Anger Inventory;
MCMI-II, Millon Clinical Multiaxial Inventory;
PCL-R, Psychopathy Checklist – Revised;
PCL-SV, Psychopathy Checklist – Short Form;
SCL-90-R; The Symptom Checklist–90–Revised;
SIDP-R, Structured Interview for DSM-III-R Personality;
SRP-II, Self-Report of Psychopathy;
STAXI, The State-Trait Anger Expression Inventory

1.3.6 Personality Pathology, Romantic Attachment Style, and IPV.

There have been only a limited number of studies that have investigated the relationship between traits of personality disorders, romantic attachment styles, and IPV (see Table 1.5.3). Research varies considerably in the samples under study. For example, one study focusing on undergraduate non clinical samples found an association between anxious attachment and both antisocial and passive-aggressive behaviour (Bekker, Bachrach, & Croon, 2007). Another study looking at an offender sample found that men who engaged in IPV and had a fearful/anxious attachment style scored highest on measures of both BPD and violence (Edwards et al., 2003). While there are reports that a relationship exists between the degree of fearful/anxious attachment among individuals diagnosed with BPD, and impulsive aggression (Critchfield, Levy, Clarkin, & Kernberg, 2008) the study focused on individuals who were violent generally, rather than toward their partner.

The work of Mauricio et al. (2007), however, points to the importance of looking at personality factors as mediators or moderators of violence in IPV samples. Indeed, their work suggests that BPD and ASPD features may mediate the relationship between avoidant attachment style and physical violence. Furthermore, these personality variables may also mediate the relationship between anxious attachment and physical violence, and partially mediate the relationship between anxious attachment and psychological violence (Mauricio et al., 2007).

Table 1.3.6

Summary of Studies Investigating Adult Attachment Styles, Personality Variables, and IPV

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Bekker et al., 2007)	202 Caucasian undergraduate Psychology students from the Netherlands - 67 male - 135 females	ASQ ACS-30 BVAQ QPC	IPV was not measured in this study.	<ul style="list-style-type: none"> Anxious attachment was significantly related to both antisocial and passive-aggressive behaviour.
(Critchfield et al., 2008)	92 Patients diagnosed with BPD - 85 females - 7 males	ECR MPQ IPO AIAQ OASM SASII	IPV was not measured in this study	<ul style="list-style-type: none"> Fearful attachment was significantly associated with impulsive aggression in individuals diagnosed with BPD.
(Edwards et al., 2003)	43 men convicted of a crime involving violence toward their intimate partner 40 men convicted of nonviolent crimes Matched on age, education, and ethnicity	PAI CTS RSQ BPO BIS	Conviction of spouse abuse	<ul style="list-style-type: none"> Male IPV perpetrators with a fearful attachment style scored highest on measures of BPD, level of violence, and impulsiveness Highly violent men scored higher than mildly violent men on the BPD and ASPD scales of the PAI Highly violent men scored higher than mildly violent men on both premeditated and impulsive variables.

Table 1.3.6 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Mauricio et al., 2007)	192 heterosexual men with at least an eighth-grade reading level	BRI PDQ-R ECR CTS PMWS	Court mandated to attend a community IPV perpetrator intervention program	<ul style="list-style-type: none"> • Borderline and antisocial personality pathology variables were each found to fully mediate the relationship between avoidant attachment and both physical and psychological violence • Borderline and antisocial personality pathology variables were each found to fully mediate the relationship between anxious attachment and physical violence and partially mediated the relationship between anxious attachment and psychological violence

ACS-30, Autonomy-Connectedness Scale;
AIAQ, Anger Irritability and Assault Questionnaire;
ASQ, The Attachment Style Questionnaire;
BIS, Barrett's Impulsiveness Scale;
BRI, The Basic Reading Inventory;
BPO, Dutton's Borderline Personality Organization Scale;
BVAQ, Bermond and Vorst Alexithymia Scale;
CTS, The Conflict Tactics Scale;
ECR, Experiences in Close Relationships questionnaire;

MPQ, Multidimensional Personality Questionnaire;
OASM, Overt Aggression Scale-Modified;
PAI, Personality Assessment Inventory;
PDQ, Personality Diagnostic Questionnaire-4;
PMWS, Psychological Maltreatment of Women Scale;
RSQ, Relationship Scales Questionnaire;
QPC, Questionnaire for Personality Characteristics;
SASII, Suicide Attempt Self-Injury Interview

1.4 Typologies of IPV

Traits that make up various personality disorders have been used to categorise men who engage in IPV into different types. The following section explores the most widely used current typologies of IPV. These typologies are based on the personality pathology and psychopathology of men who engage in IPV, as well as the severity of the violence and the generality of the violence in which they engage. The typologies described here are useful at differentiating between types of men who engage in IPV, rather than explaining how men who engage in IPV differ from those who do not.

Holtzworth-Munroe and Stuart (1994) reviewed previous research on IPV and found support for a typology made up of three categories based on a developmental model that identified underlying causes of marital violence. Under their model, men who engage in IPV are categorised as either *Family Only* (FO), *Borderline/Dysphoric* (BD), or *Generally Violent/Antisocial* (GVA). These labels are not necessarily meant to imply diagnosable personality disorders but, rather, features of personality disorders shared by subgroups of men who engage IPV. The typology they found was similar to that found previously by Saunders (1992), except that Saunders labelled his equivalent of the BD type as *Emotionally Volatile* (which similarly included features such as high levels of jealousy, anger, and depression).

Holtzworth-Munroe and Stuart's FO type engage in the least severe marital violence, the least psychological or sexual abuse, are the least likely to be violent outside of their family, and they have typically experienced the least childhood trauma. They are less likely to be diagnosed with a personality

disorder than the other types, and when they do have a personality disorder, it is more commonly avoidant, dependent, or passive-aggressive personality disorder (Holtzworth-Munroe & Stuart, 1994).

The BD group also predominately focus their violence to family encounters, however they engage in moderate to severe spousal abuse, and this often includes psychological and sexual abuse. Men classified as BD are the most likely to have experienced the most severe parental rejection and moderate exposure to interpersonal violence. There is also evidence to suggest that the BD group experiences more suicidal ideation (Langhinrichsen-Rohling, Huss, & Ramsey, 2000).

The GVA group engage in the most violence and criminal activity outside of the family, and engage in moderate to severe IPV. Men classified as GVA are the most likely to have experienced the most severe physical abuse during childhood, and exhibit antisocial and narcissistic traits, a lack of, or low, empathy, substance abuse, generalised aggression, and rigid attitudes regarding gender (Flournoy & Wilson, 1991; Holtzworth-Munroe & Stuart, 1994; Tweed & Dutton, 1998).

A number of subsequent studies have revealed similar—though not identical—results to the Holtzworth-Munroe and Stuart (1994) model (Delsol, Margolin, & John, 2003; Eckhardt, Holtzworth-Munroe, Norlander, Sibley, & Cahill, 2008; Hamberger, Lohr, Bonge, & Tolin, 1996; Tweed & Dutton, 1998; Waltz, Babcock, Jacobson, & Gottman, 2000). Hamberger and colleagues (1996) found three clusters based on the Millon Clinical Multitaxial Inventory (MCMI; a measure of personality and psychopathology) scores; *Nonpathological* (approximating Holtzworth-Munroe and Stuart's FO group),

Negativistic-Dependent (approximating Holtzworth-Munroe and Stuart's BD group), and *Antisocial* (approximating Holtzworth-Munroe and Stuart's GVA group). Holtzworth-Munroe and Stuart's model was later refined by adding an additional group labeled *Low-Level Antisocial* (LLA; Holtzworth-Munroe et al., 2000). This group scored moderately on measures of partner violence, violence generality, and antisociality. This four-factor structure was later confirmed (Babcock, Costa, Green, & Eckhardt, 2004) and a 1.5 to three year follow-up study found that these four subtypes retained long-term consistency (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2003)

Several studies have used standardised personality and psychopathology tests to categorise men who engage in IPV into subgroups based on dimensions of psychopathology or personality characteristics (Flournoy & Wilson, 1991; Edward W. Gondolf, 1988; Hale, Zimostad, Duckworth, & Nicholas, 1988; Hamberger & Hastings, 1986; Saunders, 1992; Stith, Jester, & Bird, 1992). Other studies have differentiated men who engage in IPV based on the generality of the violence (i.e., whether it occurs exclusively at home or within a wider range of contexts; Delsol et al., 2003; Shields, McCall, & Hanneke, 1988; Waltz et al., 2000). Although these studies have revealed varied results (see Table 1.4), it has been argued that all of the typologies can be categorised into three descriptive clusters (Holtzworth-Munroe & Stuart, 1994):

- Severity of marital violence
- Generality of the violence
- Psychopathology or personality pathology

However, it is worth noting that, while all of these studies investigated ASPD, the vast majority did not investigate psychopathy. Of the few studies that did investigate psychopathy, the subfactors were not measured. While these studies suggest a relationship between different personality variables and intimate partner violence, the strength of those relationships varies among men who engage in IPV depending on the type of IPV offender they can be classified into. For example, these studies demonstrate that borderline personality traits are associated with men who would be classified into the BD group, however, they do not seek to explain whether borderline personality traits would have a strong enough relationship with all types of men who engage in IPV, so as to be able to discriminate between those who engage in IPV and those who do not. Consequently, it is unclear whether these personality variables can be used to predict which men engage in IPV as a single group, differentiated from men who do not engage in IPV.

Table 1.4
Summary of Studies that Categorise IPV Perpetrators into Typologies

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Delsol et al., 2003)	181 Married couples	DCI CTS PBQ TWLQ PAI-SV MAST AAMI DAS LES	Score on trouble with the law questionnaire	<ul style="list-style-type: none"> Identified 3 types of violent men: <ul style="list-style-type: none"> Family-only Medium-violence Generally Violent/psychologically distressed Holtzworth-Munroe and Stuart's Borderline/Dysphoric and Generally Violent/Antisocial types were not replicated
(Eckhardt et al., 2008)	199 men who engage in IPV	URICA-DV CTS-2 MMEA MCMI-III GVM AUDIT DAST HATI AIV HTWI MCSD TAS	Conviction of a misdemeanor assault offense involving an intimate female partner	<ul style="list-style-type: none"> Holtzworth-Munroe's (2000) typology was replicated: <ul style="list-style-type: none"> Family Only Low-level Antisocial Borderline/Dysphoric Generally Violent/Antisocial
(Flournoy & Wilson, 1991)	56 men who engage in IPV	MMPI	Participation in an eight-week aggression management group treatment program	<ul style="list-style-type: none"> Cluster analysis revealed 2 groups: <ul style="list-style-type: none"> Normal MMPI Scales 2 (depression) and 4 (antisocial characteristics) were elevated
(Edward W. Gondolf, 1988)	525 female partners of abusive men	84-item intake interview given by staff to women entering shelters	Admission to any of the 50 Texas shelters for women experiencing domestic violence during an 18-month period	<ul style="list-style-type: none"> Cluster analysis revealed 3 groups of male IPV perpetrators: <ul style="list-style-type: none"> Typical (Sporadic / Chronic) Antisocial Sociopathic

Table 1.4 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Hale et al., 1988)	67 males	MMPI	Seeking treatment for IPV	<ul style="list-style-type: none"> Cluster analysis revealed 3 clusters: <ul style="list-style-type: none"> Cluster 1 (10%) – either “faking bad” or had severe psychopathology Cluster 2 (15%) – No MMPI scale elevations Cluster 3 (75%) – Elevations on scales 2 (depression) and 4 (psychopathy)
(Hamberger & Hastings, 1986)	99 men who engage in IPV	MCMI NAS BDI	Attendance of a domestic violence abatement program	<ul style="list-style-type: none"> Factor analysis classified domestically violent men into 4 groups: <ul style="list-style-type: none"> Normal Passive-Dependent/Compulsive Schizoid/Borderline Narcissistic/Antisocial
(Hamberger et al., 1996)	833 males	CTS Police records MCMI BDI NAS	Court-referred for evaluation prior to participation in a domestic violence counselling program	<ul style="list-style-type: none"> Found 3 clusters (consistent with Holtzworth-Munroe and Stuart model): <ul style="list-style-type: none"> Nonpathological Antisocial Passive-aggressive / dependent
(Holtzworth-Munroe & Stuart, 1994)	Review of previous typology studies	N/A	N/A	<ul style="list-style-type: none"> Identified 3 subgroups: <ul style="list-style-type: none"> Family Only <ul style="list-style-type: none"> Least severe IPV Least likely to engage in psychological and sexual abuse Dysphoric/Borderline <ul style="list-style-type: none"> Moderate to severe spousal abuse The dominant focus of the violence is within the family Generally Violent/Antisocial <ul style="list-style-type: none"> Moderate to severe marital violence Engage in the most violence and criminal activity outside of the family

Table 1.4 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Holtzworth-Munroe et al., 2000)	Community sample: Maritally violent men (n = 102) and their wives 2 comparison groups: Nonviolent and maritally distressed (n = 23) Nonviolent and nondistressed (n = 38)	SMAT	Score on SMAT during screening process	<ul style="list-style-type: none"> • Results confirm Holtzworth-Munroe's previous study but with an extra cluster: <ul style="list-style-type: none"> • Family Only (FO) • Borderline/ Dysphoric (BD) • Generally Violent/Antisocial (GVA) • <i>Low-Level Antisocial</i> <ul style="list-style-type: none"> • Described as falling between the FO and GVA clusters on several measures
(Langhinrichsen-Rohling et al., 2000)	49 males who engage in IPV	BDI MMPI	Treatment for domestic violence in an outpatient mental health facility	<ul style="list-style-type: none"> • Classified men into Holtzworth-Munroe's (1994) 3 subtypes and compared the groups on suicide ideation history, alcohol use, and childhood abuse: • The groups only differed on suicidal ideation
(Saunders, 1992)	182 males (70% were mandatorily referred from the courts)	CTS ATWS DPI MCI Novaco Anger Index BDI MAST MCSD	Admission to a treatment program for men who engage in IPV	<ul style="list-style-type: none"> • Classified men into 3 types: <ul style="list-style-type: none"> • Family-only aggressors • Generalized aggressors • Emotionally volatile aggressors <ul style="list-style-type: none"> – Highest levels of anger, depression, and jealousy – Most likely to use psychological abuse – Lowest levels of relationship satisfaction
(Shields et al., 1988)	85 married or cohabiting men. All of whom had been violent with some adult during the period of time in which they were married or cohabiting	Structured interviews	Referred to the study by social service agencies and were screened regarding their pattern of violence	<ul style="list-style-type: none"> • Stepwise discriminant function analysis revealed 2 groups: <ul style="list-style-type: none"> • Family Only • Generally Violent

Table 1.4 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Waltz et al., 2000)	75 men who engage in IPV and their partners 32 comparison couples who experienced distress in their marriage, but were nonviolent	CTS EAQ MCMI-II SPAFF AAS AQ	Men either (a) Using mild physical force with their wives ≥ 6 times in the past year; (b) Using moderate physical force \geq twice in the past year; or (c) Using severe physical force \geq once in the past year.	<ul style="list-style-type: none"> Men were grouped into <ul style="list-style-type: none"> Generally Violent Pathological Family Only: The 3 groups differed significantly on <ul style="list-style-type: none"> Marital violence General violence Antisocial characteristics Borderline characteristics The groups did not differ on dysthymia

AAMI, The Attitudes About Marriage Index;
 AAS, The Adult Attachment Scale;
 AIV, The Acceptance of Interpersonal Violence;
 AQ, The Attachment Questionnaire;
 AUDIT, The Alcohol Use Disorders Identification Test;
 BDI, Beck Depression Inventory;
 CTS, The Conflict Tactics Scales;
 DAS, The Dyadic Adjustment Scale;
 DAST, Drug Abuse Screening Test
 DCI, Domestic Conflict Index;
 EAQ, Emotional Abuse Questionnaire;
 GVM, General Violence Measure;
 HATI, Hostile Automatic Thoughts Inventory;
 HTWI, Hostility Towards Women Inventory;
 LES, The Life Experiences Survey (measure of anxiety);

MAST, Michigan Alcoholism Screening Test;
 MCMI, Millon Clinical Multitaxial Inventory;
 MCSD, Marlowe-Crowne Social Desirability Scale;
 MMEA, Multidimensional Measure of Emotional Abuse;
 MMPI, Minnesota Multiphasic Personality Inventory;
 NAS, Novaco Anger Scale;
 PAI, Personality Assessment Inventory;
 PBQ, Personal Background Questionnaire (assesses the frequency of verbal arguments and physical arguments);
 SPAFF, Specific Affect (measures Coding of affect during marital interaction as an index of social skill);
 TAS, Trait Anger Scale;
 TWLQ, Trouble With the Law Questionnaire;
 URICA-DV; University of Rhode Island Change Assessment Scale–Domestic Violence

1.5 Conservative Masculine Attitudes and IPV

Some researchers have found a relationship between traditional conservative masculine attitudes and IPV. In this context, masculinity is defined as a culturally constructed belief system that informs gender relations and attitudes (Thompson & Pleck, 1995). According to this definition, a conservative attitude toward masculinity involves a pervasive belief that traditionally accepted gender roles should be maintained. It has been suggested that IPV may occur when men, who hold conservative masculine beliefs about acceptable male and female behaviour, perceive that their partners have violated these expectations, and that they are justified in using violence to maintain expected male behaviour (Moore & Stuart, 2005). This theory has been taken-up by the main regulatory organisation for men's behaviour change programs in Victoria: *No To Violence*. Therefore, this theory informs the intervention that takes place at the Victorian men's behaviour change groups (R. Vlasis, personal communication, June 8, 2010).

There is evidence to suggest that men who engage in IPV are more likely to have conservative masculine attitudes (Haj-Yahia & Edleson, 1994; Hurlbert, Whittaker, & Munoz, 1991; Reitzel-Jaffe & Wolfe, 2001; Rosenbaum & O'Leary, 1981). In one study, male military personnel who engaged in IPV were found to have more conservative masculine attitudes than those who did not engage in IPV (Hurlbert et al., 1991). Tweed and Dutton (1998) wrote that they expected the type of intimacy that male batterers with rigid conservative masculine beliefs feel toward their partners is less emotional in content and more a reflection of a premeditated desire to control their partners.

Another study recruited 32 wives who were in individual therapy for reasons that included their husbands' use of IPV (Rosenbaum & O'Leary, 1981). The researchers asked the participants to rate their husbands' masculine beliefs, and found that they rated their husbands as having significantly more conservative masculine attitudes than did a group of 40 wives from non-abusive relationships. However, the same study also found that these women rated their husbands as more conservative than did a group of 20 women in couples therapy for reasons that included their husband's use of IPV. This would appear to indicate that there is at least some variation to be found among the conservative masculine attitudes of men who engage in IPV.

One study found that, while traditional conservative masculine attitudes in men were significantly correlated with physical IPV, this relationship was no longer significant once age, household income, social desirability, and history of being abused/witnessing abuse as a child were included in the model (Sigelman, Berry, & Wiles, 1984). These results were supported in another study that found no difference in scores of conservative masculine attitudes among men who had been court ordered to attend a violence intervention program, men who attended voluntarily, and a control group (Johnston, 1988).

There is evidence to suggest that conservative masculine attitudes are exclusively associated with verbal aggression directed toward intimate partners, rather than physical or sexual violence (Haj-Yahia & Edleson, 1994). The relationship between conservative masculine attitudes and verbal IPV has been found to remain significant after controlling for childhood abuse and empathic understanding. This result was supported in a later study that used structural equation modelling to find a relationship between a factor that

consisted of negative beliefs about gender and violence—including conservative masculine attitudes—and use of emotional violence (Reitzel-Jaffe & Wolfe, 2001). However, this factor consisted of other variables such as rape myth acceptance and acceptance of interpersonal violence. Therefore, the reported relationship does not reflect a direct correlation between conservative masculine attitudes and IPV.

Research has found that conservatism is associated with a structured and persistent cognitive style (Amodio, Jost, Master, & Yee, 2007; Eidelman, Crandall, Goodman, & Blanchard, 2012; Hinze, Doster, & Joe, 1997). This finding indicates that individuals who have conservative attitudes are more likely to have rigid social expectations that are resistant to change. It seems likely that a perceived violation of these expectations would be experienced as more distressing to an individual with a decreased ability to alter a habitual response pattern than it would to others. However, this theory does not appear to explain the behaviour of individuals with conservative attitudes who do not engage in IPV.

Additional research is required to further investigate the relationship between IPV and conservative masculine attitudes. Many of the studies are particularly dated now, and evidence has evolved. It remains unclear whether the relationship is exclusively with psychological violence and not physical violence, and whether the relationship is mediated by other factors. A summary of the studies investigating the role of conservative masculine attitudes in IPV is presented in Table 1.5.

Table 1.5.
Summary of studies investigating conservative masculine attitudes and IPV

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Hurlbert et al., 1991)	30 male military personnel who engaged in IPV 30 male military personnel who were not abusive to their partners	AWS (Attitudes Toward Women Scale)	N/A	<ul style="list-style-type: none"> Men who engaged in IPV were found to have more conservative masculine attitudes than those who did not engage in IPV
(Haj-Yahia & Edleson, 1994)	434 Arab-Palestinian males engaged to marry females	AWS CTS (Conflicts Tactics Scale)	Score on the CTS	<ul style="list-style-type: none"> AWS score predicted verbal aggression but not physical aggression
(Reitzel-Jaffe & Wolfe, 2001)	611 male Canadian university students	AWS CIR (Conflicts in Relationships) PRI-1 (Peer Relations Inventory [Part 1])	Scores on CIR & PRI-1	<ul style="list-style-type: none"> A factor labelled <i>Negative Beliefs</i> (consisting of AWS score as well as Acceptance of personal interpersonal violence, rape myth acceptance, and adversarial sexual beliefs) was found to be positively associated with use of emotional violence against an intimate partner
(Rosenbaum & O'Leary, 1981)	32 wives in individual therapy 20 wives in couples therapy 40 wives from non-abusive relationships.	AWS (scored by the men's wives)	Self-referral to psychological service for reasons related to intimate partner violence	<ul style="list-style-type: none"> Women in individual therapy rated their husbands as having more conservative masculine attitudes than wives from non abusive relationships There was no significant difference between the individual and couples therapy AWS scores
(Sigelman et al., 1984)	504 university students (116 males & 388 females)	AWS CTS	Score on the CTS	<ul style="list-style-type: none"> Conservative masculine attitudes in men were significantly correlated with physical IPV, This relationship was no longer significant once age, income, social desirability, and history of being abused/witnessing abuse as a child were included

1.6 The Nature of Violence and IPV

The following section will cover the modes of violence (i.e., physical, psychological, and sexual) used toward intimate partners, the motivation of the violence, and how personality and attachment pathology relate to both of these concepts. Violence will be discussed in relation to the impulsive and premeditated theory of aggression motivation, as well as other cognitive processes that typically motivate violence toward intimate partners (i.e., whether the violence is out of jealousy, to control, or following verbal abuse).

1.6.1 Mode of violence in IPV. Personality pathology can influence the *mode* of the violence used by IPV perpetrators. Mode of violence can be categorised as physical, psychological, or sexual. Physical violence is defined as deliberate use of force with the intention to induce harm, injury, disability, or death (Saltzman, Fanslow, McMahon, & Shelley, 1999). Sexual violence consists of three categories: 1) use of physical force to engage in a sexual act—penetration of the vulva, anus, or mouth—without consent; 2) a sexual act with an individual who is not capable of giving consent; 3) touching the genitalia, anus, groin, breast, inner thigh, or buttocks without consent (Saltzman et al., 1999). Psychological and emotional abuse is less objectively identifiable than physical and sexual violence, and is therefore more difficult to define (Saltzman et al., 1999). Few studies offer a definition of psychological abuse since so much of what can be considered psychological abuse depends on the victim's interpretation. One definition states that “psychological or emotional abuse involves trauma to the victim caused by acts, threats of acts, or coercive tactics” (Saltzman et al., 1999, p. 61). Due to

the subjective nature of psychological abuse, an exhaustive list of such acts cannot be produced, however, acts that have been proposed to be associated with psychological abuse include humiliating, intentionally putting down, controlling an individual's behaviour, taking advantage, and destroying property (Saltzman et al., 1999). Emotional abuse is the most common mode of violence used toward intimate partners (34.9% of men from the general population), followed by physical violence (13.6% of men from the general population) and sexual aggression (5.9% of male university students; DeGue & DiLillo, 2004; Peek-Asa et al., 2005). Physical and psychological violence have been found to be associated with BPD and ASPD (D. G. Dutton et al., 1996; Edwards et al., 2003; Peek-Asa et al., 2005). Higher levels of antisocial personality pathology in particular have been found to be associated with a greater chance of men using both physical and emotional abuse concurrently (Peek-Asa et al., 2005).

While there have been several studies investigating the relationship between personality pathology and physical or psychological violence, there is a dearth of research in the area of sexual violence toward intimate partners. The small number of studies in this area may reflect a lack of understanding regarding sexual assault in marriage among many cultures; until recently marital rape was not illegal in many countries (Victoria made it illegal in 1985; "Crimes (Amendment) Act," 1985).

Some researchers have found that over half of men who engage in non-sexual violence toward an intimate partner also engage in sexual violence (Monson & Langhinrichsen-Rohling, 1998). It has been proposed that Holtzworth-Munroe and Stuart's (1994) typology should be extended to more

explicitly include sexual violence (Monson & Langhinrichsen-Rohling, 1998). Sexual violence has been found to occur along with nonsexual violence in BD and GVA types, however, a fourth type, labelled sexually obsessive, has been proposed to consist of men who engage exclusively in sexual violence (Huss & Langhinrichsen-Rohling, 2006; Monson & Langhinrichsen-Rohling, 1998). The sexually obsessive type is thought to comprise of men who engage in marital as well as extramarital sexual violence, and is thought to make up a minority of the general IPV perpetrator population (Monson & Langhinrichsen-Rohling, 1998). One study found a relationship between the psychopathic personality construct and sexually coercive behaviour toward an intimate partner (DeGue & DiLillo, 2004).

A summary of the studies investigating modes of violence used in IPV is presented in Table 1.6.1.

Table 1.6.1.

Summary of studies on the mode of violence used in IPV

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Avakame, 1998)	2143 US families (selected to be nationally representative)	Family of origin violence (measure developed for the study) CTS	CTS scores (measured dimensionally)	<ul style="list-style-type: none"> Physical punishment from the male partner's father was associated with psychological aggression toward their partner.
(DeGue & DiLillo, 2004)	97 sexually coercive male university students (18 of whom were sexually aggressive) 223 non offending male university students	RAPE Scale ASB AIV HTW AQ IRI PPI-SF CAMI SEQ	Men were labeled sexually aggressive if they obtained an (unspecified) score based on three items on the SEQ. Coercion was measured using the AIV and the SEQ.	<ul style="list-style-type: none"> 5.9% of all students were classified as sexually aggressive. The researchers only stated that there were no significant differences on any of the variables between sexually aggressive men and sexually coercive men. Sexually coercive men were found to report more psychopathic personality traits, and had more empathic deficits than non offending participants.
(D. G. Dutton et al., 1996)	120 males who had committed wife assault 75 female partners.	SRIBPO MAI CTS	Court-referred and self-referred males	<ul style="list-style-type: none"> Assaultive men scored significantly higher on a measure of borderline personality organisation (BPO) than men from the non-assaultive, control group. When BPO was combined with anger, trauma symptoms and fearful attachment, the relationship with emotional abuse was .42.
(Edwards et al., 2003)	43 males 40 males	PAI MCMI II CTS RSQ BPO	Conviction of spousal abuse (first group) Conviction of non-violent crime (second group)	<ul style="list-style-type: none"> Measures of borderline and antisocial personality disorder correlate significantly with physical aggression.

Table 1.6.1 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Huss & Langhinrichs en-Rohling, 2006)	131 males who engage in IPV	PCL-SV MCMI-II CTS-2 MAI	Court referral (59%) or self-referral (41%) for treatment for partner assault	<ul style="list-style-type: none"> • GVA IPV perpetrators were significantly more likely to use all modes of violence (physical, psychological, and sexual) than the other Holtzworth-Munroe and Stuart (1994) subtypes.
(Peek-Asa et al., 2005)	572 males and their cohabitating female partners from the general population	CTS CBQ CES-D DIS	Any incidence of physical, emotional , or sexual male-to-female intimate partner abuse.	<ul style="list-style-type: none"> • 13.6% of men had engaged in one or more acts of physical abuse. • 34.9% of men had engaged in emotional abuse • Controlling for age, antisocial personality pathology was associated with both physical and emotional abuse. • Men with antisocial personality characteristics were 3.3x more likely to exhibit both physical and emotional abuse together, than were men without antisocial personality characteristics.

AIV, Acceptance of Interpersonal Violence;
 ASV, Adversarial Sexual Beliefs;
 AQ, Aggression Questionnaire;
 BPO, Borderline Personality Organization Scale;
 CAMI, Computer Administered Maltreatment Inventor;
 CTS, Conflicts Tactics Scale;
 CBQ, Controlling Behavior Questions;
 CES-D, Centre for Epidemiological Studies Depression Scale;
 DIS, Diagnostic Interview Schedule;

HTW, Hostility Towards Women Scale;
 IRI, Interpersonal Reactivity Index;
 MAI, Multidimensional Anger Inventory;
 MCMI II, Millon Clinical Multiaxial Inventory;
 PAI, Personality Assessment Inventory;
 PPI-SF, Psychopathic Personality Inventory–Short Form;
 RSQ, Relationship Style Questionnaire;
 SEQ, Sexual Experiences Questionnaire;
 SRIBPO, Self-Report Instrument for Borderline Personality Organization

1.6.2 Motivation of Violence in IPV. Men who engage in IPV can also be categorised based on the motivation behind the aggression that they use against their intimate partners. Bushman and Anderson (2001) define human aggression as:

Any behavior directed toward another individual that is carried out with the proximate (immediate) intent to cause harm. In addition, the perpetrator must believe that the behavior will harm the target and that the target is motivated to avoid the behavior (p. 274).

The following section explores two methods of conceptualising the motivation of aggression in men who engage in IPV: the impulsive / premeditated dichotomy, and the proximal antecedence to the violence.

1.6.2.1 Impulsive and premeditated IPV. Tweed and Dutton (1998) found two clusters of men who engage in IPV that were based on the type of aggression in which they engaged. The authors proposed that their *impulsive* group is associated with Holtzworth-Munroe and Stuart's BD group, and their *premeditated* group is associated with Holtzworth-Munroe and Stuart's GVA group. This typology resembled that of earlier studies on *general* aggression (Bachorowski, Newman, Dodge, & Price, 1990; Cornell et al., 1996; Dodge & Coie, 1987; Dodge, Harnish, Lochman, Bates, & Pettit, 1997). These models separated aggression into reactive and proactive subtypes. Reactive, or impulsive, aggression is usually initiated by an interpretation of hostility in another person (Dodge & Coie, 1987). The goal or motivation of this behaviour is to alleviate the perceived threat, rather than to fulfil an internally generated goal. In contrast, proactive, or premeditated, aggression is not

necessarily initiated by the interpretation of threat; rather, aggression is viewed as a viable means of achieving some external goal not based exclusively on emotion (Dodge & Coie, 1987). Several studies have revealed models that replicated this same impulsive-premeditated dichotomy in relation to IPV (Chase et al., 2001; Stanford et al., 2008; Tweed & Dutton, 1998; Walters, Frederick, & Schlauch, 2007). Also, an earlier study from the IPV literature revealed a similar typology, with some IPV perpetrators being categorised as *Overcontrolled* (resembling the premeditated type), and others as *Undercontrolled* (resembling the impulsive type; Hershorn & Rosenbaum, 1991).

Premeditated IPV offenders have been found to have higher antisocial and aggressive-sadistic traits than impulsive IPV perpetrators (Chase et al., 2001), while impulsive IPV perpetrators have been found to score higher on measures of borderline personality *organisation* (borderline personality measured on a continuum ranging from normal to pathological) than premeditated IPV perpetrators (Tweed & Dutton, 1998). Another study found that men whose heart rates decreased during conflict with their partners (a phenomenon that the authors considered to be associated with premeditated IPV perpetrators) engaged in more verbal aggression directed toward their wives, and had elevated scores of antisocial behaviour and sadistic aggression than did men whose heart rates decreased during conflict with their partners (Gottman, Jacobson, Rushe, & Shortt, 1995). There is also evidence to suggest that premeditated IPV perpetrators tend to engage in more severe violence than impulsive IPV perpetrators (Tweed & Dutton, 1998).

Premeditated IPV perpetrators have also been found to score higher on measures of psychopathy than impulsive IPV perpetrators (Stanford et al., 2008). When this relationship between psychopathy and motivation for violence was investigated at the factor level, one study from the general violence literature found that Factor 1 psychopathy was associated with instrumental (premeditated) violence, while Factor 2 psychopathy was not (Woodworth & Porter, 2002). This relationship appears consistent with psychopathy theory, which indicates that people high on Factor 1 traits are less impacted by emotional experiences and, therefore, less likely to act reactively or impulsively out of aggression (R. D. Hare & Neumann, 2005).

Despite its popularity, the impulsive / premeditated dichotomy has faced some criticism (Bushman & Anderson, 2001). One distinction that is typically made to distinguish impulsive from premeditated aggression is the use of goals; men who engage in premeditated aggression are thought to use violence as a means to some external goal, whereas violence is the end goal for men who engage in impulsive aggression (Dodge & Coie, 1987). However, researchers who are critical of the impulsive / premeditated dichotomy point out that violence can be motivated by multiple goals (Tedeschi & Felson, 1994). These researchers have noted that, often, an act of violence that would be commonly classified as impulsive is also motivated by the desire to maintain self-esteem, to re-establish justice, or to receive benefits such as safety, money, or information. Another distinction that is commonly made between impulsive and premeditated aggression is that of the presence of anger exclusively in impulsive aggression. However, premeditated aggression

can be in response to feelings of hatred or a desire for revenge, which can be deeply rooted in anger (Bushman & Anderson, 2001).

While there are clearly some difficulties in assigning individuals into either the impulsive or premeditated aggression categories, there are advantages to looking at these constructs dimensionally. Dimensional approaches to assessment allow for the measure of the degree to which an individual primarily engages in either type of violence (Stanford et al., 2003).

1.6.2.2 Proximal antecedence to IPV. Researchers have also proposed another theory that categorises men who engage in IPV based on the motivation behind their violent acts (Babcock, Costa, et al., 2004). The researchers propose that the motivations of IPV perpetrators can be determined by examining the context of the violence. Three categories of proximal antecedence to violence have been identified; *Violence to Control*, *Violence out of Jealousy*, and *Violence following Verbal Abuse* (Babcock, Costa, et al., 2004). This theory is consistent with Holtzworth-Munroe and Stuart's (1994) IPV perpetrator typology, with the IPV perpetrator types differing consistently across each of the three antecedent categories (Babcock, Costa, et al., 2004).

Despite the relationship that these categories of motivation have been found to have with Holtzworth-Munroe and Stuart's (1994) IPV perpetrator typologies, antisocial personality pathology, borderline personality pathology, and psychopathy were all found to correlate most strongly with Violence following Verbal Abuse, followed by Violence to Control, and lastly, Violence out of Jealousy (Babcock, Costa, et al., 2004). Given that subsequent

research has revealed a relationship between borderline personality pathology and jealousy in offenders of IPV, it seems likely that men who are high on borderline personality pathology would be more likely to engage in Violence out of Jealousy than the other personality disorders (Costa & Babcock, 2008). Further work is needed to explore the relationship between personality pathology and the antecedents of violence in the context of IPV.

Table 1.6.2.2 summarises studies that have examined the motivation behind violence directed toward an intimate partner. As discussed in the above sections, the impulsive and premeditated dichotomy, and proximal antecedence to violence are the two areas of IPV motivation investigated. Sample sizes varied dramatically, from 41 to 679.

Table 1.6.2.2.
Summary of studies investigating motivations of violence in IPV perpetrators

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Babcock, Costa, et al., 2004)	Study 1: 162 males Study 2: 110 couples	PAVE CTS2 MCMI-III	Study 1: Admission to intervention facilities for perpetrators of IPV Study 2: Female report of at least one incident of male aggression directed toward them in the last year	<ul style="list-style-type: none"> • Study 1: Factor analysis of the PAVE scale revealed 3 factors based on proximal antecedents to violence: <ul style="list-style-type: none"> • Violence to Control • Violence out of Jealousy • Violence following Verbal Abuse • Holtzworth-Munroe and Stuart's (1994) IPV perpetrators subtypes differed on these three factors • Study 2: The above factor structure was also found using a community sample
(Chase et al., 2001)	60 married men	CTS MCMI-II SPAFF Family Violence Questionnaire	<p>IPV: Two acts of male-to-female IPV in the past year (assessed by the CTS)</p> <p>Aggression type: Participants were categorized (by independent raters) as proactive if they met any criteria for proactive aggression (including also meeting criteria for reactive aggression) and were categorized as reactive if they met criteria for reactive aggression exclusively</p>	<ul style="list-style-type: none"> • Categorised as: <ul style="list-style-type: none"> • Reactive (62%) • Proactive (38%) <ul style="list-style-type: none"> • More dominant • Less angry • More antisocial and aggressive-sadistic • Less dependent • More frequently classified as psychopathic (17% vs. 0%; based on the MCMI-II)

Table 1.6.2.2 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Costa & Babcock, 2008)	184 couples (130 intimate partner abusers, 27 distressed/nonviolent men, and 21 satisfied/nonviolent men)	CTS-2 MCMI-III SRP-II STAXI ATSS	Either partner reporting male to female abuse in the past year on the CTS-2	<ul style="list-style-type: none"> • Articulations reflecting anger were positively correlated with borderline, antisocial, and psychopathic features. • Articulations reflecting jealousy were positively correlated with borderline personality features. • IPV men did not articulate any theme more frequently than the other groups (personality pathology was found to be a better predictor)
(Gottman et al., 1995)	61 married couples	MCMI-II SPAFF Physiological measures	Men either: (a) Using mild physical force with their wives ≥ 6 times in the past year; (b) Using moderate physical force \geq twice in the past year; or (c) Using severe physical force \geq once in the past year.	<ul style="list-style-type: none"> • Type 1 ($n=12$) = Heart rates decreased during conflict with partner; • Type 2 ($n=49$) = Heart rates increased during marital conflict. • Type 1 men were significantly more verbally aggressive toward their wives, and expressed higher levels of antisocial behaviour and sadistic aggression
(Hershorn & Rosenbaum, 1991)	41 males who engage in IPV	OH Scale CTS CRPBI BDHI	Referred for treatment for wife abuse to IPV perpetrators' programs.	<ul style="list-style-type: none"> • OH Scale scores revealed 2 groups: <ul style="list-style-type: none"> • Overcontrolled <ul style="list-style-type: none"> • Strong inhibitions against anger and aggression. Anger summates until there is an explosive discharge greater than would be warranted by the most recent eliciting stimuli • Undercontrolled <ul style="list-style-type: none"> • Little control over the expression aggression

Table 1.6.2.2 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	RESULTS
(Ostrov & Houston, 2008)	679 (341 female) university students	SRASBM IPAS PPI PDQ	Scores on SRASM and IPAS	<ul style="list-style-type: none"> • Both proactive and reactive relational aggression were associated with borderline features • Proactive and reactive physical aggression, and proactive relational aggression were all uniquely related to ASPD features
(Reidy et al., 2007)	135 undergraduate males	LSRP RCAP	Instrumentality vs. Impulsivity was experimentally engineered via a reaction task.	<ul style="list-style-type: none"> • Factor 1 was related to aggression in both impulsive and premeditated men. • Factor 2 was related to aggression only in impulsive men.
(Ross & Babcock, 2009)	<p>124 adult couples living together for at least 6 months, responding to ad for "couples experiencing conflict"</p> <p>Men with personality disorders were matched on number of previous incarcerations, partner injury, and the amount of male-to-female violence in their current relationship</p>	CTS2 SCID-II	Female report (during interview) of male violent acts (rated according to frequency and severity)	<ul style="list-style-type: none"> • Personality-disordered IPV perpetrators engaged in more IPV and inflicted more injuries than IPV perpetrators who did not qualify for a personality disorder. • Antisocial men engaged in more severe violence after their partners engaged in dominant or belligerent behaviour or violent behaviour than BPD/comorbid men. • BPD/comorbid men reacted with more severe violence after their partner exhibited distress (reactive) than both antisocial and non personality-disordered IPV perpetrators.

Table 1.6.2.2 (con't)

AUTHOR	PARTICIPANTS	MEASURES	CRITERIA	•RESULTS
(Stanford et al., 2008)	113 domestically violent men	IPAS LHA PPI PAI	IPV: Arrest for domestic violence and court ordered into an intervention program Aggression type: IPAS score (premeditated: Average of 3.7 [out of 12] premeditated items endorsed impulsive: Average of 4.9 [out of 8] impulsive items endorsed)	<ul style="list-style-type: none"> • Men whose violence was classified as predominantly premeditated (n = 37) scored higher on measures of psychopathy and treatment rejection. • IPV perpetrators whose violence was classified as impulsive (n = 76) were more stressed and scored lower on fearless dominance.

ATSS, Articulated Thoughts in Simulated Situations Paradigm (assesses participants' thoughts during imagined scenarios involving their partners)

ATWS, Attitudes Toward Women Scale;

BDHI, The Buss-Durkee Hostility Inventory;

BDI, Beck Depression Inventory;

CRPBI, The Child Report of Parental Behavior Inventory;

CTS, The Conflict Tactics Scales;

DPI, Decision Power Index (the extent to which a romantic partner is responsible for marital decision making);

IPAS, Impulsive/Premeditated Aggression Scale;

LHA, Lifetime History of Aggression;

LSRP, Levenson's Self-report of Psychopathy;

MAI, Multidimensional Anger Inventory;

MAST, Michigan Alcoholism Screening Test;

MCI, Marital Conflict Index;

MCMI, Millon Clinical Multitaxial Inventory;

MCSD, Marlowe-Crowne Social Desirability Scale;

OH Scale, The Overcontrolled Hostility Scale;

PAI, Personality Assessment Inventory;

PAVE, Proximal Antecedents to Violent Episode scale;

PDQ, Personality Diagnostic Questionnaire-4;

PPI, Psychopathic Personality Inventory;

RCAP, Response choice aggression paradigm;

SCID-II, Structured clinical interview for DSM-IV personality disorders;

SPAFF, Specific Affect Coding System (measures affect during marital interaction);

SRASBM, Self-report of Aggression and Social Behavior Measure;

SRP-II, The Self Report of Psychopathy-II;

STAXI, State-Trait Anger Expression Inventory

1.7 Conclusion

There is clearly a growing evidence base to suggest that IPV is associated with personality pathology in the DSM-IV cluster B range (Asnis et al., 1997; Coid et al., 2006; Donald G. Dutton, 1995; Edwards et al., 2003; Newhill et al., 2009; Raja et al., 1997; Ross & Babcock, 2009; Vaughn et al., 2010). Despite evidence that psychopathy—which is associated with cluster B personality pathology—may be associated with aggressive behaviour in the IPV context, there are remarkably few studies that have investigated the relationship between IPV and the different factors of psychopathy. This is an important area for future study as psychopathy sub factors can be measured dimensionally and may have unique relationships with different modes and motivations of IPV (Costa & Babcock, 2008; Sreenivasan et al., 2008). The current literature suggests that the DSM-IV categories of BPD and ASPD are primarily related to the behavioural factor of psychopathy in generally violent samples (Huchzermeier et al., 2007). There is also a limited evidence base to suggest that this behavioural factor association exists for violence in the context of IPV (Sreenivasan et al., 2008). This highlights the need for studies that investigate the relationship between IPV and personality pathology, including dimensional psychopathic traits that probe not only the above behavioural factor, but also the affective/interpersonal factor, which has largely been neglected in the IPV literature.

The literature suggests that IPV is also associated with insecure attachment styles (D. G. Dutton et al., 1996; Kesner & McKenry, 1998; Lafontaine & Lussier, 2005; Mahalik et al., 2005; Woike et al., 1996). However, there is also growing evidence to suggest that personality pathology

may be a significant mediating factor (Lafontaine & Lussier, 2005; Mauricio et al., 2007; Woike, Osier, & Candela, 1996). While there is some work suggesting clear mediating associations between DSM-IV cluster B pathology (namely BPD and ASPD), attachment, and IPV, there has been no work investigating whether this interaction would occur when developing a model to predict group membership of a physically violent, and a physically non-violent group.

Furthermore, there are no studies looking at the relationship between aspects of psychopathy and modes and motivations for violence used toward intimate partners. This is something that we wish to address in this study.

1.7.1 Rationale for this study. The present study is the first to examine conservative masculine attitudes, personality function (including psychopathic traits) and attachment style in a cohort of male IPV offenders and men from the general community. Ultimately, by looking at underlying personality, attachment styles, and attitudes, as well as motivations of violence, this study will provide new in-depth data that explores these issues. The work should inform the assessment process as well as the development of targeted treatment programs for IPV clients.

The study focused on four main research aims, as outlined below:

1. To determine the prevalence of IPV that is engaged in by male partners, female partners, and both partners in heterosexual relationships. Based on the results of previous research (Langhinrichsen-Rohling, Misra, et al., 2012; Straus & Ramirez, 2007), it was predicted that:

- a. Of the couples who engaged in physical violence—operationalised as the endorsement of at least one item on the *Physical Assault (within the Last 12 Months)* scale of the CTS-2—the most common relationships would be those in which both partners engaged in physical violence; (i.e., *mutuality*).
- b. There would be an approximately equivalent number of females engaging in physical IPV as males; (i.e., *symmetry*).

2. To determine the prevalence of personality disorder among men who engage in IPV. Given the results of previous research (Ross & Babcock, 2009), it was predicted that:

- a. BPD would be the most common personality disorder among men who engage in IPV.

3. To explore the relationships that variables thought to motivate use of IPV have with personality, attachment style, conservative masculine attitudes, and severe violence. Several hypotheses were constructed to explore this aim. The results of previous research found a relationship between premeditated aggression and ASPD in men who engage in IPV (Chase et al., 2001). For the current study, the Self-Centred Impulsivity scale of the Psychopathic Personality Inventory – Revised was used as a substitute for ASPD, as this scale has been found to parallel the behavioural factor of psychopathy, which closely resembles the DSM-IV diagnosis of ASPD. Therefore, based on the results of previous research (Chase et al., 2001), it was predicted that:

- a. Premeditated aggression score, and not impulsive aggression score, would be significantly correlated with score on the Self-Centred Impulsivity scale of the Psychopathic Personality Inventory – Revised, among participants who engage in IPV.

Given the results of previous studies (Ross & Babcock, 2009; Tweed & Dutton, 1998), which found that impulsive aggression was associated with BPD in men who engage in IPV, it was predicted that:

- b. Impulsive aggression score, and not premeditated aggression score, would be significantly correlated with score on a measure borderline personality traits, among participants who engage in IPV.

Given that studies have revealed that individuals who engage in IPV, and have a form of anxious attachment style, are also more likely to engage in impulsive violence (Edwards et al., 2003; Tweed & Dutton, 1998), it was predicted that:

- c. Impulsive aggression score, and not premeditated aggression score, would be significantly correlated with score on a measure of anxious attachment, among men who engage in IPV.

Based on Tweed's and Dutton's (1998) finding that premeditated IPV perpetrators tend to engage in more severe violence than impulsive IPV perpetrators, it was predicted that:

- d. Premeditated aggression score, and not impulsive aggression score, would be significantly correlated with score on a measure of severe physical IPV.

Given that attachment theory postulates anxious attachment style is based on a negative model of self—and, therefore, cognitions of inferiority and jealousy may theoretically be associated with this attachment style, it was predicted that:

- e. Score on the Violence out of Jealousy scale would be significantly correlated with anxious attachment score among men who engage in IPV.

4. To determine which variables best discriminate between a group of men who engage in physical IPV, and a group of men who do not. This was the primary aim of the study. Although no specific hypothesis was constructed for this exploratory aim, the results of a study by Mauricio, Tein, and Lopez (2007), into the mediating effects of BPD, led to the related hypothesis that:

- a. Anxious attachment style would no longer be a significant predictor of physical IPV once borderline personality traits are included in the model.

Chapter 2

Method

2.1 Chapter Outline

This chapter describes in detail how the present study was conducted. It begins by providing an overview of the sample, and then outlines the procedure used to recruit and collect data from participants from Men's Behaviour Change Programs (MBCP) and from the general community. The following section examines the research materials used in the study, and discusses their psychometric properties. Ethical considerations are explored in the next section, including approval from ethics committees. Lastly, data screening procedures are outlined, and the statistical analyses used (the results of which are reported in chapter 3) are described.

2.2 Research Design

2.2.1 Participants. The sample consisted of 101 males from the general community and from men's domestic violence groups around Victoria. Three participants were excluded as a result of elevated Impression Management scores. Of the 98 remaining participants, 49 were recruited from the MBCP and an additional 49 men were recruited from the general community. The general community participants responded to posters or an online advertisement. Of the participants recruited from the MBCP, 14.3% reported being court mandated to attend the groups, and 40.8% reported volunteering to attend the groups—the remaining 44.9% provided no response. Only heterosexual male applicants were requested for both groups.

Participants had to have been in a serious relationship within the past 12 months—62.3% of participants reported being currently married to- or living with their partner. The participants' ages ranged from 18 to 63 years ($M = 33.4$, $SD = 10.5$).

Participants were not eligible for inclusion in the study if they were unable to complete the psychometric instruments due to inadequate English language proficiency, a history of acquired brain injury, or a past diagnosis of schizophrenia or other psychotic disorder. Exclusion criteria were determined by self-report prior to the participants' official commencement of the study. The composition and characteristics of the sample are presented in the results section.

2.2.2 Procedure. Data collection took place between September 3rd, 2011, and November 23rd, 2012. Due to low early recruitment rates, the study design went through an early revision. While using the initial study design, recruitment rates varied from approximately zero to five per cent of attendees from each domestic violence group approached. This rate was increased to approximately 10 to 30 per cent with the revision to the study design, by eliminating the need for an interview and collateral information. This was achieved by substituting the Psychopathy Checklist – Short Version with the Psychopathic Personality Inventory – Revised, and eliminating the Spousal Assault Risk Assessment guide from the test battery. The following two sections outline the recruitment and data collection procedures used for the men from the MBCP and from the general community.

Men's behaviour change programs. The student researcher attended Victorian MBCP groups to give a five-minute presentation (see Appendix A) to the men before one of their usual group sessions. The MBCP groups are designed as an intervention for men who engage in intimate partner violence (IPV), or any kind of domestic violence. As part of the presentation, the exclusion criteria were read-out to the men. These groups consisted of men who were either court mandated or voluntarily attended in response to recent violent behaviour toward their partner. The Victorian groups ascribe to standards set-out by the Victorian organisation No To Violence. These standards outline the goals of the groups, which focus on helping the men take responsibility for their violent behaviour. Men who engage in physical, psychological, or sexual violence toward their partner or family can attend the groups.

After the presentation was given to the men outlining the details of the study, envelopes were handed-out to the men. These envelopes included an information sheet briefly describing the study, the eight self-report measures used in the study, an additional questionnaire for descriptive participant information, contact details for support services, and the consent form (see Appendix B). The support services included the Clinical Psychology Centre (CPC) in Clifton Hill, which agreed to see any distressed participants from the study free of charge. However, the CPC reported that none of the participants contacted them for counselling. The nine questionnaires were numbered according to a unique and randomly generated order, and the participants were instructed to complete them in numerical order to avoid order effects. A random integer set generator accessed online (Haahr, 2011; The generator

uses atmospheric noise to produce true random numbers) was used to produce 500 random sets of these nine integers; each set was used to number the questionnaires in each package. The time to complete all of the questionnaires was estimated to be approximately one hour. The men were encouraged to take the envelopes home, read through them, and if they were interested, complete the questionnaires and return them to the group the following week. The researcher then attended the group over the proceeding weeks to collect the completed questionnaires and present the participants with \$30 to compensate them for their time.

Participants from the MBCP who were recruited during the initial study design ($n = 2$) completed the questionnaires in-person, and the descriptive information was gathered as part of an interview for two measures not used in the final results (The Psychopathy Checklist – Revised [PCL-R], and the Spousal Assault Risk Assessment guide [SARA]). The assessments were undertaken at either the Centre for Forensic Behavioural Science (CFBS) in Clifton Hill, Victoria, at Monash University in Clayton, Victoria, or at the location of the men's behaviour change groups after their regular meetings.

Community sample. Men responding to posters (See Appendix C) placed at various Victorian university campuses, police stations, and online advertisements for the study, made a telephone call to the student researcher if they were interested in finding out more information or participating. Participants from the general community who were recruited while the study was using the initial study design ($n = 7$) organised a time to meet the student researcher for the interview at either the CFBS or Monash university.

However, subsequent participants were sent out a package that included the self-report questionnaires, consent form, information sheet, and the support services contact information. Upon receiving the completed questionnaires, the participants were posted a \$30 cheque to compensate them for their time.

The posters requested men in “rocky relationships”. The reason men in unstable relationships were requested was to give a matched comparison with men who were also in unstable relationships but who engaged in IPV (from the MBCP). However, there was a possibility that the men who responded to the advertisements were actually the victims of IPV. Their interpretation of a “rocky relationship” could have been one in which their partner abused them. An attempt to prevent this possibility was made by including the wording “Do you sometimes lose control of yourself with your partner?”

2.3 Research Materials

The psychometric measures used in the test battery are discussed in the current section, including the measure designed for the specific purpose of collecting demographic information for the present study. The participants were asked to complete every measure, irrespective of whether they were recruited from the MBCP or the general community.

2.3.1 Adult attachment style.

Experiences in Close Relationships - Revised (ECR-R; Fraley, Waller, & Brennan, 2000). The ECR-R is a self-report measure, and uses two 18-item subscales to assess the primary dimensions of adult romantic attachment; avoidance and anxiety. The instructions request that respondents

consider their general experience in romantic relationships, rather than their current relationship exclusively, when responding to each item. The respondents rate each item on a seven-point Likert-type scale ranging from “strongly disagree”, to “strongly agree”. These two dimensions of adult attachment are theoretically related to internal working models of self, and of others (Ainsworth et al., 1978). Anxious attachment is associated with a negative model of self, avoidant attachment is associated with a negative model of others, and secure attachment is associated with a positive model of self and others (Kim Bartholomew, 1990). Items that load onto the anxious scale include “When my partner is out of sight, I worry that he or she might become interested in someone else”, and “When I show my feelings for romantic partners, I'm afraid they will not feel the same about me”, and items that load onto the avoidant scale include “I get uncomfortable when a romantic partner wants to be very close”, and “I prefer not to show a partner how I feel deep down”.

Factor analyses have confirmed the two-factor model measured using the ECR-R, and demonstrated that the two factors of the ECR-R are the same two factors measured using other measures of attachment (Fairchild & Finney, 2006; Griffin & Bartholomew, 1994; Sibley, Fischer, & Liu, 2005). Research has shown that both factors demonstrate good internal consistency; the avoidance subscale was found to have a Cronbach's coefficient alpha of .93, and the anxious subscale was found to have a Cronbach's coefficient alpha of .92 (Fairchild & Finney, 2006). Additionally, both dimensions have been found to have between 84% and 85% shared variance over a period of three weeks (Sibley et al., 2005; Sibley & Liu, 2004). The ECR-R anxiety

subscale was found to correlate positively with a measure of loneliness and a measure of worry. Both anxious and avoidant subscales were negatively related to a measure of social support (Fairchild & Finney, 2006).

Research has found that the two dimensions measured using the ECR-R are correlated with reported behaviour exclusively toward intimate partners (Sibley et al., 2005). Attachment avoidance and anxiety measured using the ECR-R has been found to predict 30% to 40% of the variance in diary ratings of avoidant and anxious behaviour toward an intimate partner, but only 5% to 15% toward family members or close friends (Sibley et al., 2005).

2.3.2 Personality pathology.

Structured Clinical Interview for DSM-IV Axis II Personality

Disorders Questionnaire (SCID-IIP; First, Spitzer, Gibbon, & Williams, 1997). The SCID-II Personality Questionnaire was used to assess behaviours that suggest the presence of personality pathology. Only items that relate to the personality variables that are relevant to the study were used: dependent, passive-aggressive, paranoid, narcissistic, and borderline personality disorders (56 items in total). The antisocial personality disorder items were not included as a separate measure was used to assess psychopathy.

Respondents were instructed to answer “yes” to a question if, considering their feelings and behaviour over the past several years, it completely or mostly applies to them, or “no” if it does not apply to them. The questions correspond directly with those from the SCID-II personality interview (e.g., one item that loads on borderline personality disorder asks, “Have you often become frantic when you thought that someone you really

cared about was going to leave you?” and another that loads on narcissistic personality disorder asks “Do you think that it's not necessary to follow certain rules or social conventions when they get in your way?”

Alpha reliability rates in a community sample were found to be .63 for dependent, .68 for passive-aggressive, .82 for paranoid, .82 for narcissistic, and .86 for borderline personality disorders (Piedmont, Sherman, Sherman, & Williams, 2003). Cross-observer agreement—the degree to which a self-report and a report from an observer agree—was at a level equivalent to that found for measures of “normal” personality (e.g., the Five Factor Model), indicating that the questionnaire captures similarly robust and salient personality qualities (Piedmont et al., 2003).

The ten-week test-retest stability of the DSM-III-R version of the SCID-II personality questionnaire overall was .69 (.82 for dependent, .67 for passive-aggressive, .73 for paranoid, .71 for narcissistic, and .79 for borderline personality disorders; Ouimette & Klein, 1995). The results were not found to be effected by the presence of clinical depression; the scores for each personality variable for participants who had a diagnosis of major depressive disorder during the first test, did not differ significantly from the results of their retest after their recovery (Ouimette & Klein, 1995).

Psychopathic Personality Inventory – Revised (PPI-R; Lilienfeld & Widows, 2005a). The PPI-R measures psychopathic personality on a dimensional scale using self-report items. It was created to be a measure of personality, without including any items on criminal behaviour. It contains 154 items, which consist of sentences phrased in the first person. The

respondents rate how accurately the sentences apply to them using a four-point Likert-type scale (false, mostly false, mostly true, true) to prohibit central tendency in response selection. The items and instructions are written at a fourth grade reading level to accommodate individuals with low reading skills.

The authors used factor analysis to establish three superordinate factors that account for 47% of the variance: Self-Centred Impulsivity, Fearless Dominance, and Coldheartedness (Lilienfeld & Widows, 2005b). Items for the Self-Centred Impulsivity scale include “If I really want to, I can persuade most people of almost anything”. The Fearless dominance scale includes items such as “When I meet people, I can often make them interested in me with just one smile”, and the Coldheartedness scale includes items such as “It bothers me a lot when I see someone crying” (reverse scored). Each factor consists of a number of content scales. Blame Externalization, Rebellious Nonconformity, Carefree Nonplanfulness, and Machiavellian Egocentricity comprise the Self-Centred Impulsivity factor. Social Influence, Stress Immunity, and Fearlessness comprise the Fearless Dominance factor, and the Coldheartedness factor consists exclusively of the Coldheartedness content scale (see Table 2.2.2).

The PPI-R also contains four validity scales; Virtuous Responding (13 items), Deviating Responding (10 items), and two Inconsistent Responding scales (choice of a 15-item or a 40-item scale. The more internally consistent 40-item scale was used for the present study; Lilienfeld & Widows, 2005b). At the suggestion of the manual, any completed tests with more than 30 missing items were considered invalid. Based on the general community sample, the

mean for each scale is 50, with a standard deviation of 10 (Lilienfeld & Widows, 2005b).

Table 2.2.2

Factors and Content Scales of the PPI-R

Self-Centred Impulsivity	Fearless Dominance	Coldheartedness
Blame Externalization (15 items)	Social Influence (18 items)	Coldheartedness (16 items)
Rebellious Nonconformity (16 items)	Stress Immunity (13 items)	
Carefree Nonplanfulness (19 items)	Fearlessness (14 items)	
Machiavellian Egocentricity (20 items)		

Note: Hare's (2005) concepts of Factor One and Factor Two psychopathy are associated with Fearless Dominance and Self-Centred Impulsivity respectively.

The test-retest correlation for the total score, after a mean of 19.9 days between tests, was .93. The mean test-retest correlation for the three factor scores was .90, and for the eight content scales scores was .89 (Lilienfeld & Widows, 2005b).

The PPI-R was found to demonstrate convergent validity with several measures. Total score was found to correlate highly with the Aggression Antisocial Features, and Mania scales of the Personality Assessment Inventory (Lilienfeld & Widows, 2005b). Total score was also found to be significantly correlated with Youth Psychopathic Traits Inventory, Levenson's Self-Report of Psychopathy, and the Psychopathy Checklist – Revised (PCL-R) total score (Malterer, Lilienfeld, Neumann, & Newman, 2010; Uzieblo, Verschuere, van den Bussche, & Crombez, 2010). Additionally, PCL-R Factor 2 scores were significantly related to Self-Centred Impulsivity scores ($r = .41$).

These findings were consistently significant among both university students and offender populations (Malterer et al., 2010). The Fearless Dominance factor appears conceptually related to Factor 1 of the PCL-R, and they are statistically related, however, Fearless Dominance is also significantly correlated with Factor 2 of the PCL-R, and therefore is probably measuring a slightly different component of psychopathy (Malterer et al., 2010). This may be because the PCL-R factors are highly intercorrelated, whereas the PPI-R factors are orthogonal (Malterer et al., 2010). The PPI-R has been found to have better criterion-related validity than the PCL-R; more accurately predicting both non-aggressive infractions and aggressive misconduct in prison (Edens, Poythress, Lilienfeld, & Patrick, 2008).

Paulhus Deception Scales: Balanced Inventory of Desirable Responding Version 7 (PDS; Paulhus, 1999). The PDS is a self-report questionnaire consisting of 40 multiple choice items that measure an individual's tendency to provide socially desirable responses in a testing environment. The PDS comprises an Impression Management (IM) scale and a Self-Deception Enhancement (SDE) scale. Individuals who score highly on the IM scale are more likely to deliberately attempt to portray themselves favourably during the assessment. The respondent is asked to rate how accurately inflated self-descriptions (e.g., "I never cover up my mistakes") apply to them. The SDE scale measures the degree to which an individual provides unintentionally inflated self-descriptions that they believe to be an accurate representation of themselves (e.g., "I am very confident of my judgments"). Low scores on either scale can be indicative of a marked awareness of personal faults. The PDS results for the present study were

used as a covariate to control for deception, and to exclude any extreme scorers. Consequently, only the 20 items from the IM scale were used.

Using a five point rating scale ranging from “Not True” to “Very True”, participants were asked to select the response to each item that best applied to them. Participants were instructed to respond to descriptions of situations that they had never experienced before (e.g., individuals who have not travelled over seas in response to the item “I always declare everything at customs”) as they imagine they would behave in the proposed situation.

The participants’ responses to each item were transferred from the response form to a digitised scoring template. The computer program scored extreme responses for each item as a one, and any other response as a zero. Extreme responses were those that the participant rated as either four/five, or one/two on the rating scale, depending on whether the item was reverse scored. A *T*-score, based on the total raw IM score, was then calculated from general population norms ($N=441$) which consisted of Americans and Canadians from the general population, ranging in age from 21 to 75 years (Lilienfeld & Widows, 2005a). *T*-scores below 40 or above 60 were considered outside of the average range. *T*-scores below 30 or above 70 were considered in the extreme range and warranted further investigation of the individual’s other self-report scores, and potential exclusion from the study.

The PDS has been found to have satisfactory internal reliability, with chronbach’s alpha coefficients ranging from .81 to .86 (Lilienfeld & Widows, 2005a). The test manual reports that the IM scale has strong convergent validity with the Marlowe-Crowne Social Desirability Scale, the Good

Impression scale, and the "lie" scales on the Eysenck Personality Inventory and the Minnesota Multiphasic Personality Inventory.

2.3.3 Traditional conservative masculine attitudes.

Attitudes Toward Women Scale (AWS; Spence & Helmreich, 1978).

The AWS is a 15-item self-report measure of attitudes toward women. Low scores indicate traditional conservative masculine attitudes, while high scores are indicative of profeminist egalitarian attitudes. The AWS is the most commonly used psychometric assessment in studies assessing the relationship between conservative masculine attitudes and IPV (Moore & Stuart, 2005). Respondents are instructed to rate each item (e.g., "There are many jobs in which men should be given preference over women in being hired or promoted" or "Women earning as much as their dates should bear equally the expense when they go out together") on a four-point Likert-type scale ranging from Agree Strongly to Disagree Strongly (some items are reversed scored). The version of the AWS used for the current study is a shortened version of the 50-item scale developed six years earlier (Spence & Helmreich, 1972).

Since its initial construction, there have been several studies confirming the validity and reliability of the AWS (Loo & Logan, 1982; Nelson, 1988; Yoder, Rice, Adams, Priest, & Prince Li, 1982). The AWS has demonstrated acceptable internal consistency reliability ($\alpha = .84$; Nelson, 1988). This study also found that, consistent with theoretical predictions, women and younger respondents scored significantly higher on average. The test-retest reliability for males taking the AWS 2.5 months apart was $r = .74$ (Yoder et al., 1982). The AWS has been found to be unrelated to a measure

of deception, indicating that it is independent of dissimulation (Loo & Logan, 1982).

2.3.4 Intimate partner violence.

The Conflict Tactics Scale 2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The CTS2 was used to assess the type of violence in which the participants engaged with their partners. The CTS is the most commonly used measure of intimate partner violence (Babcock, Costa, et al., 2004). The scale gives an indication of the degree of the individual's physical, psychological, and sexual violence. The scale measures how frequently 39 different behaviours occurred within the past year, and also in their lifetime. Each behaviour is assessed using a pair of items; the first item in a pair assesses the participant's use of a given behaviour, and the other item in the pair assesses their partner's use of the same behaviour. The behaviours each relate to one of five subscales: physical assault, injury, psychological aggression, sexual coercion, and negotiation. Additionally, a rating of the severity of each subscale was determined by tallying scores from items the manual labelled as severe (e.g., A minor item for the physical assault subscale was "I slapped my partner", whereas a severe item was "I punched or hit my partner with something that could hurt"). Each item was rated on a seven-point scale ranging from "never" to "more than 20 times", and there is an eighth option for lifetime frequency of the behaviour: "not in the past year, but it happened before".

The CTS2 has been found to have strong test-retest reliability for physical assault ($r=0.76$) injury ($r=0.70$), psychological aggression ($r=0.69$), and negotiation ($r=0.60$), but it was weaker for sexual coercion ($r=0.30$; Vega

& O'Leary, 2007). There are few other measures of sexual coercion toward intimate partners to compare with the CTS2, however, a study on the sexual experiences survey found similarly weak test-retest reliability of reported sexual aggression (42.1% consistency from time one to time two; Krahe', Reimer, Scheinberger-Olwig, & Pritsche, 1999). Internal consistency for the five subscales ranges from $\alpha=0.79$ to $\alpha=0.95$ (Straus et al., 1996). All five subscales of the CTS2 have been found to be significantly related to scores on the abusive behaviour checklist except for the injury subscale (Jones, Ji, Beck, & Beck, 2002).

2.3.4.1 Motivation of IPV.

Proximal Antecedents of Violent Episodes (PAVE; Babcock, Costa, et al., 2004). The PAVE is a 20-item scale developed to examine three constructs thought to motivate violent episodes toward a romantic partner. The measure was designed in response to the hypothesis that different factors might predict the onset of IPV in different men (Babcock, Costa, et al., 2004). The instructions request that the respondent rate their likelihood that they would engage in physical violence following the hypothetical situation outlined in each item. Respondents rate their likelihood on a six-point Likert-type scale ranging from "1" (not at all likely) to "6" (extremely likely).

The PAVE expands on purely descriptive explanations of IPV by measuring the proximal causes and functions of the violence that different men engage in. Factor analysis revealed three factors: a) Violence to Control; b) Violence out of Jealousy; and c) Violence following Verbal Abuse. Violence to Control measures the respondent's likelihood of engaging in intimate

partner violence following their perception that their partner is attempting to exert autonomy or control over them (e.g., “My partner tells me not to do something that I want to do”). Violence out of Jealousy is a measure of violence following perceived infidelity (e.g., “I find out that my partner has been flirting with someone”). Violence following Verbal Abuse is a measure of likelihood of engaging in violence following yelling or verbal abuse, including threats of divorce (e.g., “My partner threatens to leave me”). The first factor consists of items that can be interpreted as instrumental violence, the second factor items can be viewed as reactive, whereas the Violence following Verbal Abuse factor consists of both instrumental and reactive items (Babcock, Costa, et al., 2004).

There have been no external studies testing the instrument’s validity and reliability, however, the authors of the test established convergent and discriminant validity (Babcock, Costa, et al., 2004). Each factor is positively correlated with male-to-female violence ($r = .21$ to $r = .40$) and female injury was correlated with Violence to Control ($r = .26$) and following verbal abuse ($r = .25$) as measured using the CTS-2. Violence following Verbal Abuse was found to be positively correlated ($r = .30$) with psychopathy as measured by the Self-Report of Psychopathy. All factors were negatively correlated with the impression management scale of the PDS ($r = -.23$ to $r = -.45$), and Violence to Control and following verbal abuse were negatively correlated with marital satisfaction ($r = -.36$ and $r = -.32$ respectively). Alpha reliabilities for the PAVE were high; $\alpha = .94$ for the entire instrument; $\alpha = .93$ for the first factor (Violence to Control); $\alpha = .73$ for the second factor (Violence out of Jealousy);

and $\alpha = .90$ for the third factor (Violence following Verbal Abuse; Babcock, Costa, et al., 2004).

Impulsive Premeditated Aggression Scale (IPAS; Stanford et al., 2003).

The IPAS is a self-report measure containing 30 items that were developed to assess the impulsive and premeditated characteristics associated with generally aggressive acts. The IPAS does not measure aggression exclusively toward intimate partners; it defines an aggressive act, in the introduction to the test, as “striking and/or verbally insulting another person or breaking/throwing objects because you were angry or frustrated” (Stanford et al., 2003). The IPAS, therefore, is a measure of the instrumentality and the impulsivity of both physical and psychological general aggression over the six months preceding administration. Respondents are asked to rate each item on a five-point Likert-type scale ranging from Strongly Agree to Strongly Disagree. Ten items load onto the impulsive scale (e.g., “When angry I reacted without thinking”), and eight items load onto the premeditated scale (e.g., “I planned when and where my anger was expressed”); the remaining 12 items are not scored (Stanford, 2003). The IPAS can be scored to give a categorical result, for each respondent, of either predominately impulsive or predominately premeditated. However, for the purposes of the current study, a dimensional score for each scale was calculated. Consequently, the IPAS provided an indication of the degree of impulsive violence in which the men generally engage, compared to the degree of premeditated violence in which they generally engage. The two scales are not mutually exclusive; therefore, participants could potentially score highly on both scales—although this is

unlikely as the scales are not significantly intercorrelated ($r = -.02$; Stanford et al., 2003).

Studies have found that the IPAS demonstrates good reliability (Conner, Houston, Sworts, & Meldrum, 2007; Haden, Scarpa, & Stanford, 2008). Among a sample of men receiving methadone treatment, both the premeditated scale ($\alpha = .74$) and the impulsive scale ($\alpha = .76$) displayed acceptable internal consistency (Conner et al., 2007). Similar results were found in a sample of university students (Haden et al., 2008). The test-retest reliability after a period of at least two weeks was $r = .68$ for the premeditated scale, and $r = .54$ for the impulsive scale (Conner et al., 2007).

Construct validity was demonstrated in relation to other similar measures. The impulsiveness scale correlated significantly higher than the premeditated scale with the Anger scales from the Buss-Perry Aggression Questionnaire and the State-Trait Anger Expression Inventory (Stanford et al., 2003). Conversely, the premeditated scale correlated significantly higher than the impulsiveness scale with measures of extraversion, hostility, and antisocial behaviour. The IPAS was also found to demonstrate good sensitivity and specificity; the positive predicting power was .45 for the impulsive scale, and .63 for the premeditated scale. The negative predictive power was .62 for the impulsive scale, and .56 for the premeditated scale (Stanford et al., 2003).

2.3.5 Measure of Demographic Data

Demographic data were collected using a measure designed for the specific purposes of the present study (see Appendix B for the complete list of

items). Items on this measure requested information on the participants' place of birth, income, highest completed level of education, history of head injury, and current relationship status.

2.4 Ethical Considerations

There were several ethical issues that needed to be considered when planning and undertaking the current study. One consideration was the possibility that some participants would experience distress in response to the items on the questionnaires. Some of the self-report measures instruct the participants to reflect on, and disclose, potentially sensitive information. For example, some of the items from the CTS-2 instruct the respondent to reflect on potentially traumatic times in their life (e.g., "I felt physical pain that still hurt the next day because of a fight with my partner"). To address this issue, information on several support services was provided to every participant. Telephone support services were listed, and the Clinical Psychology Centre in Clayton, Victoria, agreed to support the study by providing counselling to any participant who felt distressed, free of charge. All men who were recruited from MBCP groups were encouraged to bring-up any distress they may have felt in their regular group sessions.

There were also issues of informed consent to consider. There was a possibility that men who were recruited from MBCP groups may have believed that the study was a compulsory component of the group work. This possibility was particularly pertinent to men who were court mandated to attend the groups. During the introductory presentation outlining the study to each group, the men were informed that the study was being conducted as

part of a research degree at Monash University, and was not connected with their group's organisation; nor would it affect the number of group sessions they were expected to attend in order to complete the program.

The privacy of individuals who agreed to participate was ensured by deidentifying their data. A master sheet linking each participant's name with a participant number was destroyed after data collection. Consequently, only participant numbers were used during data analysis.

Two independent ethics committees and one research committee approved this research project:

- Justice Human Research Ethics Committee (approval number CF/11/7181);
- Monash University Human Research Ethics Committee (approval number CF11/2745 – 2011001629);
- Victoria Police Research Coordinating Committee.

The Victorian organisation that outlines the standards and goals of men's behaviour change groups—No to Violence—also gave their support to the study.

2.5 Statistical Analyses

All statistical procedures were performed using the Statistical Package for the Social Sciences (SPSS) for Mac, versions 20 and 21. All the SPSS output, that is relevant to the findings, is provided in Appendices D through to K in the order in which they are presented in the Results chapter. This section provides an overview of the statistical tests used for the analyses and the

rationale for their use.

2.5.1 Data screening. Data screening was conducted for the experimental variables. The data was analysed for variables containing more than five per cent missing data. Cases containing missing data were deleted (Tabachnick & Fidell, 2007). Univariate outliers were examined by converting scores to z scores; any value greater than ± 3.29 was considered an outlier (Tabachnick & Fidell, 2007). Normal distribution was assessed by examining histograms and Shapiro-Wilks tests of normality $>.05$.

2.5.2 Analyses. Independent Samples *t* tests were conducted to compare group means on descriptive and experimental variables. For many of the comparisons made, a significant difference would indicate that the groups differed on important descriptive or demographic variables, which might bias the experimental outcome. In order to remain sensitive to these differences, Bonferroni corrections were not conducted, despite performing multiple comparison tests. Bonferroni corrections inflate type II error, and would have increased the risk of missing important differences on such variables. Additionally, Perneger (1998) suggested that a more accurate method of reporting the results for multiple comparisons is to ensure that the number of comparisons is recorded, and can be considered by the reader while interpreting the results.

Pearson's correlations were calculated to determine any relationships between any of the independent variables, and motivation of violence, as well as severity of violence. Given that motivation of violence and severity of violence both assume some form of violence has taken place, only

participants who had engaged in physically violent behaviour in the previous 12 months (the Physically Violent group) were included in this analysis.

Biserial correlations were calculated to determine the relationships between the independent variables (IVs) and physical violence as a bivariate variable (Physically Violent, or Physically Not Violent). The IVs included anxious and avoidant attachment style, six pathological personality traits (see section 3.5.2), and Conservative Masculine Attitudes. This analysis was conducted in order to reduce the number of IVs entered into the logistic regression, given the relatively small sample size. Only significant variables were entered into the logistic regression. Biserial correlation was used instead of point-biserial correlation, as the outcome variable is a continuous dichotomy rather than a discrete dichotomy (e.g., within the physically violent group, there are degrees of violence; Field, 2006). Biserial correlations were manually calculated by converting point-biserial correlations using the formula outlined in Field (2006).

Logistic regression was conducted to develop a model to predict group membership (Physically Violent, or Physically Not Violent). Additionally, regression allows for potentially confounding variables to be controlled. Given the relatively small sample size (N=98), the Bootstrapping method was conducted in order to avoid overfitting the data and exaggerating minor fluctuations (Tabachnick & Fidell, 2007). One thousand samples were drawn from the data set with replacement, using a 95% confidence interval.

Chapter 3

Results

3.1 Chapter Outline

This chapter presents the demographic data for each of the two samples, participants scores on the psychometric instruments used, and the test statistics. Appendices D through to K contain the SPSS output data. The chapter begins by reporting the results of data screening and data cleaning procedures used to identify outliers and missing data. Details of the process of assigning participants into either the Physically Violent or Physically Non-Violent group are then outlined. Demographic data is then presented; providing descriptive information about each group.

The following section addresses the first aim of the study by exploring the male- and female-initiated prevalence rates of IPV for each group. The means for each of the independent variables (IVs) are presented for each group in the next section, along with the results of *t* tests comparing the groups on each variable.

The results presented in the next section address the second aim of the study; to determine the prevalence of personality disorder among men who engage in IPV. In this section, the frequencies of participants who scored above the minimum threshold indicative of a diagnosis of a personality disorder are presented for each group and statistically compared using Pearson's chi-square test.

To determine whether the differences between the two groups' IV scores could be attributed exclusively to physical violence, the two groups were then statistically compared on the other modes of IPV (i.e., psychological violence and sexual violence).

The following section addresses the third aim of the study; to determine the role that different types of motivation play in IPV. Here, the results of a correlational analysis are presented for the five variables that measure motivation of violence and the IVs.

Given the relatively limited sample size, the number of IVs that could be included in the final model to predict group membership had to be restricted. Therefore, in the next section, biserial correlations between the IVs and the dichotomous variable of physical violence are presented. IVs that had a statistically significant relationship were included in the logistic regression presented in the following section. This section addresses the primary aim of the study; to determine which variables best predict physical IPV.

3.2 Data Screening and Cleaning

3.2.1 Data screening. Of the 101 participants who completed the study, three were excluded for having Impression Management (IM) T scores greater than 70—which the PDS manual describes as “extreme” (Paulhus, 1999). Extreme scorers on the IM scale are more likely to deliberately attempt to portray themselves favourably during psychometric assessment. Therefore, the results of these three participant's other measures were likely to be inaccurate, and may have skewed the findings. Excluding them increased the likelihood that the results of the study are representative of the behaviours,

attitudes, and personalities of men from both sample populations (i.e., men who engage in physical IPV, and those who do not).

3.2.2 Data cleaning. The only variable with more than five per cent missing data was the total Attitudes Toward Women Scale (AWS) score. However, Little's MCAR test revealed that the missing data were distributed randomly, $\chi^2(134) = 140.72, p > .05$. Cases with missing values were thus deleted for those analyses, as recommended by Tabachnick and Fidell (2007). No outliers were found with a *z* score greater than +/- 3.29.

3.2.3 Assigning group membership. The remaining 98 participants were divided into two groups based on whether they endorsed any past-year physical assault items on the CTS-2. This method—called the prevalence scoring method—is recommended to determine the presence of physical IPV (Perneger, 1998). Based on this method, 45 (46%) of the men engaged in physical IPV (physically violent group; PV), and 53 (54%) of the men did not (physically non-violent group; PNV).

3.3 Demographic Data

The demographic data for each group are presented in Table 3.3.1. To determine whether the groups differed significantly on any of the variables, an independent samples *t* test was conducted for each variable. The data met all assumptions. The results of the *t* tests revealed that the groups did not differ significantly on any of the variables.

Table 3.3.1

Demographic Data for the Physically Non-Violent and Physically Violent groups.

	Physically Non-Violent <i>M (SD)</i> (<i>n</i> = 53)	Physically Violent <i>M (SD)</i> (<i>n</i> = 45)
Age (years)	32.7 (10.1)	34.2 (11.1)
Current relationship duration (months)	26.5 (63.0)	31.4 (67.5)
No. of prior relationships	3.0 (2.0)	2.5 (1.9)
No. of children with current partner	0.7 (1.5)	1.0 (1.3)
No. of children with past partners	1.7 (0.4)	1.8 (0.5)
No. of children currently living with	0.6 (1.3)	0.7 (1.2)
No. of current partner's children	0.6 (1.2)	0.5 (1.1)
No. of current partner's children living with them	0.3 (1.0)	0.4 (0.8)
Financial pressures (0-10)	5.1 (3.0)	5.0 (3.6)

Note: *t* tests revealed that the groups did not differ significantly on any of the above variables ($p > .05$)

Additional analyses were conducted to compare the groups on interval variables. Mann-Whitney U tests revealed that the PV and PNV groups differed significantly only on highest completed level of education obtained. Given that the data are in interval form, the median is the most appropriate measure of central tendency (Gravetter & Wallnau, 2004). The median highest completed level of education for the PV group was year 12; whereas, the median for the PNV group was a university degree. The frequencies for these data are presented in Table 3.3.2.

Table 3.3.2

Frequencies of Demographic Characteristics for Physically Non-Violent and Physically Violent groups

	Physically Non-Violent <i>n</i> (%) (<i>n</i> = 53)	Physically Violent <i>n</i> (%) (<i>n</i> = 45)
<i>Individual income</i>		
\$0 - \$37,000	25 (47.2)	18 (40.0)
\$37,000 - \$80,000	21 (39.6)	21 (46.7)
\$80,000 - \$180,000	4 (7.5)	4 (8.9)
>\$180,000	1 (1.9)	0 (0.0)
No response	2 (3.8)	2 (4.4)
<i>Household income</i>		
\$0 - \$37,000	7 (13.2)	10 (22.2)
\$37,000 - \$80,000	23 (43.4)	15 (33.3)
\$80,000 - \$180,000	17 (32.1)	13 (28.9)
>\$180,000	1 (1.9)	0 (0.0)
No response	5 (9.4)	7 (15.5)
<i>Highest completed level of education*</i>		
< Year 12	10 (18.9)	16 (35.6)
Year 12	6 (11.3)	6 (13.3)
Certificate	9 (17.0)	9 (20.0)
Degree	17 (32.1)	10 (22.2)
Postgraduate qualification	11 (20.8)	2 (4.4)
No response	0 (0.0)	2 (4.4)
<i>Attended Men's Behaviour Change Program (MBCP) #</i>		
Yes	22 (41.5)	27 (60)
No	31 (58.5)	18 (40)

Table 3.3.2 (con't)

	Physically Non-Violent <i>n</i> (%) (<i>n</i> = 53)	Physically Violent <i>n</i> (%) (<i>n</i> = 45)
<i>Current relationship status #</i>		
None / No response	6 (13.2)	3 (6.7)
In Relationship	13 (24.5)	12 (26.7)
Living Together	8 (15.1)	6 (13.3)
Married / Defacto	25 (47.2)	22 (48.9)
<i>Place of Birth #</i>		
Australia / New Zealand	34 (64.2)	34 (75.6)
Asia	11 (20.8)	5 (11.1)
Europe	6 (11.3)	2 (4.4)
North America	2 (3.8)	0 (0.0)
South America	0 (0.0)	0 (0.0)
Africa	0 (0.0)	0 (0.0)
Middle East	0 (0.0)	0 (0.0)
No response	0 (0.0)	4 (8.8)
<i>Reported Previous Diagnosis #</i>		
Major Depressive Disorder	7 (13.2)	9 (20)
Bipolar Affective Disorder	0 (0.0)	1 (2.2)
Other	1 (1.9)	1 (2.2)
None / No response	45 (84.9)	34 (75.6)

* = significant at $p < .05$, # = No analyses conducted as the variables are nominal

3.4 Gender Overview

As is most commonly done in IPV research, data pertaining to both partners were obtained from only one of the partners (Elliott, Huizinga, & Morse, 1985; Straus, 2011; Whitaker, Haileyesus, Swahn, & Saltzman, 2007). This procedure has been shown to be reliable in a study that found data obtained from an individual partner, using the CTS-2, tended to closely

parallel the data obtained from both partners (Kessler, Molnar, Feurer, & Appelbaum, 2001). As most of the prevalence studies give results based on a sample from the general population, Table 3.4 presents, separately, the frequencies of physical assault within the past 12 months for participants from the general community, and from Men's Behaviour Change Programs (MBCP). The results of one participant from the MBCP are missing, as he did not adequately complete the CTS-2. Frequencies are presented for relationships in which only the male partner engages in physical IPV, only the female partner, both partners, and neither partner.

Table 3.4

Frequency of Physical Violence by Parties in the Relationship

	Community <i>n</i> (%) (<i>n</i> = 49)	MBCP <i>n</i> (%) (<i>n</i> = 48)
<i>All Physical Violence</i>		
Male Violent Only	5 (10.2)	2 (4.2)
Female Violent Only	9 (18.4)	6 (12.5)
Both Violent	13 (26.5)	25 (52.1)
Neither Violent	22 (44.9)	15 (31.3)
<i>Only Severe Physical Violence</i>		
Male Violent Only	1 (2.0)	4 (8.3)
Female Violent Only	7 (14.3)	5 (10.4)
Both Violent	5 (10.2)	6 (12.2)
Neither Violent	36 (73.5)	15 (31.3)

Note: Presence of violence determined by a positive endorsement of physical violence toward a partner within the last 12 months (from CTS-2).

MBCP = Men's Behaviour Change Program

The results presented account only for *physical* violence, not psychological or sexual—which is why some of the men from the MBCP were categorised as Neither Violent or Female Violent Only; these participants were likely attending the MBCP as a result of psychologically aggressive or sexually assaultive behaviour toward their partner, rather than physically assaultive behaviour. The most common violent relationship in the general community and in participants attending the MBCP, was one in which both partners were physically violent (mutuality). The next most common relationship was one in which the female partner exclusively was violent, followed by one in which the male partner exclusively was violent. In total, 36.7% of males and 44.9% of females from the general community engaged in physical IPV, whereas 55.1% of males and 64.6% of their partners from the MBCP engaged in physical IPV. There were no significant differences between frequency of male and female IPV for either the general community group, $\chi^2(1) = 0.91, p > .05$, or the MBCP group, $\chi^2(1) = 0.68, p > .05$; indicating *symmetry* of violence.

The participants were also scored on a scale consisting exclusively of severe physical violence items (e.g., choking, burning, use of weapons, and kicking). The most common severe violent relationship among men recruited from the MBCP was one in which both partners were mutually severely physically violent toward the other partner. However, female-only severe violent relationships were the most common among the general community sample. In total, 12.2% of males and 24.5% of females from the general community engaged in severe physical IPV, whereas 20.5% of males and 22.6% of their partners from the MBCP engaged in severe physical IPV.

There were no significant differences between frequency of male and female severe IPV for either the general community group, $\chi^2(1) = 2.45, p > .05$, or the MBCP group, $\chi^2(1) = 0.06, p > .05$; indicating symmetry of severe violence.

3.5 Group Differences

3.5.1 Group differences on independent variables. The mean scores for participants from each group on each IV are presented in this section. Additionally, the two groups' IV scores are compared using *t* tests to determine on which variables the PV group scored higher.

To test the assumptions for the *t* tests, normality was assessed for each group on all the IVs. Kolmogorov-Smirnov tests indicated that both the PV and PNV groups had non-normal distributions for all of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-IIP) variables except borderline personality traits for the PV group. The data from both groups were negatively skewed for the SCID variables. Additionally, the conservative masculine attitudes variable was not normally distributed for the PNV group. However, Hills (2011) recommends that, when sample size is large (20 to 30 participants per group), *t* tests are robust to violations of normality and have little effect on the accuracy of the results. The means of each group's scores, for each of the IVs, are presented in Table 3.5.1.

Table 3.5.1

Means and Standard Deviations for the Independent Variables

Measures	Physically Non-Violent <i>M</i> (<i>SD</i>) (<i>n</i> = 53)	Physically Violent <i>M</i> (<i>SD</i>) (<i>n</i> = 45)
<i>Conservative Masculine Attitudes (AWS)</i>		
Total	33.45 (5.92)	28.98 (7.74) **
<i>Psychopathy (PPI-R)</i>		
Total	48.10 (9.44)	52.26 (10.25) *
Self-Centred Impulsivity	51.59 (9.58)	57.14 (9.53) *
Fearless Dominance	45.04 (8.58)	44.28 (8.20)
Coldheartedness	49.92 (8.84)	50.14 (9.49)
<i>Pathological Personality Traits (SCID-IIP)</i>		
Borderline Personality Traits (5/9)	2.88 (2.31)	4.30 (2.37) **
Narcissistic Personality Traits (5/9)	1.33 (1.37)	2.05 (1.68) *
Passive-Aggressive Personality Traits (4/7)	2.10 (1.72)	2.74 (1.79)
Paranoid Personality Traits (4/7)	2.41 (2.10)	2.77 (2.02)
Dependent Personality Traits (5/8)	1.84 (1.46)	2.33 (1.44)
<i>Adult Attachment Style (ECR-R)</i>		
Avoidant	2.91 (1.09)	3.29 (0.99)
Anxious	3.27 (1.18)	3.91 (1.20) **

* = *p* significant at < .05, ** = *p* significant at < .01

Note: Figures in parentheses following the personality disorder labels indicate the number of traits required for a diagnosis / total number of traits measured.

Low scores on the AWS represent *stronger* conservative masculine attitudes.

The variable with the largest effect size was that of conservative masculine attitudes; On average, the PV group ($M = 28.98$, $SE = 1.19$) endorsed significantly more (lower scores) conservative masculine attitudes than the PNV group ($M = 33.45$, $SE = 0.86$, $t(87) = 3.08$, $p < .05$, $r = .33$).

Approaching medium effect sizes were borderline personality traits, for which the PV group ($M = 4.30$, $SE = 0.36$) scored higher, on average than the PNV group ($M = 2.88$, $SE = 0.32$, $t(92) = -2.94$, $p < .05$, $r = .29$), and anxious adult attachment style, for which the PV group ($M = 3.27$, $SE = 0.18$) scored higher, on average, than the PNV group ($M = 3.91$, $SE = 0.16$, $t(95) = -2.64$, $p < .05$, $r = .26$).

The PV group ($M = 52.26$, $SE = 10.25$) scored significantly higher on the measure of total psychopathy than the PNV group ($M = 48.10$, $SE = 9.44$, $t(92) = -2.05$, $p < .05$, $r = .21$). Despite this difference, both groups' scores were similar to the community mean of 50 reported in the PPI-R manual. Scores on this scale ranged from 12 to 63 for the PNV group, and 30 to 74 for the PV group. The two groups also differed on the Self-Centred Impulsivity (behavioural) scale of the PPI-R. The PV group ($M = 57.14$, $SE = 9.53$) scored significantly higher than the PNV group ($M = 51.59$, $SE = 9.58$, $t(92) = -2.81$, $p < .05$, $r = .28$). Scores on this scale ranged from 23 to 72 for the PNV group, and 35 to 79 for the PV group. The groups did not differ significantly on the other two psychopathy factors (Fearless Dominance and Coldheartedness).

3.5.2 Group differences on frequency of personality disorder. To establish an estimate of the prevalence of personality disorder among men who engage in IPV, the frequency of participants who scored above the minimum threshold indicative of diagnostic levels of a personality disorder on the SCID-IIP were calculated. Each item on the SCID-IIP is based on one criterion of a personality disorder taken from the DSM-IV. The threshold for a diagnosis is taken as the minimum criteria required to meet a diagnosis for

that personality disorder according to the DSM-IV. An endorsement of the minimum criteria for a given personality disorder using the SCID-IIP alone is not sufficient for a diagnosis, however, scoring above this threshold is a strong indication that additional assessment of that personality disorder should be conducted.

Psychopathy was measured using the PPI-R. Unlike the SCID-IIP, the PPI-R does not provide a cut off score for diagnostic level psychopathy. Therefore, arbitrary thresholds were calculated at one and two standard deviations above the mean. The mean score on the PPI-R in the community is 50, with a standard deviation of 10. Therefore, results are presented for participants who scored at or above a total PPI-R score of 60, and those who scored at or above 70. Only one participant scored at or above the higher threshold.

The two groups were compared on each personality disorder using Pearson's chi-square test. The frequencies of participants who scored at or above the threshold indicative of a personality disorder diagnosis are presented in Table 3.5.2.

Table 3.5.2

Frequency of Individuals who Scored at or above the Threshold for Personality Disorder using the SCID-I/P

	Physically Non-Violent <i>n</i> (%) (<i>n</i> = 53)	Physically Violent <i>n</i> (%) (<i>n</i> = 44)
<i>Any PD</i>		
Subthreshold	28 (52.8)	16 (35.6)
At or Above Threshold	25 (47.2)	29 (64.4)
<i>Borderline PD</i>		
Subthreshold	40 (75.5)	26 (57.8)
At or Above Threshold	12 (22.6)	18 (40.0)
Missing	1 (1.9)	1 (2.2)
<i>Dependent PD</i>		
Subthreshold	50 (94.3)	41 (91.1)
At or Above Threshold	3 (5.7)	4 (8.9)
<i>Passive-Aggressive PD</i>		
Subthreshold	43 (81.1)	31 (68.7)
At or Above Threshold	10 (18.9)	14 (31.1)
<i>Paranoid PD</i>		
Subthreshold	36 (67.9)	30 (66.7)
At or Above Threshold	17 (32.1)	15 (33.3)
<i>Narcissistic PD</i>		
Subthreshold	52 (98.1)	42 (93.3)
At or Above Threshold	1 (1.9)	3 (6.7)
<i>Psychopathy</i>		
Subthreshold	49 (92.5)	33 (75.0)
At or Above 60 (1 SD)	4 (7.5)	11 (25.0)*
At or Above 70 (2 SD)	0 (0.0)	1 (2.3)

* = *p* significant at < .05, SD = Standard Deviation

Note. The "Any PD" category is a measure of the frequency of participants with at least one PD. The two standard deviations above the mean threshold for psychopathy was used to determine presence of psychopathy in the "Any PD" category.

As the table displays, 64.4% of the men who engaged in IPV endorsed enough criteria to meet the threshold required for a DSM-IV personality disorder diagnosis (for this calculation, the threshold used to determine presence of psychopathy was two standard deviations above the mean). Comparatively, 47.2% of the men who did not engage in IPV met the threshold required for a diagnosis.

Borderline personality disorder requires five of nine criteria to be endorsed (APA, 2000). As presented earlier, the mean borderline personality traits score for the PV group closely approached this threshold ($M = 4.30$, $SD = 2.37$), and was significantly higher than the mean PNV score ($M = 2.88$, $SD = 2.31$; $t(92) = -2.94$, $p < .05$, $r = .29$). Forty per cent of the PV group scored at or above the threshold required for a diagnosis of BPD; almost double that of the PNV group (22.6%). Despite this difference, the chi-square test revealed that the PV group did not have a significantly higher incidence of BPD than the PNV group, $\chi^2(1) = 3.53$, $p > .05$. However, the statistic was approaching significance ($p = .06$), and the odds ratio indicated that the PV group were 2.31 times more likely to score at or above the threshold required for a BPD diagnosis than the PNV group. Chi square tests revealed no significant differences on any of the other SCID-IIP variables. However, using the more sensitive threshold of one standard deviation above the mean for psychopathy, the PV group had significantly more incidences of psychopathy than the PNV group $\chi^2(1) = 5.36$, $p < .05$.

3.5.3 Group differences on modes and motivations of violence.

To establish whether the above group differences on the IVs were as a result of physical violence exclusively, the groups were compared on other modes of violence to determine whether they also differed on their use of psychological and sexual violence.

The mean score for each group on other modes of IPV in which they engaged (i.e., other than physical IPV) is presented below. The motivation behind the violence was also recorded—note that the PNV group would not necessarily be expected to score a zero on these measures as the questions are not based on actual behaviour, but prompt the participants to imagine how likely they would be to engage in violence after certain hypothetical situations.

To determine any differences between the PV and PNV group scores on the psychometric data, independent *t* tests were conducted comparing each group. Levene's test indicated that the variances of the two groups were not equal for psychological aggression, sexual coercion, injury, Violence to Control, and Violence following Verbal Abuse. Consequently, equal variances were not assumed when testing for significant differences between the two groups for these variables. The means and standard deviations for each group are presented for each of these variables in Table 3.5.3.

Table 3.5.3

Means and Standard Deviations of Scores for Each Group on Mode and Motivation of Violence

	Physically Non-Violent <i>M (SD)</i> (<i>n</i> = 53)	Physically Violent <i>M (SD)</i> (<i>n</i> = 45)
<i>Mode of violence (CTS-2)</i>		
Negotiation (past year)	62.17 (38.27)	68.91 (36.50)
Psychological Aggression (past year)	19.27 (23.07)	47.89 (43.37) **
Sexual Coercion (past year)	3.69 (8.66)	8.96 (16.59)
Injury (past year)	1.13 (5.01)	4.67 (9.92) *
<i>Motivation of violence (PAVE)</i>		
Violence to Control	19.02 (8.30)	27.18 (12.5) **
Violence out of Jealousy	10.12 (4.71)	12.91 (5.57) **
Violence following Verbal Abuse	10.83 (5.16)	15.86 (7.37) **
<i>Motivation of violence (IPAS)</i>		
Premeditated Aggression	23.75 (8.23)	26.71 (7.81)
Impulsive Aggression	29.76 (8.42)	35.84 (7.27) **

* = *p* significant at < .05, ** = *p* significant at < .01

The injury scale of the CTS-2 is a measure of physical IPV—similar to the physical assault scale that was used as the basis to divide the two groups. The injury scale is scored out of 150, with the PNV group's scores ranging from 0 to 35, and the PV group's scores ranging from 0 to 52. The PV group ($M = 4.67$, $SE = 9.92$) scored significantly higher than the PNV group ($M = 19.27$, $SE = 3.20$, $t(95) = -2.26$, $p < .01$, $r = .23$) on the injury scale.

The only other scale from the CTS-2 on which the groups differed was psychological aggression. This scale is scored out of 200; the PNV group's scores ranged from 0 to 83, while the PV group's scores ranged from 0 to

200. The PV group ($M = 47.89$, $SE = 43.37$) scored significantly higher on psychological aggression than the PNV group ($M = 19.27$, $SE = 23.07$, $t(65) = 3.97$, $p < .05$, $r = .44$); Note the degrees of freedom are lower than they are for other variables as Levene's Statistic indicated that equal variances could not be assumed for this variable; $F(1, 95) = 9.83$, $p < .05$).

Additionally, there was no significant difference between the PV group's Impression Management score ($M = 49.02$, $SE = 1.38$), and that of the PNV's group ($M = 49.42$, $SE = 0.48$, $t(95) = 0.20$, $p > .05$, $r = .02$).

3.6 Relationship between IVs and motivations and severity of violence

To determine which variables were related to each of the motivations of violence, and additionally, which were associated with severe violence, Pearson's correlations were calculated within the PV group. Violence severity scores were taken from the CTS-2 Severe Physical Violence (within the past 12 months) scale; which consists of the most severe items from the physical assault scale.

All assumptions were met except that the severe physical assault variable was skewed due to a floor effect; 64.4% of the participants scored zero on this scale. This was a similar result to that of a study by Mauricio and Lopez (2009), who found that 61% of their participants scored zero on this scale. Therefore, a non-parametric test—Spearman's correlation coefficient—was performed, instead of Pearson's correlation coefficient, for the severe physical assault variable. The results are presented in Table 3.6.

Table 3.6

Correlations between the Independent Variables and the Motivation Variables for the PV group

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Severe Physical Assault (Spearman's)	.23	.37*	.22	.06	-.06	.35*	.30*	.16	.13	.10	-.03	.21	-.03	.02	.09	.08	-.22
2. Violence to Control		.55**	.86**	.26	.27	.11	.23	-.15	.15	-.06	.35*	.40**	.13	.35*	.21	.49**	.03
3. Violence out of Jealousy			.67**	.10	.24	.26	.15	.21	.30	-.10	.17	.43**	.06	.34*	.21	.44**	.18
4. Violence following Verbal Abuse				.38*	.20	.19	.22	.01	.21	-.08	.32*	.36*	.14	.41**	.14	.35*	.03
5. Premeditated Aggression					-.21	.20	.31*	-.09	.12	.08	.01	.02	.34*	-.05	.16	.07	-.24
6. Impulsive Aggression						.05	.09	-.10	.08	.04	.37*	.26	-.04	.48**	.06	.24	.31*
7. Psychopathy (Total)							.84**	.64**	.47**	-.04	.15	.26	.20	.15	.39*	.01	-.17
8. Psychopathy (Self-Centred Impulsivity)								.19	.19	.22	.38*	.42**	.22	.34*	.44**	.21	-.25
9. Psychopathy (Fearless Dominance)									.24	-.33*	-.19	-.11	.02	-.25	.04	-.29	.08
10. Psychopathy (Cold-heartedness)										-.26	-.09	.04	.10	.06	.25	-.01	-.14
11. Dependent Personality Traits											.31*	.35*	.15	.38*	-.05	.19	.10
12. Passive-Aggressive Personality Traits												.50**	.42**	.69**	.08	.47**	.06
13. Paranoid Personality Traits													.36*	.58**	.11	.40**	-.05
14. Narcissistic Personality Traits														.28	-.10	.21	-.26
15. Borderline Personality Traits															.09	.53**	.11
16. Avoidant Attachment																.19	.22
17. Anxious attachment																	.22
18. Conservative Masculine Attitudes																	

* = significant at $p < .05$, ** = significant at $p < .01$

Note. Spearman's correlation coefficient was used to determine the relationship between severe physical assault and the other variables.

Premeditated aggression was significantly related to the Self-Centred Impulsivity scale of the PPI-R ($r = .31, p < .05$); whereas impulsive aggression was not significantly related with Self-Centred Impulsivity ($r = .09, p > .05$). Impulsive aggression was found to be significantly related to borderline personality traits ($r = .48, p < .01$); whereas premeditated aggression was not ($r = -.05, p > .05$). Impulsive aggression was related to passive-aggressive personality traits ($r = .37, p < .05$), whereas premeditated aggression was related to narcissistic personality traits ($r = .34, p < .05$). Lastly, impulsive aggression, and not premeditated aggression, was related to conservative masculine attitudes traits ($r = .31, p < .05$).

Each of the three Proximal Antecedents to Violent Episodes variables correlated with three personality disorders (passive-aggressive, paranoid, and borderline), with one exception; Violence out of Jealousy was not correlated with passive-aggressive personality traits ($r = .17, p > .05$), whereas Violence to Control ($r = .35, p < .05$) and Violence following Verbal Abuse ($r = .32, p < .05$) were. Violence following Verbal Abuse had the strongest correlation with borderline personality traits ($r = .41, p < .01$), followed by Violence to Control ($r = .35, p < .05$), and lastly, Violence out of Jealousy ($r = .34, p < .05$). Violence out of Jealousy was uniquely associated with severe physical assault ($r = .37, p < .05$). All three antecedents to violence were correlated with anxious attachment style.

Additionally, borderline personality traits were significantly related to an anxious attachment style ($r = .53, p < .01$).

3.7 Biserial Correlations

To determine which variables would be included in the logistic regression (see section 3.8), the relationship that each IV has with physical violence was calculated. Significant IVs would be included in the logistic regression.

Biserial correlations, with the dichotomous variable of physical assault (i.e., presence or absence of physical assault within the past year), were calculated for each of the predictor variables. Biserial correlation was used instead of point-biserial correlation, as the outcome variable is a continuous dichotomy rather than a discrete dichotomy (e.g., within the physically violent group, there are degrees of violence; Field, 2006). The results are presented in Table 3.7.

The same variables for which the groups differed significantly—based on the *t* test conducted in the previous section—were also found to correlate significantly with physical assault. The strongest correlation was for conservative masculine attitudes, which accounts for 15.4% of the variance in physical assault ($r_b = -.39, p < .05$). Borderline personality traits were also significantly related to physical assault ($r_b = .37, p < .05$); as was anxious adult attachment style ($r_b = .33, p < .05$). Psychopathy was also found to correlate with physical assault ($r_b = .26, p < .05$), particularly the Self-Centred Impulsivity facet ($r_b = .35, p < .05$). Lastly, narcissistic personality traits were found to be significantly related to physical assault ($r_b = .29, p < .05$).

Table 3.7

Biserial Correlations with Physical Assault for Each Variable

	Biserial Correlation (r_b) with Physical Assault
<i>Conservative Masculine Attitudes (AWS)</i>	
Total	-.39**
<i>Psychopathy (PPI-R)</i>	
Total	.26*
Self-Centred Impulsivity	.35**
Fearless Dominance	-.06
Coldheartedness	.02
<i>Pathological Personality Traits (SCID-IIP)</i>	
Borderline Personality Traits	.37**
Narcissistic Personality Traits	.29*
Passive-Aggressive Personality Traits	.23
Paranoid Personality Traits	.11
Dependent Personality Traits	.21
<i>Adult Attachment Style (ECR-R)</i>	
Avoidant	.23
Anxious	.33**

* = significant at $p < .05$, ** = significant at $p < .01$

3.8 Predicting Physical IPV

The current section explores which variables predict group membership and, therefore, physical IPV. Given that some of the predictor variables have not been investigated in relation to physical assault in previous research, a stepwise method of the non-parametric test, logistic regression, was conducted. The variables entered were selected based on the results of

the biserial correlations; however, avoidant adult attachment style was included, despite not having a significant biserial correlation, as it has been found to be associated with severe physical IPV in previous research (Lawson & Brossart, 2009). A Backward Stepwise method was used, as suggested by Field (2006). Each of the six steps taken to arrive at the final model are presented in Table 3.8.1. Collinearity between variables was found to be within acceptable levels (Tolerance > .1, VIF < 10; Field, 2006). Hosmer and Lemeshow's Goodness-of-Fit test was not significant ($p > .05$), which indicates that the model does not differ significantly from the observed data.

Table 3.8.1

Logistic Regression Predicting PV and PNV Group Membership

	<i>B</i>	<i>SE</i>	<i>exp b</i>
<i>Step 1</i>			
Constant	-0.57	2.27	0.56
Conservative Masculine Attitudes	-0.10*	0.04	
Borderline Personality Traits	0.21	0.15	
Anxious attachment	0.35	0.24	
PPI (Self-Centred Impulsivity)	-0.02	0.06	
Narcissistic Personality Traits	0.09	0.19	
PPI (Total)	0.03	0.05	
Avoidant Attachment	0.29	0.28	
<i>Step 2</i>			
Constant	-0.84	2.12	0.43
Conservative Masculine Attitudes	-0.10*	0.04	
Borderline Personality	0.19	0.13	
Anxious attachment	0.34	0.24	
Narcissistic Personality Traits	0.09	0.19	
PPI (Total)	0.02	0.03	
Avoidant Attachment	0.27	0.27	

Table 3.8.1 (con't)

	<i>B</i>	SE	exp <i>b</i>
<i>Step 4</i>			
Constant	0.48	1.53	1.62
Conservative Masculine Attitudes	-0.11**	0.04	
Borderline Personality Traits	0.22	0.12	
Anxious attachment	0.30	0.23	
Avoidant Attachment	0.28	0.26	
<i>Step 5</i>			
Constant	1.26	1.35	3.53
Conservative Masculine Attitudes	-0.11**	0.04	
Borderline Personality Traits	0.23*	0.12	
Anxious attachment	0.34	0.23	
<i>Step 6</i>			
Constant	2.25	1.22	9.44
Conservative Masculine Attitudes	-0.11**	0.04	
Borderline Personality Traits	0.30**	0.11	

* = significant at $p < .05$, ** = significant at $p < .01$

Note: $R^2 = .27$ (Nagelkerke).

The final model predicted group overall membership correctly in 70.2% of cases. PV group membership was correctly predicted in 64.1% of cases, and PVN group membership was correctly predicted in 75.6% of cases. The model as a whole was not significant ($p = .07$); however, the individual variables of which the model consists—conservative masculine attitudes and borderline personality traits—were both significant at the $p < .01$ level.

Anxious attachment style was not found to significantly predict group membership while borderline personality traits were included in the model. The predictive value of borderline personality traits increased markedly from 0.23 to 0.30 from step five to step six when the effects of anxious attachment were removed from the model.

Given the relatively small sample size (N=98) the Bootstrapping method was conducted to avoid overfitting the data and exaggerating minor fluctuations (Tabachnick & Fidell, 2007). Bootstrapping involves drawing a large number of samples, with replacement, from a data set. One thousand samples were drawn from the data set with replacement, using a 95% confidence interval. Table 3.8.2 presents the results of the logistic regression performed with the bootstrapped data.

Table 3.8.2

Logistic Regression Predicting PV and PNV Group Membership Using Bootstrapped Data

	<i>B</i>	SE	exp <i>b</i>
Constant	2.27	1.22	9.71
Conservative Masculine Attitudes	-0.11**	0.04	
Borderline Personality Traits	0.32**	0.11	

** = significant at $p < .01$

Note: $R^2 = .27$ (Nagelkerke).

As the table shows, similar results were obtained using the bootstrap method. The model predicted correct group membership in 70.9% of cases. The model correctly identified 76.1% of non-violent participants, and 65.0% of violent participants. Conservative masculine attitudes and borderline personality traits were both significant at the $p < .01$ level.

3.9 Identifying predictive BPD traits

Additional analyses were conducted to determine which individual borderline personality traits predicted group membership. Given that no previous research has investigated the effects of individual BPD criteria on physical IPV, a backward stepwise logistic regression was conducted. The same two variables of which the final model consisted (conservative masculine attitudes and borderline personality traits) were included in the analysis; however, BPD was deconstructed into the nine DSM-IV criteria that the SCID-IIP assesses:

1. Frantic efforts to avoid real or imagined abandonment
2. A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation
3. Identity disturbance: markedly and persistently unstable self-image or sense of self
4. Impulsivity in at least two areas that are potentially self-damaging
5. Recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour

6. Affective instability due to a marked reactivity of mood
7. Chronic feelings of emptiness
8. Inappropriate, intense anger or difficulty controlling anger
9. Transient, stress-related paranoid ideation or severe dissociative symptoms (American Psychiatric Association, 2000, p. 710)

Table 3.9.1 presents the results of the logistic regression for each step using the individual criteria for BPD outlined above.

Table 3.9.1

Logistic Regression Predicting PV and PNV Group Membership Using Individual BPD Criteria and Conservative Masculine Attitudes

	<i>B</i>	<i>SE</i>	<i>exp b</i>
<i>Step 1</i>			
Constant	3.11*	1.40	22.40
Conservative Masculine Attitudes	-0.13**	0.04	
BPD Criterion 1 (Fear of Abandonment)	-0.62	0.67	
BPD Criterion 2 (Unstable Relationships)	0.36	0.68	
BPD Criterion 3 (Identity Disturbance)	1.29	0.80	
BPD Criterion 4 (Impulsivity)	0.31	0.56	
BPD Criterion 5 (Suicidality)	-0.02	0.78	
BPD Criterion 6 (Affective Instability)	0.62	0.65	
BPD Criterion 7 (Emptiness)	0.47	0.60	
BPD Criterion 8 (Anger)	1.40	0.88	
BPD Criterion 9 (Paranoia / Dissociation)	-0.43	0.59	

Table 3.9.1 (con't)

	<i>B</i>	SE	exp <i>b</i>
<i>Step 2</i>			
Constant	3.11*	1.40	22.45
Conservative Masculine Attitudes	-0.13**	0.04	
BPD Criterion 1 (Fear of Abandonment)	-0.62	0.65	
BPD Criterion 2 (Unstable Relationships)	0.36	0.67	
BPD Criterion 3 (Identity Disturbance)	1.29	0.79	
BPD Criterion 4 (Impulsivity)	0.31	0.56	
BPD Criterion 6 (Affective Instability)	0.62	0.65	
BPD Criterion 7 (Emptiness)	0.47	0.60	
BPD Criterion 8 (Anger)	1.40	0.88	
BPD Criterion 9 (Paranoia / Dissociation)	-0.44	0.59	
<i>Step 3</i>			
Constant	3.27*	1.38	26.20
Conservative Masculine Attitudes	-0.13**	0.04	
BPD Criterion 1 (Fear of Abandonment)	-0.48	0.59	
BPD Criterion 3 (Identity Disturbance)	1.34	0.79	
BPD Criterion 4 (Impulsivity)	0.33	0.55	
BPD Criterion 6 (Affective Instability)	0.70	0.63	
BPD Criterion 7 (Emptiness)	0.52	0.60	
BPD Criterion 8 (Anger)	1.45	0.88	
BPD Criterion 9 (Paranoia / Dissociation)	-0.43	0.59	
<i>Step 4</i>			
Constant	3.34*	1.36	28.11
Conservative Masculine Attitudes	-0.13**	0.04	
BPD Criterion 1 (Fear of Abandonment)	-0.48	0.59	
BPD Criterion 3 (Identity Disturbance)	1.42	0.78	
BPD Criterion 6 (Affective Instability)	0.79	0.61	
BPD Criterion 7 (Emptiness)	0.52	0.60	
BPD Criterion 8 (Anger)	1.47	0.88	
BPD Criterion 9 (Paranoia / Dissociation)	-0.45	0.59	

Table 3.9.1 (con't)

	<i>B</i>	SE	exp <i>b</i>
<i>Step 5</i>			
Constant	3.14*	1.33	23.18
Conservative Masculine Attitudes	-0.12**	0.04	
BPD Criterion 1 (Fear of Abandonment)	-0.52	0.59	
BPD Criterion 3 (Identity Disturbance)	1.38	0.76	
BPD Criterion 6 (Affective Instability)	0.77	0.61	
BPD Criterion 7 (Emptiness)	0.43	0.58	
BPD Criterion 8 (Anger)	1.38	0.88	
<i>Step 6</i>			
Constant	3.18*	1.30	23.98
Conservative Masculine Attitudes	-0.12**	0.04	
BPD Criterion 1 (Fear of Abandonment)	-0.40	0.56	
BPD Criterion 3 (Identity Disturbance)	1.48	0.76	
BPD Criterion 6 (Affective Instability)	0.84	0.60	
BPD Criterion 8 (Anger)	1.43	0.88	
<i>Step 7</i>			
Constant	2.99*	1.25	19.85
Conservative Masculine Attitudes	-0.12**	0.04	
BPD Criterion 3 (Identity Disturbance)	1.37	0.74	
BPD Criterion 6 (Affective Instability)	0.80	0.60	
BPD Criterion 8 (Anger)	1.27	0.85	
<i>Step 8</i>			
Constant	3.13*	1.25	22.82
Conservative Masculine Attitudes	-0.12**	0.04	
BPD Criterion 3 (Identity Disturbance)	1.59*	0.73	
BPD Criterion 8 (Anger)	1.74*	0.76	

* = significant at $p < .05$, ** = significant at $p < .01$

Note: $R^2 = .32$ (Nagelkerke).

The final model included conservative masculine attitudes, and BPD criterion three (identity disturbance) and eight (intense anger). The model was significant ($p < .05$). It accurately classified more individuals into their group (74.42%) than the model using total BPD score, and had a medium effect size ($R^2 = .32$). It accurately identified 82.6% of participants in the PNV group, and 65% of participants in the PV group.

As with the previous logistic regression, the model was repeated using bootstrapped data. One thousand samples were drawn from the data set with replacement, using a 95% confidence interval. The results of the logistic regression, performed with the bootstrapped data, are presented in Table 3.9.2.

Table 3.9.2

Logistic Regression Predicting Group Membership, Using Bootstrapped Data, for Individual BPD Criteria and Conservative Masculine Attitudes

	<i>B</i>	<i>SE</i>	<i>exp b</i>
Constant	3.13*	1.25	22.82
Conservative Masculine Attitudes	-0.12**	0.04	
BPD Criterion 3 (Identity Disturbance)	1.59*	0.73	
BPD Criterion 8 (Anger)	1.74*	.76	

* = significant at $p < .05$, ** = significant at $p < .01$

Note: $R^2 = .32$ (Nagelkerke).

The items that assess the identity disturbance trait on the BPD scale of the SCID-IIP are:

1. Have you all of a sudden changed your sense of who you are and where you are headed?
2. Does your sense of who you are often change dramatically?

3. Are you different with different people or in different situations, so that you sometimes don't know who you really are?
4. Have there been lots of sudden changes in your goals, career plans, religious beliefs, and so on?

The items that assess the anger trait on the BPD scale of the SCID-II/P are:

1. Do you often have temper outbursts or get so angry that you lose control?
2. Do you hit people or throw things when you get angry?
3. Do even little things get you very angry?

Given that the previously reported *t* tests indicated that the PV group scored significantly higher on psychological aggression ($M = 47.89$, $SE = 6.47$) than the PNV group ($M = 19.27$, $SE = 3.20$), the logistic regression was repeated, controlling for psychological aggression, in order to give a more accurate indication of the pure relationship between the predictors and physical assault. The results of this analysis, using Bootstrapped data, are presented in Table 3.9.3.

Table 3.9.3

Logistic Regression Predicting PV and PNV Group Membership, Controlling for Psychological Aggression, Using Bootstrapped Data

	<i>B</i>	SE
<i>Block 1</i>		
Psychological Aggression	0.03**	0.01
<i>Block 2</i>		
Psychological Aggression	0.03**	0.01
Conservative Masculine Attitudes	-0.12**	0.04
BPD Criterion 3 (Identity Disturbance)	1.81*	0.80
BPD Criterion 8 (Anger)	1.01	0.80

* = significant at $p < .05$, ** = significant at $p < .01$

When psychological aggression was controlled, criterion eight of BPD (intense anger) was no longer significant. Conservative masculine attitudes and criterion three (identity disturbance) remained significant.

The only other potentially confounding variable on which the two groups differed, according to the previously reported t tests, was that of highest completed level of education. To control for the influence that this variable may have on the model, another logistic regression was conducted with both psychological aggression and level of education included. Additionally, variables that Sigelman et al. (1984) found to mediate the relationship between conservative attitudes toward women and physical IPV (age, impression management, and household income) were entered as controls. The results are presented in Table 3.9.4.

Table 3.9.4

Logistic Regression Predicting PV and PNV Group Membership, Including Several Controls, Using Bootstrapped Data

	<i>B</i>	SE
<i>Block 1</i>		
Psychological Aggression	0.03**	0.01
Level of Education	-0.48*	0.19
Age	-0.03	0.03
Impression Management	0.03	0.03
Household Income	-0.03	0.28
<i>Block 2</i>		
Psychological Aggression	0.03**	0.01
Level of Education	-0.43*	0.21
Age	-0.04	0.03
Impression Management	0.07*	0.04
Household Income	0.17	0.32
Conservative Masculine Attitudes	-0.13**	0.05
BPD Criterion 3 (Identity Disturbance)	2.71**	1.02
BPD Criterion 8 (Anger)	0.88	0.86

* = significant at $p < .05$, ** = significant at $p < .01$

When the effects of psychological aggression, level of education, age, impression management, and household income are controlled, conservative masculine attitudes remain a significant predictor of group membership, as does criterion 3 (identity disturbance) of BPD. However, as with the previous analysis, criterion 8 (intense anger) of BPD was no longer a significant predictor of physical IPV.

Given that the above analyses indicate that BPD criterion 8 is only significant due to the significant difference between the two groups' scores on psychological aggression, the logistic regression was run again, without

criterion 8, in order to determine how well the model predicts physical assault exclusively. The results are presented in Table 3.9.5.

Table 3.9.5

Logistic Regression Predicting Group Membership, Using Bootstrapped Data, for Individual BPD Criteria and Conservative Masculine Attitudes

	<i>B</i>	SE	exp <i>b</i>
Constant	3.34**	1.21	28.27
Conservative Masculine Attitudes	-0.12**	0.04	
BPD Criterion 3 (Identity Disturbance)	1.77**	0.70	

** = significant at $p < .01$

Note: $R^2 = .24$ (Nagelkerke).

The model was statistically significant ($p < .01$), and accurately identified 65.0% of participants in the PV group, and 80.4% of participants in the PNV group.

Chapter 4

Discussion

4.1 Main Findings and Outline of Discussion

The results of the study have a number of implications for intimate partner violence (IPV) theory, assessment, treatment, and prevention; in addition to personality theory. The results appear to indicate that psychopathy, as measured on a continuum, may not play a significant role in physical IPV. However, there were very few participants who reached diagnostic levels of psychopathy, and, therefore, the results may only be applicable to subclinical psychopathy features. Additionally, as several other studies have found, borderline personality organisation (borderline personality measured on a continuum ranging from normal to pathological) is significantly predictive of physical IPV. Furthermore, the results of the current study indicate that the identity disturbance trait of borderline personality disorder (BPD), specifically, is predictive of IPV. Therefore, there appears to be a relationship between an individual having an unstable sense of himself, and engaging in physical IPV.

The other key finding of the study is the predictive relationship that conservative masculine attitudes were found to have with IPV. This finding indicates that men who have traditional conservative ideals about expected masculine and feminine behaviours are more likely to engage in IPV. It seems likely that both identity disturbance and conservative masculine attitudes interact with each other in contributing to the likelihood of an individual

engaging in physical IPV. The process by which this is theorised to occur is outlined in the following chapter.

This chapter begins by providing a summary of the study's results and comparing them with the results of previous research. Support for the aims and hypotheses of the study are also examined for each result. Theoretical and practical implications of the results are then presented, followed by a discussion of the limitations of the study. Lastly, suggested future directions for research in the field are discussed.

4.2 Summary of Results

4.2.1 Descriptive differences and control variables. There is a broad range of findings that can be concluded from this study. Firstly, the Physically Violent (PV) group was compared with the Physically Non-Violent (PNV) group on several descriptive variables. The results indicate that neither group differed significantly on any of the demographic variables except education. The median highest completed level of education for the PV group was year 12; whereas, the median for the PNV group was a university degree. To minimise the effects of this variable on group differences, education was used as a control variable for the primary analyses. The groups also differed on psychological aggression and injury. They were expected to differ on injury, as this is a measure of physical injury inflicted on their partner within the last year, and would, therefore, be highly related to their use of physical assault toward their partner. However, the study's aims related to *physical* IPV, therefore, psychological aggression was also used as a control variable for the primary analyses.

4.2.2 Predicting physical IPV. The primary analysis of the study made use of logistic regression to determine which variables predicted physical IPV. The results revealed that conservative masculine attitudes and borderline personality significantly predicted presence of physical IPV in men. When BPD was deconstructed into its nine criteria, only anger and identity disturbance remained significant. However, the two groups had already been found to differ significantly on psychological aggression; and psychological aggression is conceptually related to anger. Therefore, additional analyses were conducted to test whether the anger trait of BPD was only significantly predicting group membership because the groups differed on psychological aggression—not because they differed on physical assault. To assess for this possibility, the logistic regression was run again, controlling for psychological aggression. The results indicated that the anger trait did not predict physical IPV once psychological aggression was included in the analysis. Therefore, the anger trait appears to be predictive of psychological aggression, and not physical aggression. The remaining two variables in the model—conservative masculine attitudes and the identity disturbance trait of BPD—remained significant when level of education, age, impression management, and household income were also controlled.

The model was more accurate at identifying individuals who did not engage in physical IPV than those who did. It is a slightly conservative model, as it tends to categorise individuals into the PNV group. Therefore, the model is more likely to predict that a violent individual is not engaging in physical IPV, than that a non-violent individual is engaging in physical IPV. One possible explanation for this tendency is that some individuals who engaged

in physical IPV were more restrained in responding to items from the measures of the predictor variables. If this occurred, the model would predict that these lower scorers belonged to the PNV group instead of the PV group. However, this possibility seems to conflict with the participants' impression management scores; if the PV group were less truthful in their answers to the predictor measures than the PNV group, they would have scored higher than the PNV group on the measure of impression management; which was not observed to occur.

While there has not been extensive research on the relationship between conservative masculine attitudes and IPV, the results of the present study conflict with those of a previous study that found conservative masculine attitudes were exclusively associated with verbal aggression directed toward intimate partners, and not physical or sexual violence (Haj-Yahia & Edleson, 1994). However, this study is now very dated and, given that cultural attitudes can change with time, it is difficult to know whether it can be accurately compared with the current study. The current study found that conservative masculine attitudes were a highly significant predictor of physical IPV. One possible reason for this discrepancy is the cultural differences between the samples. The previous study recruited Arab-Palestinian men exclusively. Given that the Attitudes Toward Women scale is a measure of attitudes relating to appropriate expectations of gender roles within a society, it seems likely that it would be sensitive to cultural differences.

The results indicate that conservative masculine attitudes and identity disturbance predict physical IPV, irrespective of an individual's age, income, level of social desirability, and level of psychological aggression toward their

partner. These findings are not consistent with a study by Sigelman et al. (1984) who found that traditional conservative masculine attitudes were no longer significantly related to IPV once these variables had been included. This study is also dated, and the validity of any comparisons with the current study is difficult to determine. A possible explanation for this difference is that Sigelman's study also measured history of childhood abuse, whereas the current study was not able to measure childhood abuse for methodological reasons. However, given that Sigelman's study found that history of childhood abuse alone was not a significant predictor of IPV, and that the current study found conservative masculine attitudes remained significant at the $p < .01$ level while controlling for the other variables, it seems unlikely that the addition of a measure of childhood abuse would have significantly mediated this relationship.

Support for aims and hypotheses. The primary aim of the study was to determine which variables best discriminate between a group of men who engage in physical IPV, and a group of men who do not. As this was an exploratory aim, no specific hypothesis was generated. The results indicate that conservative masculine attitudes and identity disturbance best discriminate men who engage in physical IPV from those who do not, even while controlling for several other key variables. Based on the results of a study by Mauricio, Tein, and Lopez (2007) into the mediating effects of BPD, the related hypothesis that anxious attachment style would no longer be a significant predictor of physical IPV once borderline personality traits were included in the model, was supported. It seems likely, based on these results, that the constructs of anxious adult attachment style and BPD overlap

significantly. This explanation is supported by the strong correlation found between anxious attachment and borderline personality traits ($r = .53$, $p < .01$).

4.2.3 Gender overview. With respect to gender and IPV, the results showed that, within violent relationships, it was most common for both male and female partners to be mutually violent (48.1% of violent relationships from the general community sample, and 75.7% of violent relationships from the Men's Behaviour Change Programs [MBCP]). The next most common relationship was one in which only the female partner was violent, and the least common was one in which only the male partner was violent. This result applied to both the MBCP participants, and the participants recruited from the general community. Additionally, an equivalent number of female and male partners were found to engage in physical IPV irrespective of whether the participants were recruited from the general community or from the MBCP; indicating *symmetry*.

Consistent with a study from Straus (2011), the results also indicate mutuality of *severe* violence, with the exception that the most common severe violent relationship among the general community sample was one in which only the female partner engaged in severe violence. Additionally, symmetry of severe violence was found for the MBCP group, and, among the general community sample, significantly more females than males were found to engage in severe physical IPV.

Support for aims and hypotheses. One aim of the study was to determine the 12-month prevalence rate of IPV that was perpetrated by male partners exclusively, female partners exclusively, and both partners in heterosexual relationships. Based on the results of previous research (Langhinrichsen-Rohling, Misra, et al., 2012; Straus & Ramirez, 2007), it was predicted that, of the couples who engaged in physical violence—operationalised as the endorsement of at least one item on the *Physical Assault (Within the Last 12 Months)* scale of the CTS-2—the most common relationships would be those in which both partners engaged in physical violence; labelled mutuality. This hypothesis was supported. Relationships in which both couples engaged in physical IPV were the most common type of violent relationship for men recruited from the general community (26.5%) and from the MBCP (52.1%).

Additionally, consistent with Straus' and Ramirez's (2007) results, it was predicted that there would be an approximately equivalent number of females engaging in physical IPV as males; labelled symmetry. This hypothesis was also supported; there was no significant difference between the frequency of males (36.7% of the general community sample, and 56.3% of the MBCP sample) and females (44.9% of the general community sample, and 64.6% of the MBCP sample) engaging in physical IPV.

4.2.4 Personality pathology. There were no significant differences between the two groups on the frequency of personality disorders measured using the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II). However, BPD was approaching a significant

difference, with nearly double the percentage of participants scoring at or above the threshold required for a diagnosis. Given the subsequent results of the logistic regression—that found only certain traits of BPD predicted physical IPV—the reason the difference between the two groups’ frequencies of diagnosable BPD did not reach significance may be because men who engage in IPV are more likely to have a specific personality trait that is associated with BPD (identity disturbance), rather than BPD itself.

There was a significant difference between the two groups on prevalence of psychopathy when psychopathy was established using the threshold of one standard deviation above the mean score on the Psychopathic Personality Inventory – Revised (PPI-R). This difference was no longer significant when using the two standard deviations threshold.

Using SCID-IIP criteria, 47.2% of the men who did not engage in physical IPV were found to have a personality disorder. However, it seems unlikely that this percentage reflects the community prevalence of these personality disorders. The SCID-IIP is a sensitive measure. Additionally, the men recruited from the general community were responding to an advertisement requesting men in “rocky relationships”. Therefore, there is a possibility that even the men who did not engage in IPV were less emotionally stable and more likely to endorse personality disorder traits than the general population. This may also explain why the PV group generally did not have significantly higher incidents of personality disorders than the PNV group. Despite this potentially reduced gap in personality disorder prevalence rates between the two groups, individual personality traits were still found to be significant in predicting physical IPV in the logistic regression.

The results of the current study conflict with those from a study by Mauricio and Lopez (2009), who found that borderline personality traits, and both anxious and avoidant attachment style, were predictive of severe IPV. Conversely, the current study found that neither borderline traits, nor either of the attachment styles, were significantly associated with severe IPV. Their study used the same measures to assess severe assault (the Conflicts Tactics Scale) and attachment style (Experiences in Close Relationships; albeit an earlier version of the measures in both cases). They also used a similar measure, based on DSM criteria, for assessing borderline traits (The Personality Diagnostic Questionnaire: Revised). However, Mauricio's and Lopez's study dichotomised the severe violence variable, and assessed whether the other variables could predict the presence and absence of severe violence in the study's participants; whereas, the current study used a correlational test to assess the relationships. Notwithstanding this difference in methodology, it remains unclear why the results of the current study conflict with those of Mauricio's and Lopez's. This is a matter that can be considered in future research.

Support for aims and hypotheses. One of the aims of the study was to determine the prevalence of personality disorder among men who engage in IPV. As predicted, BPD was the most common personality disorder among men who engaged in physical IPV. Using the criteria from the SCID-IIP, 40% of men from the MBCP were found to meet the minimum threshold required for a diagnosis of BPD. BPD was also the personality disorder with the greatest difference in frequency between the PV and PNV group; however this difference was only approaching significance ($p = .06$).

4.2.5 IPV motivation. The participants' motivation to engage in violence was measured using the concepts of premeditated and impulsive aggression, and proximal antecedents of violence (Violence following Verbal Abuse, Violence out of Jealousy, and Violence to Control). The participants were not categorised into one type of motivation exclusively. They were, instead, given a score for each variable on a continuous scale. Therefore, the results provided information on what other variables tended to be associated with each motivation of violence variable. Men who engage in physical IPV, and have conservative masculine attitudes, were found to be more likely to engage in impulsive violence than premeditated violence. Impulsive aggression was found to be significantly related to conservative masculine attitudes, borderline personality, and passive-aggressive personality. Whereas, premeditated aggression was found to be related to the Self-Centred Impulsivity scale of the PPI-R (equivalent to Factor 2 psychopathy), narcissistic personality, and severe physical assault. Therefore, these two ways of conceptualising motivation to engage in IPV provide a useful basis of differentiating among men who engage in IPV.

The proximal antecedents to violence variables were all significantly related to borderline personality, paranoid personality, and anxious attachment. These results could be interpreted to mean that borderline personality, paranoid personality, and anxious attachment style are all related to violent behaviour; irrespective of the motivation behind the behaviour. However, the strongest association with borderline personality was Violence following Verbal Abuse, and Violence to Control was most strongly correlated

with anxious attachment. Additionally, severe violence was exclusively associated with Violence out of Jealousy.

The strength of the relationships between each of the proximal antecedents to violence variables, and borderline personality, reflected the results of previous research (Babcock, Costa, et al., 2004). Babcock, Costa, and colleagues found all three proximal antecedents to violence variables were significantly related to borderline personality. They also found that the variable with the strongest relationship was Violence following Verbal Abuse; the next strongest relationship was with Violence to Control, and then Violence out of Jealousy (Babcock, Costa, et al., 2004). This pattern of relationships was replicated in the current study. However, unlike Babcock's et al. (2004) study, which found a relationship between psychopathy total score and Violence following Verbal Abuse, the current study found no relationship between any of the proximal antecedents to violence variables and psychopathy.

Support for aims and hypotheses. One of the study's aims was to explore the relationships that various motivations of violence had with personality, attachment style, conservative masculine attitudes, and severe violence in men who engage in IPV. Based on the results of previous research that found a relationship between premeditated aggression and ASPD in men who engage in IPV (Chase et al., 2001), it was predicted that premeditated aggression score, and not impulsive aggression score, would be significantly correlated with score on the Self-Centred Impulsivity scale of the Psychopathic Personality Inventory – Revised, among participants who

engage in IPV. This hypothesis was supported; premeditated aggression was significantly correlated with Self-Centred Impulsivity ($r = .31, p < .05$), while impulsive aggression was not ($r = .09, p > .05$).

Further to the above aim, it was predicted that impulsive aggression score, and not premeditated aggression score, would be significantly correlated with score on a measure of borderline personality traits, among participants who engage in IPV. This hypothesis was based on the results of previous research by Ross and Babcock (2009) and Tweed and Dutton (1998). As predicted, impulsive aggression was significantly related to BPD ($r = .48, p < .01$), while premeditated aggression was not ($r = -.05, p > .05$).

Additionally, based on the results of previous research (Edwards et al., 2003; Tweed & Dutton, 1998), it was predicted that the impulsive aggression score, and not the premeditated aggression score, would be significantly correlated with score on a measure of anxious attachment, among men who engage in IPV. This hypothesis was not supported, as neither impulsive nor premeditated aggression were significantly related to anxious attachment. However, impulsive aggression had a higher correlation with anxious attachment ($r = .24, p > .05$) than did premeditated aggression ($r = .07, p > .05$), despite not reaching significance.

Based on the results of the same study by Tweed and Dutton (1998), it was also predicted that premeditated aggression score, and not impulsive aggression score, would be significantly correlated with score on a measure of severe physical IPV. This hypothesis was also unsupported, as neither impulsive nor premeditated aggression were significantly related to severe physical assault against an intimate partner. Tweed and Dutton's study had a

comparable sample size of adult men recruited from domestic violence treatment programs; however, their severe physical assault score was corrected for social desirability using the Marlowe-Crowne Socially Desirable Responding Scale. For the current study, any extreme scorers on the Impression Management (IM) scale were excluded, and the IM scale was used as a control variable for the logistic regression; however, IM was not statistically controlled for the simple correlations. Therefore, it is possible the reason the hypothesis was not supported is because, among the PV group, participants who scored highly on premeditated aggression were less likely than the other participants in the PV group to admit to engaging in severe violence.

The final hypothesis for this aim was that participants' scores on the Violence out of Jealousy scale would be significantly correlated with their anxious attachment scores among men who engage in IPV. This hypothesis was based on attachment theory; which postulates that anxious attachment style is based on a negative model of self—and, therefore, cognitions of inferiority and jealousy may theoretically be associated with this attachment style. As predicted, Violence out of Jealousy was significantly related to anxious attachment style. However, the other two proximal antecedence to violence variables (Violence to Control, and Violence following Verbal Abuse) were also significantly related to anxious attachment. This seems to indicate that Violence out of Jealousy does not have a unique relationship with anxious attachment, and that all three of these types of motivations to engage in IPV may be associated with anxious attachment due to the significant

relationship that anxious attachment has with physical IPV (see the Biserual correlations), irrespective of the motivation that preceded the violence.

4.3 Theoretical and Practical Implications

The results of the current study are consistent with psychopathy research, which indicates that individuals who score highly on Factor 1 (the affective factor) traits, are less impacted by emotional experiences and, therefore, less likely to engage in impulsive, or “reactive”, IPV (R. D. Hare & Neumann, 2005). The results indicate no relationship between the Fearless Dominance scale of the PPI-R (equivalent to the Factor 1), and impulsive aggression. Additionally, the Self-Centred Impulsivity scale of the PPI-R (equivalent to the Factor 2) and psychopathy total score were found to be significantly related to premeditated IPV. Therefore, psychopathy appears to have some relationship with what motivates men to engage in IPV. This is also consistent with research from Costa and Babcock (2008), who found that men with high Factor 1 scores are less likely to experience or express anger or jealousy, even though they may be engaging in IPV.

It remains unclear whether the relationship that Psychopathy has with motivation of IPV is unique to IPV, or whether it is a common relationship between psychopathy and all kinds of violence, of which IPV is only one. Costa and Babcock (2008) found that men who engaged in IPV actually had lower interpersonal psychopathy scores than men who did not engage in IPV. The dearth of evidence supporting a direct relationship between psychopathy and propensity to engage in IPV is consistent with psychopathy theory. Individuals with psychopathic personality disorder are often emotionally

shallow and unable to maintain long-term relationships (R. D. Hare & Neumann, 2005). These men would find it difficult to make an emotional investment with a partner, and therefore, are unlikely to stay in a relationship for long enough to regularly engage in IPV.

The results of the present study may have implications for the results of previous studies that found a relationship between IPV and borderline personality organisation (Costa & Babcock, 2008; Edwards et al., 2003; Holtzworth-Munroe & Stuart, 1994; Mauricio et al., 2007; Newhill et al., 2009). These studies—and the current study—did not find that this relationship existed exclusively with clinical levels of BPD. Borderline personality was measured dimensionally, and higher levels—irrespective of whether they were clinical or subclinical—were associated with IPV. Given the results of the logistic regression analysis in this study, it seems likely that this long-established association between IPV and borderline personality may actually be due to the relationship between IPV and specific traits of BPD, rather than varying levels of all traits that compose BPD. This notion is supported by the current study's finding that the identity disturbance and inappropriate/intense anger traits were significantly predictive of physical IPV; even when none of the other traits were included in the analysis.

Although the current study did not investigate typologies of men who engage in IPV, the results indicate that existing typologies may not fully describe the various types of men who engage in IPV. The existing typologies take into account violence severity, generality of violence, personality pathology and psychopathology (Holtzworth-Munroe & Stuart, 1994). However, they do not include variables that the current study has found to be

associated with IPV; such as conservative masculine attitudes and specific personality traits such as identity disturbance. Although the current study did not investigate how these variables differ among men who engage in IPV, the results indicate that they reliably differentiate men who engage in IPV from those who do not. Therefore, it is possible that these variables could also be used to differentiate among types of men who engage in IPV.

4.3.1 Implications for the role of conservative masculine attitudes and borderline traits. The following section will discuss the implications of the current study's finding that conservative masculine attitudes and borderline personality traits predict physical IPV. A theoretical explanation for why conservative masculine attitudes are associated with physical IPV will be presented, as will an explanation for why identity disturbance seems to interact with these attitudes in predicting physical IPV.

The results of the current study confirm that conservative masculine attitudes play a significant role in male physical intimate partner violence. Previous research has found inconsistent results, with some studies indicating that these attitudes are not related to IPV (Rosenbaum & O'Leary, 1981), and others finding that the relationship is exclusive to psychological abuse, and not physical abuse (Haj-Yahia & Edleson, 1994). The results of the current study indicate that, not only is there a simple correlation between conservative masculine attitudes and physical IPV, but that conservative masculine attitudes significantly predict physical IPV, even when several other key variables are included in the model to account for any shared variance.

Conservative masculine attitudes appear to be associated with a pattern of variables related to IPV that were not previously known to be related. Tweed and Dutton (1998) theorised that they expected the type of intimacy that men who had conservative masculine attitudes and engaged in IPV would be preoccupied with, would differ from intimacy as defined by the general population. They expected that men who engage in IPV use violence instrumentally to enforce control on their partner. The results of the present study, however, indicate that these attitudes are actually associated with impulsive aggression, and not premeditated aggression. Furthermore, there was no difference between the PV and PNV group's scores on premeditated aggression. Men with conservative masculine attitudes appear to engage in IPV in response to an emotional state, such as anger or frustration, triggered by their interpretation of their partner's behaviour.

The measure used to assess conservative masculine attitudes contained no items for which the participants could specifically endorse the use of violence against a partner; therefore, there is a possibility that this variable is related to a more extreme underlying attitude, in some individuals, that violence toward women is acceptable in given circumstances. Given the association between conservative masculine attitudes and impulsive IPV, these more extreme attitudes could be triggered by emotional states such as anger or frustration, and may not be endorsed when the men are in a euthymic state. If this were accurate, it would prove more difficult for the men's partners to leave following an assault, as they would be likely to witness the men experience genuine remorse.

Given the established association between conservative attitudes and a structured and persistent cognitive style (Amodio et al., 2007; Eidelman et al., 2012; Hinze et al., 1997), it seems likely that the participants' conservative masculine attitudes are rigid and resistant to change. Conservative attitudes have been found to be associated with a lower tolerance for ambiguity and complexity (Jost, Glaser, Kruglanski, & Sulloway, 2003). This finding indicates that individuals who have conservative masculine attitudes are more likely to experience cognitive dissonance when these attitudes conflict with their perception of the external world. Experiences of cognitive dissonance are associated with feelings of frustration and distress (Chatzisarantis, Hagger, & Wang, 2008). It seems likely that men who have rigid conservative masculine attitudes about expected male and female behaviour would feel frustrated when their partner's behaviour does not meet their expectations, and feel compelled to act consistently with their beliefs about expected masculine behaviour. However, it seems less likely that every man who feels frustrated, when their partner's behaviour conflicts with their expectations, would engage in IPV. Normally, strong aversive emotions, such as guilt, empathy, or fear, would deter an individual from using physical violence against their intimate partner.

There appears to be two possibilities as to why these aversive emotions may not have the same effect on men who engage in physical IPV. They may be experiencing such a great amount of distress or internal conflict at the perceived transgression to their expectations, that this distress predominates over any aversive moderating emotions. Alternatively, consistent with Tweed and Dutton's (1998) description of unemotional

premeditated batterers, men who engage in IPV may not experience these moderating emotions as strongly as others. Given the results of the current study, the former explanation appears more likely. Conservative masculine attitudes were found to be associated with impulsive, not premeditated, aggression. Additionally, there was no difference between the PV and PNV groups' scores on premeditated aggression, nor on the affective factor of psychopathy. The violence appears to be less calculated; rather, the men appear to be acting impulsively, out of distress.

Men who engage in IPV may experience this greater level of distress, at their partner's apparent transgressions, due to certain personality traits. The results of the current study indicate that men who engage in IPV tend to have an unstable sense of identity; a personality trait that is common to individuals with BPD. It seems likely that individuals with a fragile sense of identity and conservative masculine attitudes would look to those attitudes to help define their identity. Their sense of identity may rely on that set of beliefs about masculine behaviour. If they perceived that their partner was acting outside of those expectations, or that their partner was placing pressure on them to act outside of those expectations, this action may be interpreted as a direct challenge or threat to their identity. An interpretation of threat could lead to distress or even feelings of vulnerability. Anger and aggression are functional reactions to an interpretation of threat. Consequently, an aggressive response could follow.

Anger can return a sense of control and a reduction of pain to an individual who feels overwhelmed by negative affect (Novaco, 2000). This reduction in distress could act as a powerful negative reinforcer to strengthen

the individual's drive to engage in aggressive behaviour when triggered. Additionally, given that the results of the current study indicate that men who engage in IPV are more likely to have conservative masculine attitudes, aggression may be viewed as an appropriate masculine reaction. Therefore, aggression may also be rewarding to them while they experience it, as it can provide reassurance of their—otherwise-unstable—identity.

4.4 Limitations

The study had some practical limitations that were unavoidable. The researchers were only able to recruit a relatively limited sample size. Green (1991) recommends a sample size of 50 plus eight times the number of predictors. For the primary analysis, seven predictor variables were initially entered into the stepwise logistic regression. This number of variables would indicate a recommended sample size of 106 participants. This figure was slightly higher than the actual sample size obtained of 98 participants. However, when deconstructing the effects of borderline personality, 10 variables were entered into the logistic regression. This number of variables would indicate a larger recommended sample size of 130 participants. The smaller sample size may have contributed to the small effect size of the final model, despite the model being highly significant. However, to minimise the potential issues that could have occurred with a smaller sample size, the Bootstrapping method was conducted for all logistic regressions. This method decreases the chances of overfitting the data and exaggerating minor fluctuations.

Additionally, the Psychopathic Personality Inventory: Revised (PPI-R) was used to assess psychopathy, instead of the Psychopathy Checklist: Revised (PCL-R; Hare, 2002), or the Psychopathy Checklist: Screening Version (PCL: SV; Hart, Cox, & Hare, 1995). While all of these measures have been found to be valid and reliable, the PPI-R relies on self-report, while the PCL-R includes information from a semi-structured interview and from collateral sources to inform the score. The researchers were not able to gain access to collateral information about the participants, which would have been required to complete the PCL-R or the PCL: SV. Furthermore, recruitment rates were slow due to the time required to interview. Another measure used in the present study to assess personality disorder, the SCID-IIP questionnaire, was sensitive and may have contributed to an overestimation of the prevalence of personality disorder among the sample. The questionnaire was used, instead of the full semi-structured interview, to reduce the time required of participants and facilitate recruitment. In future research, a semi-structured interview would allow for a more thorough assessment of psychopathy and other personality disorders.

Another potential methodological limitation was the recruitment method for the participants from the general community. Participants responded to posters and online advertisements (see Appendix C) requesting men in “rocky relationships”. The reason men in unstable relationships were requested was to obtain a comparison with men who were also in unstable relationships but who engaged in IPV. However, there is a possibility that this method of recruitment attracted to the study a disproportionate number of men who were victims of IPV. Their interpretation of a “rocky relationship” could have been

one in which their partner abused them. An attempt to prevent this possibility was made by including the wording “Do you sometimes lose control of yourself with your partner?” However, it is possible that, even with this wording, participants were in relationships in which their partner was the primary instigator of violence. Significantly more females than males were found to engage in severe IPV among the general community sample. However, it seems unlikely that this finding would have affected the results of the primary analyses of the study, as there was no difference between the male and female rates of overall physical aggression in the general community; consistent with previous research (Straus & Ramirez, 2007). Additionally, several other studies have found that women engage in more severe violence than men (Foshee, Linder, MacDougall, & Bangdiwala, 2001; Kan & Feinberg, 2010; O’Leary & Slep, 2006; Turcotte-Seabury, 2010)

There is also a possibility that the participants exaggerated their partner’s use of violence. It seems unlikely that they would have attempted to deliberately deceive, given that their IM scores were within an acceptable range; however, it is possible that the participants unintentionally exaggerated their partner’s use of violence, or understated their own use of violence. They may have been genuinely convinced that they were less violent than what they were in reality, or that their partners were more violent. This self-deceptive phenomenon was not measured in the current study. A measure of self-deceptive enhancement is contained, along with the IM scale, in the Paulhus Deception Scales; however, in response to a slow recruitment rate, this scale was omitted along with other unused scales and measures for the purpose of reducing the length of the test battery. Nonetheless, the symmetry

and mutuality results were largely consistent with previous research in the area (Desmarais et al., 2012b; Langhinrichsen-Rohling, Misra, et al., 2012; Straus, 2011; Straus & Ramirez, 2007). It is also difficult to determine, based exclusively on the results of the current study, whether the finding of gender mutuality can be interpreted as the female partners acting in self-defence. This issue has been explored in previous studies; Straus' (2011) metareview found a median of 45% of violent incidents in relationships were initiated by the female partner. A more recent review found that rates of self-defence reported by men ranged from 0% to 50%, and reports by women ranged from 5% to 65.4% depending on whether the samples were taken from perpetrator or non-perpetrator populations (Langhinrichsen-Rohling, McCullars, et al., 2012).

To compensate participants for their time and travel expenses—and, therefore, to facilitate recruitment rates—they received \$30. It could be argued that this financial incentive to participate in the study may have biased the results. Participants may have been motivated to complete the study to gain the financial reward, rather than for the purposes of the study. It is possible that the participants gave unthoughtful or rushed answers in an attempt to obtain the financial reward with minimum effort. However, if this financial incentive attracted participants who were motivated to give deliberately untruthful answers, it seems unlikely that this biased the final results, as all included participants had IM scores within the acceptable range, and IM score was used as a covariate in the logistic regression. Additionally, both groups had a median annual income of between \$37,000 and \$80,000.

4.5 Directions for Future Research

Future research on gender symmetry and mutuality in IPV would benefit from including a measure of self-deceptive enhancement and corroboration of reported violence by partners. Although the current study measured impression management, indicating the degree to which the participants intentionally attempted to portray themselves in a positive light, a measure of self-deceptive enhancement would give an indication of the degree to which the participants unintentionally view themselves in an unrealistically positive light. A measure of self-deceptive enhancement would allow the researcher to further clarify whether or not the men's reports of their partner's violence are realistic. Corroboration of reported violence from the men's partners would also clarify the accuracy of the men's self-reports.

The conflicting results between the current study and that of Sigelman and colleagues' (1984) study could be resolved by repeating the current study using a sample of university students. Sigelman's younger sample may have meant that their measure of current household income was, at least partly, a measure of their participants' parents' income, and, therefore, socio-economic background. Future research may wish to directly measure socio-economic background to see if it has a mediating affect on physical IPV. Additionally, Sigelman's study indicates that it may be worthwhile for any future research to include a measure of history of childhood abuse.

An important direction for future research is to further examine the current study's finding that conservative masculine attitudes predict physical IPV. If conservative masculine attitudes only predict physical IPV because of a more general, related underlying phenomenon, such as a structured and

persistent cognitive style, future research would benefit from investigating this relationship. Given that the sample consisted exclusively of men, the results of the current study apply only to males who engage in IPV. It seems unlikely that women who have similar conservative attitudes about masculine behaviour would be more likely to engage in IPV. However, if there is a more general underlying cause, such as a structured and persistent cognitive style, this may explain both male and female IPV.

4.6 Conclusion

The study confirms that IPV is a prevalent and severe mental and physical health concern for both men and women. The key finding of the study was that conservative masculine attitudes and the identity disturbance trait of BPD were found to predict use of physical IPV in men. This finding sheds new light on what might be contributing to IPV. It seems likely that both identity disturbance and conservative masculine attitudes interact with each other in contributing to the likelihood of an individual engaging in physical IPV. It is suggested that future research investigates these, and similar, variables in women who engage in IPV, to determine whether they are universally predictive of physical IPV, or specific to men.

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Appendices

Appendix A: Verbal instructions for recruiting from men's behaviour change program



Verbal Instructions

1. Study on men who have acted violently toward their partners.
2. We're using a bunch of questionnaires to find out some things about your personality and attitudes.
3. There's no right or wrong answers, you just have to answer questions about yourself.
4. It's completely confidential. Your name or any identifiable information will never be used in the publication. We only publish the overall result.
5. Some of the questions can be confusing, so if you have trouble reading, or understanding the English language, or if you have a history of traumatic head injury, unfortunately you won't be eligible to participate.
6. You can do it from the comfort of your own house, in your own time.
7. It takes about 1 hour, and you'll receive \$30 cash compensation for your time.
8. You'll receive the payment next week when you hand me your completed forms before the session starts.
9. Thanks

Appendix B: Participant information questionnaire

QUESTION:	ANSWER:
Full legal name:	
Date of Birth:	
In which state do you currently live?	
Do you have a history of head injury or brain damage?	<input type="radio"/> Yes <input type="radio"/> No
What is your current relationship status?	<input type="radio"/> I have a partner but we're not living together <input type="radio"/> Living Together <input type="radio"/> Married / Defacto <input type="radio"/> No Current Relationship
How long have you been in your current relationship? (years)	
How many prior relationships have you had?	
How many children do you have with your current partner?	
Have you had any children in past relationships?	<input type="radio"/> Yes <input type="radio"/> No
How many children currently live with you?	
How many children does your current partner have?	
How many of your partner's children live with you?	
What is your individual income?	<input type="radio"/> 0 - \$37,00 <input type="radio"/> \$37,000 - \$80,000 <input type="radio"/> \$80,000 - \$180,000 <input type="radio"/> More than \$180,000
What is your household income?	<input type="radio"/> 0 - \$37,00 <input type="radio"/> \$37,000 - \$80,000 <input type="radio"/> \$80,000 - \$180,000 <input type="radio"/> More than \$180,000
How would you rate your financial pressure right now (0 being the least, and 10 being the most pressure)	
Do you have any charges or convictions (not including fines)?	<input type="radio"/> Yes <input type="radio"/> No
Have you ever been arrested for any crimes related to violence toward a partner?	<input type="radio"/> Yes <input type="radio"/> No
What is your highest completed level of education?	<input type="radio"/> Less than Year 12 <input type="radio"/> Year 12 <input type="radio"/> Certificate <input type="radio"/> Degree <input type="radio"/> Post Graduate
Is English your first language?	<input type="radio"/> Yes <input type="radio"/> No
Are you of Aboriginal or Torres Strait Islander Origin?	<input type="radio"/> No <input type="radio"/> Yes, Aboriginal <input type="radio"/> Yes, Torres Strait Islander
Place of Birth:	<input type="radio"/> Australia/NZ <input type="radio"/> Asia <input type="radio"/> Europe <input type="radio"/> N. America <input type="radio"/> S. America <input type="radio"/> Africa <input type="radio"/> Middle East
How long lived in Australia (years)	
Are you currently attending a men's behaviour change group?	<input type="radio"/> Yes <input type="radio"/> No
If yes, how many sessions have you completed with this group?	
How many times in the past have you started a men's behaviour change group?	
Including all groups, how many group sessions do you think you have done?	
Did a judge suggest that you attend a men's behaviour change group, or did you come voluntarily?	<input type="radio"/> Judge <input type="radio"/> Voluntary
Would you say the main reason you came to these groups was because of your behaviour related to your partner or your behaviour related to your children?	<input type="radio"/> Partner <input type="radio"/> Children
How many sessions of other types of therapy (eg individual therapy) have you had (if any)?	
What mental illnesses have you been diagnosed with in the past (if any)?	

Appendix C: Community poster

Do you find you sometimes **lose control** of yourself with your partner?

We're looking for men to take part in a short & completely **confidential** study on rocky relationships. The study will involve completing some personality and attitude tests.

You will receive **\$30** (tax free) for your time.



Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790	Email: simon.vincenzi@monash.edu Or call Simon on: 0402846790
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Appendix D: Descriptive statistics

Physical Assault (past year) - Self (CTS-2)		N	Mean	Std. Deviation	Std. Error Mean
Age (Years)	.00	53	32.7358	10.07692	1.38417
	1.00	45	34.2000	11.06920	1.65010
Current Relationship Duration (months)	.00	53	26.5094	63.04230	8.65953
	1.00	43	31.4070	67.50999	10.29518
No. of Prior Relationships	.00	52	3.0096	2.05915	.28555
	1.00	43	2.5116	1.88189	.28699
No. of Children with Current Partner	.00	53	.7170	1.49843	.20582
	1.00	44	1.0000	1.34683	.20304
No. of Children with Past Partners	.00	53	1.7358	.44510	.06114
	1.00	45	1.7556	.52896	.07885
No. of Children Living with them	.00	53	.6226	1.30423	.17915
	1.00	44	.7273	1.20780	.18208
No. of children current partner has	.00	53	.5849	1.19990	.16482
	1.00	45	.5333	1.07872	.16081
How many partner's children live with him	.00	53	.3396	1.01798	.13983
	1.00	45	.3556	.80214	.11958
Individual Income	.00	53	1.5660	.77234	.10609
	1.00	45	1.6000	.71985	.10731
Household Income	.00	53	2.0377	.96001	.13187
	1.00	43	1.8372	.99834	.15225
Financial Pressures	.00	53	5.0566	2.97693	.40891
	1.00	45	5.0222	3.58969	.53512
Highest level of Education	.00	53	3.2453	1.41293	.19408
	1.00	45	2.3333	1.39805	.20841
Negotiation (past year) - Self (CTS-2)	.00	52	62.1731	38.27133	5.30728
	1.00	45	68.9111	36.50020	5.44113
Psychological Aggression (past year) - Self (CTS-2)	.00	52	19.2692	23.06947	3.19916
	1.00	45	47.8889	43.37114	6.46539
Sexual Coercion (past year) - Self (CTS-2)	.00	52	3.6923	8.66034	1.20097
	1.00	45	8.9556	16.58991	2.47308
Injury (past year) - Self (CTS-2)	.00	52	1.1346	5.00991	.69475
	1.00	45	4.6667	9.92014	1.47881
Violence to Control	.00	52	19.0192	8.29715	1.15061
	1.00	44	27.1818	12.49981	1.88442
Violence out of Jealousy	.00	52	10.1154	4.70983	.65314
	1.00	44	12.9091	5.57327	.84020
Violence following Verbal Abuse	.00	52	10.8269	5.15532	.71491
	1.00	44	15.8636	7.36930	1.11096
Premeditated Aggression (Dimensional; IPAS)	.00	50	19.0000	6.59313	.93241
	1.00	45	21.2667	6.34751	.94623
Impulsive Aggression	.00	50	29.9600	8.67546	1.22690

(Dimensional; IPAS)	1.00	45	35.7778	7.17600	1.06973
Premeditated Aggression	.00	50	23.7500	8.22592	1.16332
(Dimensional-Adjusted; IPAS)	1.00	45	26.7111	7.80951	1.16417
Impulsive Aggression	.00	50	29.7600	8.41903	1.19063
(Dimensional - Adjusted; IPAS)	1.00	45	35.8444	7.26747	1.08337
Total T-score (PPI)	.00	51	48.0980	9.44300	1.32228
	1.00	43	52.2558	10.25414	1.56374
Self-Centred Impulsivity	.00	51	51.5882	9.57742	1.34111
(Factor) T-score	1.00	43	57.1395	9.52586	1.45268
Fearless Dominance	.00	51	45.0392	8.57662	1.20097
(Factor) T-score	1.00	43	44.2791	8.19793	1.25017
Coldheartedness	.00	51	49.9216	8.83593	1.23728
(Factor) T-score	1.00	43	50.1395	9.48829	1.44695
Dependent (SCID)	.00	51	1.8431	1.46113	.20460
	1.00	43	2.3256	1.44290	.22004
Passive-Aggressive	.00	51	2.0980	1.72343	.24133
(SCID)	1.00	43	2.7442	1.78743	.27258
Paranoid (SCID)	.00	51	2.4118	2.09930	.29396
	1.00	43	2.7674	2.02175	.30831
Narcissistic (SCID)	.00	51	1.3333	1.36626	.19131
	1.00	43	2.0465	1.67550	.25551
Borderline (SCID)	.00	51	2.8824	2.31212	.32376
	1.00	43	4.3023	2.36578	.36078
Avoidant (ECR-R)	.00	52	2.9081	1.08689	.15072
	1.00	45	3.2852	.98555	.14692
Anxious (ECR-R)	.00	52	3.2713	1.18443	.16425
	1.00	45	3.9123	1.20410	.17950
Conservative Masculine	.00	47	33.4468	5.92272	.86392
Attitudes (AWS)	1.00	42	28.9762	7.74120	1.19449

a. 0 = Physically Non-Violent group, 1 = Physically Violent group

Appendix E: Frequencies of demographic characteristics for physically non-violent group

Recruited from MBCP or Community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MBCP	22	41.5	41.5	41.5
	Community	31	58.5	58.5	100.0
	Total	53	100.0	100.0	

Current Relationship Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	1	1.9	2.1	2.1
	In Relationship	13	24.5	27.7	29.8
	Living Together	8	15.1	17.0	46.8
	Married / Defacto	25	47.2	53.2	100.0
	Total	47	88.7	100.0	
Missing	System	6	11.3		
Total		53	100.0		

Individual Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	3.8	3.8	3.8
	0 - 37,000	25	47.2	47.2	50.9
	37,000 - 80,000	21	39.6	39.6	90.6
	80,000 - 180,000	4	7.5	7.5	98.1
	>180,000	1	1.9	1.9	100.0
	Total	53	100.0	100.0	

Household Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5	9.4	9.4	9.4
	0 - 37,000	7	13.2	13.2	22.6
	37,000 - 80,000	23	43.4	43.4	66.0
	80,000 - 180,000	17	32.1	32.1	98.1
	>180,000	1	1.9	1.9	100.0
	Total	53	100.0	100.0	

Highest Completed Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than Year 12	10	18.9	18.9	18.9
	Year 12	6	11.3	11.3	30.2
	Certificate	9	17.0	17.0	47.2
	Degree	17	32.1	32.1	79.2
	Post grad	11	20.8	20.8	100.0
	Total	53	100.0	100.0	

Place of Birth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Australia	34	64.2	64.2	64.2
	Asia	11	20.8	20.8	84.9
	Europe	6	11.3	11.3	96.2
	N. America	2	3.8	3.8	100.0
	Total	53	100.0	100.0	

Past Therapy: Yes/No

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	26.4	37.8	37.8
	No	23	43.4	62.2	100.0
	Total	37	69.8	100.0	
Missing	System	16	30.2		
Total		53	100.0		

Appendix F: Frequencies of demographic characteristics for physically violent group

Recruited from MBCP or Community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MBCP	27	60.0	60.0	60.0
	Community	18	40.0	40.0	100.0
	Total	45	100.0	100.0	

Current Relationship Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	3	6.7	7.0	7.0
	In Relationship	12	26.7	27.9	34.9
	Living Together	6	13.3	14.0	48.8
	Married / Defacto	22	48.9	51.2	100.0
	Total	43	95.6	100.0	
Missing	System	2	4.4		
Total		45	100.0		

Individual Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	4.4	4.4	4.4
	0 - 37,000	18	40.0	40.0	44.4
	37,000 - 80,000	21	46.7	46.7	91.1
	80,000 - 180,000	4	8.9	8.9	100.0
	Total	45	100.0	100.0	

Household Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	5	11.1	11.6	11.6
	0 - 37,000	10	22.2	23.3	34.9
	37,000 - 80,000	15	33.3	34.9	69.8
	80,000 - 180,000	13	28.9	30.2	100.0
	Total	43	95.6	100.0	
Missing	System	2	4.4		
Total		45	100.0		

Highest Completed Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	4.4	4.4	4.4
	Less than Year 12	16	35.6	35.6	40.0
	Year 12	6	13.3	13.3	53.3
	Certificate	9	20.0	20.0	73.3
	Degree	10	22.2	22.2	95.6
	Post grad	2	4.4	4.4	100.0
	Total	45	100.0	100.0	

Place of Birth

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	4.4	4.7	4.7
	Australia	34	75.6	79.1	83.7
	Asia	5	11.1	11.6	95.3
	Europe	2	4.4	4.7	100.0
	Total	43	95.6	100.0	
Missing	System	2	4.4		
Total		45	100.0		

Past Therapy: Yes/No

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	37.8	50.0	50.0
	No	17	37.8	50.0	100.0
	Total	34	75.6	100.0	
Missing	System	11	24.4		
Total		45	100.0		

Appendix G: *t* tests comparing groups on all variables

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Age (Years)	Equal variances assumed	1.267	.263	-.685	96	.495	-1.46415	2.14	-5.70647	2.77817
	Equal variances not assumed			-.680	90.001	.498	-1.46415	2.15	-5.74301	2.81470
Current Relationship Duration (months)	Equal variances assumed	.332	.566	-.367	94	.715	-4.89754	13.36	-31.41685	21.62176
	Equal variances not assumed			-.364	87.199	.717	-4.89754	13.45	-31.63560	21.84051
No. of Prior Relationships	Equal variances assumed	.010	.922	1.220	93	.226	.49799	0.41	-.31290	1.30887
	Equal variances not assumed			1.230	92.038	.222	.49799	0.40	-.30607	1.30205
No. of Children with Current Partner	Equal variances assumed	.206	.651	-.969	95	.335	-.28302	0.29	-.86274	.29670
	Equal variances not assumed			-.979	94.373	.330	-.28302	0.29	-.85704	.29100
No. of Children with Past Partners	Equal variances assumed	.002	.967	-.200	96	.842	-.01971	0.10	-.21499	.17558
	Equal variances not assumed			-.198	86.388	.844	-.01971	0.10	-.21805	.17863
No. of Children Living with them	Equal variances assumed	.062	.804	-.407	95	.685	-.10463	0.26	-.61540	.40614

	Equal variances not assumed			-.410	93.834	.683	-.10463	0.26	-.61182	.40256
No. of children current partner has	Equal variances assumed	.042	.838	.222	96	.825	.05157	0.23	-.40953	.51267
	Equal variances not assumed			.224	95.668	.823	.05157	0.23	-.40553	.50867
How many partner's children live with him	Equal variances assumed	.003	.957	-.085	96	.932	-.01593	0.19	-.38826	.35639
	Equal variances not assumed			-.087	95.503	.931	-.01593	0.18	-.38117	.34930
Individual Income	Equal variances assumed	.151	.698	-.224	96	.823	-.03396	0.15	-.33523	.26731
	Equal variances not assumed			-.225	95.140	.822	-.03396	0.15	-.33353	.26560
Household Income	Equal variances assumed	.979	.325	1.000	94	.320	.20053	0.20	-.19774	.59880
	Equal variances not assumed			.996	88.449	.322	.20053	0.20	-.19971	.60077
Financial Pressures	Equal variances assumed	3.777	.055	.052	96	.959	.03438	0.66	-1.28220	1.35096
	Equal variances not assumed			.051	85.671	.959	.03438	0.67	-1.30451	1.37327
Highest level of Education	Equal variances assumed	.056	.813	3.199	96	.002	.91195	0.29	.34616	1.47773
	Equal variances not assumed			3.202	93.748	.002	.91195	0.28	.34649	1.47741
Negotiation (past year) - Self (CTS-2)	Equal variances assumed	.248	.620	-.883	95	.379	-6.73803	7.63	-	8.40377
	Equal variances not assumed			-.886	94.081	.378	-6.73803	7.60	-	8.35349

Psychological Aggression (past year) - Self (CTS-2)	Equal variances assumed	9.826	.002	-4.133	95	.000	-28.61966	6.93	-	-
	Equal variances not assumed			-3.967	64.831	.000	-28.61966	7.21	-	-
Sexual Coercion (past year) - Self (CTS-2)	Equal variances assumed	10.364	.002	-1.996	95	.049	-5.26325	2.64	-	-.02836
	Equal variances not assumed			-1.914	64.123	.060	-5.26325	2.75	-	.22884
Injury (past year) - Self (CTS-2)	Equal variances assumed	12.170	.001	-2.257	95	.026	-3.53205	1.56	-6.63815	-.42595
	Equal variances not assumed			-2.162	62.922	.034	-3.53205	1.63	-6.79717	-.26693
Violence to Control	Equal variances assumed	7.989	.006	-3.820	94	.000	-8.16259	2.14	-	-3.91985
	Equal variances not assumed			-3.697	72.538	.000	-8.16259	2.21	-	-3.76173
Violence out of Jealousy	Equal variances assumed	2.149	.146	-2.662	94	.009	-2.79371	1.05	-4.87723	-.71018
	Equal variances not assumed			-2.625	84.618	.010	-2.79371	1.06	-4.90976	-.67765
Violence following Verbal Abuse	Equal variances assumed	5.830	.018	-3.924	94	.000	-5.03671	1.28	-7.58512	-2.48831
	Equal variances not assumed			-3.812	75.125	.000	-5.03671	1.32	-7.66844	-2.40499
Premeditated Aggression (Dimensional; IPAS)	Equal variances assumed	.139	.710	-1.703	93	.092	-2.26667	1.33	-4.91001	.37667
	Equal variances not assumed			-1.706	92.565	.091	-2.26667	1.33	-4.90484	.37151
Impulsive Aggression (Dimensional; IPAS)	Equal variances assumed	1.426	.235	-3.539	93	.001	-5.81778	1.64	-9.08259	-2.55296

	Equal variances not assumed			-3.574	92.370	.001	-5.81778	1.63	-9.05048	-2.58508
Premeditated Aggression (Dimensional-Adjusted; IPAS)	Equal variances assumed	.254	.615	-1.794	93	.076	-2.96111	1.65	-6.23835	.31613
	Equal variances not assumed			-1.799	92.724	.075	-2.96111	1.65	-6.22945	.30723
Impulsive Aggression (Dimensional - Adjusted; IPAS)	Equal variances assumed	.937	.335	-3.750	93	.000	-6.08444	1.62	-9.30602	-2.86287
	Equal variances not assumed			-3.780	92.848	.000	-6.08444	1.61	-9.28116	-2.88773
Total T-score (PPI)	Equal variances assumed	.785	.378	-2.045	92	.044	-4.15777	2.03	-8.19633	-.11922
	Equal variances not assumed			-2.030	86.421	.045	-4.15777	2.05	-8.22850	-.08705
Self-Centred Impulsivity (Factor) T-score	Equal variances assumed	.020	.889	-2.807	92	.006	-5.55130	1.98	-9.47978	-1.62282
	Equal variances not assumed			-2.808	89.494	.006	-5.55130	1.98	-9.47942	-1.62318
Fearless Dominance (Factor) T-score	Equal variances assumed	.112	.738	.437	92	.663	.76015	1.74	-2.69626	4.21655
	Equal variances not assumed			.438	90.527	.662	.76015	1.73	-2.68361	4.20390
Coldheartedness (Factor) T-score	Equal variances assumed	.719	.399	-.115	92	.909	-.21797	1.89	-3.97605	3.54012
	Equal variances not assumed			-.114	86.864	.909	-.21797	1.90	-4.00209	3.56616
Dependent (SCID)	Equal variances assumed	.005	.944	-1.604	92	.112	-.48244	0.30	-1.07984	.11495
	Equal variances not assumed			-1.606	89.698	.112	-.48244	0.30	-1.07939	.11451

Passive-Aggressive (SCID)	Equal variances assumed	.237	.628	-1.780	92	.078	-.64615	0.36	-1.36694	.07464
	Equal variances not assumed			-1.775	88.152	.079	-.64615	0.36	-1.36962	.07733
Paranoid (SCID)	Equal variances assumed	.327	.569	-.832	92	.407	-.35568	0.43	-1.20448	.49313
	Equal variances not assumed			-.835	90.351	.406	-.35568	0.43	-1.20194	.49059
Narcissistic (SCID)	Equal variances assumed	.588	.445	-2.273	92	.025	-.71318	0.31	-1.33625	-.09011
	Equal variances not assumed			-2.234	80.927	.028	-.71318	0.32	-1.34829	-.07807
Borderline (SCID)	Equal variances assumed	.031	.860	-2.935	92	.004	-1.41997	0.48	-2.38083	-.45912
	Equal variances not assumed			-2.929	88.612	.004	-1.41997	0.48	-2.38322	-.45673
Avoidant (ECR-R)	Equal variances assumed	.297	.587	-1.779	95	.078	-.37710	0.21	-.79795	.04374
	Equal variances not assumed			-1.792	94.779	.076	-.37710	0.21	-.79497	.04077
Anxious (ECR-R)	Equal variances assumed	.034	.853	-2.638	95	.010	-.64104	0.24	-1.12348	-.15860
	Equal variances not assumed			-2.635	92.551	.010	-.64104	0.24	-1.12422	-.15785
Conservative Masculine Attitudes	Equal variances assumed	2.920	.091	3.078	87	.003	4.47062	1.45	1.58379	7.35745
	Equal variances not assumed			3.033	76.464	.003	4.47062	1.47	1.53485	7.40639

Appendix H: Frequency of physically violent parties in the relationship

Recruited from Men's Behaviour Change Program:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither	15	30.6	31.3	31.3
	Both	25	51.0	52.1	83.3
	Partner Only	6	12.2	12.5	95.8
	Man Only	2	4.1	4.2	100.0
	Total	48	98.0	100.0	
Missing	System	1	2.0		
Total		49	100.0		

Recruited from Community:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither	22	44.9	44.9	44.9
	Both	13	26.5	26.5	71.4
	Partner Only	9	18.4	18.4	89.8
	Man Only	5	10.2	10.2	100.0
	Total	49	100.0	100.0	

Gender * Presence of Physical IPV Crosstabulation for Men's Behaviour Change Program Sample

		Presence of Physical IPV		Total
		Non-Violent	Violent	
Gender	Male	22	27	49
	Female	17	31	48
Total		39	58	97

Chi-Square Tests Comparing Genders for Men's Behaviour Change Program Sample

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.907 ^b	1	.341	.409	.228
Continuity Correction	.555	1	.456		
Likelihood Ratio	.909	1	.340		
Fisher's Exact Test					
Linear-by-Linear Association	.897	1	.343		
N of Valid Cases	97				

**Gender * Presence of Physical IPV Crosstabulation
for Community Sample**

		Presence of Physical IPV		Total
		Non-Violent	Violent	
Gender	Male	31	18	49
	Female	27	22	49
Total		58	40	98

**Chi-Square Tests Comparing Genders
for Community Sample**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.676 ^b	1	.411		
Continuity Correction	.380	1	.538		
Likelihood Ratio	.677	1	.411		
Fisher's Exact Test				.538	.269
Linear-by-Linear Association	.669	1	.413		
N of Valid Cases	98				

Appendix I: Biserial Correlations:

		Physical Assault	Biserial Correlation
Total Psychopathy (PPI)	Pearson Correlation	0.208	0.261082525
	Sig. (2-tailed)	.044	
	N	94	
Self-Centred Impulsivity	Pearson Correlation	0.281	0.352712449
	Sig. (2-tailed)	.006	
	N	94	
Fearless Dominance	Pearson Correlation	-.045	-0.057100666
	Sig. (2-tailed)	.663	
	N	94	
Coldheartedness	Pearson Correlation	.012	0.015073362
	Sig. (2-tailed)	.909	
	N	94	
Dependent (SCID)	Pearson Correlation	.165	0.207022767
	Sig. (2-tailed)	.112	
	N	94	
Passive-Aggressive (SCID)	Pearson Correlation	.183	0.229079134
	Sig. (2-tailed)	.078	
	N	94	
Paranoid (SCID)	Pearson Correlation	.086	0.108502308
	Sig. (2-tailed)	.407	
	N	94	
Narcissistic (SCID)	Pearson Correlation	0.231	0.289952227

Borderline (SCID)	Sig. (2-tailed)	.025	0.367774902
	N	94	
	Pearson Correlation	0.293	
Avoidant (ECR-R)	Sig. (2-tailed)	.004	0.22536899
	N	94	
	Pearson Correlation	.180	
Anxious (ECR-R)	Sig. (2-tailed)	.078	0.32760836
	N	97	
	Pearson Correlation	0.261	
Conservative Masculine Attitudes	Sig. (2-tailed)	.010	-0.392878991
	N	97	
	Pearson Correlation	-0.313	
	Sig. (2-tailed)	.003	
	N	89	

Appendix J: Assessing Multicollinearity

Coefficients		
Model	Collinearity Statistics	
	Tolerance	VIF
1 Conservative Masculine Attitudes	.847	1.181
Borderline (SCID)	.493	2.030
Anxious (ECR-R)	.714	1.400
Self-Centred Impulsivity	.182	5.504
Narcissistic (SCID)	.742	1.348
Total T-score (PPI)	.239	4.192
Avoidant (ECR-R)	.809	1.236
2 Conservative Masculine Attitudes	.904	1.106
Borderline (SCID)	.613	1.631
Anxious (ECR-R)	.717	1.394
Narcissistic (SCID)	.742	1.348
Total T-score (PPI)	.919	1.088
Avoidant (ECR-R)	.858	1.166
3 Conservative Masculine Attitudes	.963	1.039
Borderline (SCID)	.727	1.375
Anxious (ECR-R)	.717	1.394
Total T-score (PPI)	.928	1.078
Avoidant (ECR-R)	.867	1.153
4 Conservative Masculine Attitudes	.992	1.008
Borderline (SCID)	.747	1.339
Anxious (ECR-R)	.726	1.378

	Avoidant (ECR-R)	.877	1.141
5	Conservative Masculine Attitudes	.995	1.005
	Borderline (SCID)	.762	1.312
	Anxious (ECR-R)	.763	1.311
6	Conservative Masculine Attitudes	.996	1.004
	Borderline (SCID)	.996	1.004

Appendix K: Logistic Regressions

Block 0: Beginning Block

Classification Table^{a,b}

Observed			Predicted		
			Physical Assault BV (past year) - Self (CTS-2)		Percentage Correct
			.00	1.00	
Step 0	Physical Assault (past year) - Self (CTS-2)	.00	45	0	100.0
		1.00	39	0	0.0
Overall Percentage					53.6

a. Constant is included in the model. b. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.143	.219	.428	1	.513	.867

Variables not in the Equation

	Score	df	Sig.
Step 0 Variables			
awsTotal	9.186	1	.002
scidBord	8.690	1	.003
ecrAnx	7.114	1	.008
ppiSelfCentFactor	7.170	1	.007
scidNarc	4.340	1	.037
ppiTotal	2.726	1	.099
ecrAvoid	4.552	1	.033
Overall Statistics	20.059	7	.005

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	23.095	7	.002
	Block	23.095	7	.002
	Model	23.095	7	.002
Step 2 ^a	Step	-.105	1	.746
	Block	22.990	6	.001
	Model	22.990	6	.001
Step 3 ^a	Step	-.223	1	.637
	Block	22.767	5	.000
	Model	22.767	5	.000
Step 4 ^a	Step	-.613	1	.434
	Block	22.153	4	.000
	Model	22.153	4	.000
Step 5 ^a	Step	-1.151	1	.283
	Block	21.002	3	.000
	Model	21.002	3	.000
Step 6 ^a	Step	-2.334	1	.127
	Block	18.669	2	.000
	Model	18.669	2	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	92.925 ^a	.240	.321
2	93.030 ^a	.239	.320
3	93.253 ^b	.237	.317
4	93.866 ^b	.232	.310
5	95.017 ^b	.221	.295
6	97.351 ^b	.199	.266

- a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.
b. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table^a

Observed			Predicted		
			Physical Assault BV (past year) - Self (CTS-2)		Percentage Correct
			.00	1.00	
Step 1	Physical Assault (past year) - Self (CTS-2)	.00	33	12	73.3
		1.00	16	23	59.0
		Overall Percentage			66.7
Step 2	Physical Assault (past year) - Self (CTS-2)	.00	33	12	73.3
		1.00	15	24	61.5
		Overall Percentage			67.9
Step 3	Physical Assault (past year) - Self (CTS-2)	.00	34	11	75.6
		1.00	14	25	64.1
		Overall Percentage			70.2
Step 4	Physical Assault (past year) - Self (CTS-2)	.00	32	13	71.1
		1.00	15	24	61.5
		Overall Percentage			66.7
Step 5	Physical Assault (past year) - Self (CTS-2)	.00	33	12	73.3
		1.00	12	27	69.2
		Overall Percentage			71.4
Step 6	Physical Assault (past year):Self (CTS-2)	.00	34	11	75.6
		1.00	14	25	64.1
		Overall Percentage			70.2

a. The cut value is .500.

Note 0= PNV, 1=PV

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Constant		-.573	2.268	.064	1	.801	.564		
Step 1 ^a	awsTotal	-.103	.041	6.386	1	.012	.902	.833	.977
	scidBord	.208	.146	2.023	1	.155	1.231	.924	1.641
	ecrAnx	.346	.239	2.093	1	.148	1.414	.884	2.261
	ppiSelfCentFactor	-.020	.063	.105	1	.745	.980	.867	1.108
	scidNarc	.094	.191	.242	1	.623	1.099	.755	1.598
	ppiTotal	.035	.054	.418	1	.518	1.035	.932	1.150
	ecrAvoid	.291	.282	1.069	1	.301	1.338	.770	2.326
Step 2 ^a	Constant	-.836	2.124	.155	1	.694	.433		
	awsTotal	-.099	.039	6.521	1	.011	.906	.840	.977
	scidBord	.186	.128	2.099	1	.147	1.204	.937	1.549
	ecrAnx	.337	.237	2.029	1	.154	1.401	.881	2.229
	scidNarc	.090	.191	.223	1	.637	1.094	.753	1.589
	ppiTotal	.019	.025	.583	1	.445	1.020	.970	1.072
	ecrAvoid	.266	.270	.971	1	.324	1.305	.768	2.217
Step 3 ^a	Constant	-.573	2.048	.078	1	.780	.564		
	awsTotal	-.103	.038	7.294	1	.007	.902	.837	.972
	scidBord	.209	.119	3.076	1	.079	1.233	.976	1.557
	ecrAnx	.327	.234	1.951	1	.163	1.387	.876	2.195
	ppiTotal	.020	.025	.608	1	.436	1.020	.971	1.072
	ecrAvoid	.249	.267	.869	1	.351	1.283	.760	2.166

Step 4 ^a	Constant	.484	1.530	.100	1	.752	1.623		
	awsTotal	-.107	.038	8.120	1	.004	.898	.834	.967
	scidBord	.219	.118	3.472	1	.062	1.245	.989	1.569
	ecrAnx	.304	.229	1.756	1	.185	1.355	.865	2.124
	ecrAvoid	.280	.263	1.134	1	.287	1.323	.790	2.214
Step 5 ^a	Constant	1.262	1.358	.863	1	.353	3.531		
	awsTotal	-.110	.038	8.344	1	.004	.896	.832	.965
	scidBord	.235	.117	4.031	1	.045	1.264	1.006	1.590
	ecrAnx	.341	.228	2.240	1	.134	1.406	.900	2.197
Step 6 ^a	Constant	2.245	1.224	3.366	1	.067	9.441		
	awsTotal	-.109	.038	8.194	1	.004	.897	.832	.966
	scidBord	.303	.107	7.946	1	.005	1.353	1.097	1.670

a. Variable(s) entered on step 1: awsTotal, scidBord, ecrAnx, ppiSelfCentFactor, scidNarc, ppiTotal, ecrAvoid.

Model if Term Removed^a

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 1	awsTotal	-50.103	7.280	1	.007
	scidBord	-47.524	2.124	1	.145
	ecrAnx	-47.568	2.211	1	.137
	ppiSelfCentFactor	-46.515	.105	1	.746
	scidNarc	-46.583	.242	1	.623
	ppiTotal	-46.673	.422	1	.516
	ecrAvoid	-47.007	1.090	1	.296
Step 2	awsTotal	-50.235	7.439	1	.006
	scidBord	-47.602	2.174	1	.140
	ecrAnx	-47.581	2.132	1	.144
	scidNarc	-46.627	.223	1	.636
	ppiTotal	-46.809	.589	1	.443
	ecrAvoid	-47.008	.985	1	.321
	awsTotal	-50.804	8.356	1	.004
Step 3	scidBord	-48.233	3.213	1	.073
	ecrAnx	-47.645	2.036	1	.154
	ppiTotal	-46.933	.614	1	.433
	ecrAvoid	-47.067	.880	1	.348
	awsTotal	-51.691	9.515	1	.002
Step 4	scidBord	-48.765	3.664	1	.056
	ecrAnx	-47.839	1.811	1	.178
	ecrAvoid	-47.511	1.155	1	.283
	awsTotal	-52.445	9.872	1	.002
Step 5	scidBord	-49.642	4.267	1	.039
	ecrAnx	-48.680	2.343	1	.126
	awsTotal	-53.570	9.788	1	.002
Step 6	scidBord	-53.258	9.165	1	.002

a. Based on conditional parameter estimates

Variables not in the Equation

			Score	df	Sig.
Step 2 ^a	Variables	ppiSelfCentFactor	.105	1	.745
	Overall Statistics		.105	1	.745
Step 3 ^b	Variables	ppiSelfCentFactor	.087	1	.768
		scidNarc	.224	1	.636
	Overall Statistics		.328	2	.849
Step 4 ^c	Variables	ppiSelfCentFactor	.304	1	.581
		scidNarc	.249	1	.618
		ppiTotal	.615	1	.433
	Overall Statistics		.934	3	.817
Step 5 ^d	Variables	ppiSelfCentFactor	.660	1	.417
		scidNarc	.126	1	.723
		ppiTotal	.894	1	.344
		ecrAvoid	1.150	1	.284
	Overall Statistics		2.065	4	.724
Step 6 ^e	Variables	ecrAnx	2.304	1	.129
		ppiSelfCentFactor	.596	1	.440
		scidNarc	.037	1	.847
		ppiTotal	.609	1	.435
		ecrAvoid	1.659	1	.198
	Overall Statistics		4.292	5	.508

a. Variable(s) removed on step 2: ppiSelfCentFactor.

b. Variable(s) removed on step 3: scidNarc.

c. Variable(s) removed on step 4: ppiTotal.

d. Variable(s) removed on step 5: ecrAvoid.

e. Variable(s) removed on step 6: ecrAnx.

Logistic Regression Re-Run using Bootstrap Method

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	19.742	2	.000
	Block	19.742	2	.000
	Model	19.742	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	99.060 ^a	.205	.274

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001 for split file
\$bootstrap_split = 0.

Classification Table^a

Observed			Predicted		
			Physical Assault (past year) - Self (CTS-2)		Percentage Correct
			.00	1.00	
Step 1	Physical Assault (past year) - Self (CTS-2)	.00	35	11	76.1
		1.00	14	26	65.0
Overall Percentage					70.9

a. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
scidBord	.315	.108	8.575	1	.003	1.371
awsTotal	-.112	.038	8.485	1	.004	.894
Constant	2.273	1.219	3.479	1	.062	9.711

a. Variable(s) entered on step 1: scidBord, awsTotal.

Bootstrap for Variables in the Equation

		Bootstrap ^a					
		B	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
						Lower	Upper
Step 1	scidBord	.315	.020	.116	.002	.120	.568
	awsTotal	-.112	-.006	.044	.004	-.213	-.044
	Constant	2.273	.095	1.395	.061	-.076	5.380

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Logistic Regression for BPD Criteria:

Block 0: Beginning Block

Classification Table^{a,b}

Observed			Predicted		
			Physical Assault (past year) - Self (CTS-2)		Percentage Correct
			.00	1.00	
Step 0	Physical Assault (past year) - Self (CTS-2)	.00	46	0	100.0
		1.00	40	0	0.0
Overall Percentage					53.5

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.140	.216	.418	1	.518	.870

Variables not in the Equation

	Score	df	Sig.
Step 0 Variables			
awsTotal	9.436	1	.002
scidB1	.584	1	.445
scidB2	5.901	1	.015
scidB3	5.254	1	.022
scidB4	3.232	1	.072
scidB5	.082	1	.775
scidB6	8.782	1	.003
scidB7	3.983	1	.046
scidB8	8.190	1	.004
scidB9	1.351	1	.245
Overall Statistics	24.052	10	.007

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	27.529	10	.002
	Block	27.529	10	.002
	Model	27.529	10	.002
Step 2 ^a	Step	-.001	1	.977
	Block	27.529	9	.001
	Model	27.529	9	.001
Step 3 ^a	Step	-.293	1	.588
	Block	27.236	8	.001
	Model	27.236	8	.001
Step 4 ^a	Step	-.356	1	.551
	Block	26.880	7	.000
	Model	26.880	7	.000
Step 5 ^a	Step	-.580	1	.446
	Block	26.299	6	.000
	Model	26.299	6	.000
Step 6 ^a	Step	-.552	1	.457
	Block	25.747	5	.000
	Model	25.747	5	.000
Step 7 ^a	Step	-.521	1	.470
	Block	25.226	4	.000
	Model	25.226	4	.000
Step 8 ^a	Step	-1.808	1	.179
	Block	23.418	3	.000
	Model	23.418	3	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	91.273 ^a	.274	.366
2	91.274 ^a	.274	.366
3	91.567 ^a	.271	.363
4	91.923 ^a	.268	.358
5	92.503 ^a	.263	.352
6	93.055 ^a	.259	.346
7	93.576 ^a	.254	.340
8	95.385 ^a	.238	.318

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table^a

Observed			Predicted		
			Physical Assault (past year) - Self (CTS-2)		Percentage Correct
			.00	1.00	
Step 1	Physical Assault (past year) - Self (CTS-2)	.00	36	10	78.3
		1.00	10	30	75.0
	Overall Percentage				76.7
Step 2	Physical Assault (past year) - Self (CTS-2)	.00	37	9	80.4
		1.00	10	30	75.0
	Overall Percentage				77.9
Step 3	Physical Assault (past year) - Self (CTS-2)	.00	37	9	80.4
		1.00	12	28	70.0
	Overall Percentage				75.6
Step 4	Physical Assault (past year) - Self (CTS-2)	.00	37	9	80.4
		1.00	13	27	67.5
	Overall Percentage				74.4
Step 5	Physical Assault (past year) - Self (CTS-2)	.00	36	10	78.3
		1.00	15	25	62.5
	Overall Percentage				70.9
Step 6	Physical Assault (past year) - Self (CTS-2)	.00	36	10	78.3
		1.00	16	24	60.0
	Overall Percentage				69.8
Step 7	Physical Assault (past year) - Self (CTS-2)	.00	35	11	76.1
		1.00	15	25	62.5
	Overall Percentage				69.8
Step 8	Physical Assault (past year) - Self (CTS-2)	.00	38	8	82.6
		1.00	14	26	65.0
	Overall Percentage				74.4

a. The cut value is .500.
0 = PNV, 1 = PV

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
awsTotal	-.127	.043	8.723	1	.003	.880
scidB1	-.617	.668	.853	1	.356	.540
scidB2	.363	.678	.286	1	.593	1.437
scidB3	1.292	.799	2.615	1	.106	3.640
scidB4	.309	.557	.309	1	.579	1.363
scidB5	-.022	.777	.001	1	.977	.978
scidB6	.619	.654	.895	1	.344	1.857
scidB7	.475	.605	.617	1	.432	1.608
scidB8	1.401	.884	2.514	1	.113	4.059
scidB9	-.433	.595	.531	1	.466	.648
Constant	3.109	1.402	4.918	1	.027	22.405

Step 2 ^a	awsTotal	-.127	.043	8.769	1	.003	.880
	scidB1	-.621	.650	.914	1	.339	.537
	scidB2	.364	.674	.292	1	.589	1.440
	scidB3	1.295	.793	2.663	1	.103	3.650
	scidB4	.311	.556	.312	1	.576	1.364
	scidB6	.616	.649	.902	1	.342	1.852
	scidB7	.474	.604	.617	1	.432	1.606
	scidB8	1.400	.883	2.514	1	.113	4.056
	scidB9	-.435	.590	.543	1	.461	.647
	Constant	3.111	1.401	4.933	1	.026	22.448
Step 3 ^a	awsTotal	-.131	.043	9.423	1	.002	.877
	scidB1	-.484	.591	.669	1	.413	.616
	scidB3	1.344	.789	2.899	1	.089	3.835
	scidB4	.330	.552	.357	1	.550	1.390
	scidB6	.702	.631	1.240	1	.265	2.018
	scidB7	.518	.596	.756	1	.385	1.679
	scidB8	1.455	.885	2.703	1	.100	4.283
	scidB9	-.429	.594	.522	1	.470	.651
	Constant	3.266	1.378	5.617	1	.018	26.196
Step 4 ^a	awsTotal	-.129	.042	9.410	1	.002	.879
	scidB1	-.476	.590	.650	1	.420	.622
	scidB3	1.421	.776	3.355	1	.067	4.142
	scidB6	.795	.612	1.684	1	.194	2.214
	scidB7	.523	.596	.769	1	.380	1.687
	scidB8	1.466	.882	2.765	1	.096	4.332
	scidB9	-.446	.591	.568	1	.451	.640
	Constant	3.336	1.363	5.993	1	.014	28.112
Step 5 ^a	awsTotal	-.125	.041	9.059	1	.003	.883
	scidB1	-.523	.586	.798	1	.372	.592
	scidB3	1.377	.758	3.300	1	.069	3.961
	scidB6	.765	.606	1.596	1	.206	2.150
	scidB7	.432	.582	.551	1	.458	1.541
	scidB8	1.382	.877	2.484	1	.115	3.982
	Constant	3.143	1.330	5.582	1	.018	23.181
Step 6 ^a	awsTotal	-.122	.040	9.217	1	.002	.885
	scidB1	-.400	.557	.516	1	.473	.671
	scidB3	1.479	.756	3.821	1	.051	4.387
	scidB6	.839	.598	1.971	1	.160	2.315
	scidB8	1.427	.882	2.615	1	.106	4.165
	Constant	3.177	1.301	5.966	1	.015	23.985
Step 7 ^a	awsTotal	-.122	.040	9.353	1	.002	.885
	scidB3	1.368	.738	3.442	1	.064	3.929
	scidB6	.800	.596	1.802	1	.179	2.226
	scidB8	1.267	.847	2.237	1	.135	3.551
	Constant	2.988	1.251	5.702	1	.017	19.846
Step 8 ^a	awsTotal	-.121	.040	9.256	1	.002	.886

scidB3	1.591	.730	4.754	1	.029	4.907
scidB8	1.737	.759	5.242	1	.022	5.681
Constant	3.128	1.250	6.264	1	.012	22.824

a. Variable(s) entered on step 1: awsTotal, scidB1, scidB2, scidB3, scidB4, scidB5, scidB6, scidB7, scidB8, scidB9.

Model if Term Removed^a

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 1	awsTotal	-51.229	11.186	1	.001
	scidB1	-46.077	.881	1	.348
	scidB2	-45.780	.288	1	.592
	scidB3	-47.064	2.854	1	.091
	scidB4	-45.791	.308	1	.579
	scidB5	-45.637	.001	1	.977
	scidB6	-46.085	.898	1	.343
	scidB7	-45.947	.621	1	.431
	scidB8	-46.997	2.722	1	.099
	scidB9	-45.907	.541	1	.462
Step 2	awsTotal	-51.246	11.218	1	.001
	scidB1	-46.108	.943	1	.332
	scidB2	-45.784	.293	1	.588
	scidB3	-47.097	2.919	1	.088
	scidB4	-45.793	.312	1	.576
	scidB6	-46.089	.904	1	.342
	scidB7	-45.947	.620	1	.431
	scidB8	-46.998	2.721	1	.099
	scidB9	-45.914	.554	1	.457
Step 3	awsTotal	-51.861	12.156	1	.000
	scidB1	-46.124	.680	1	.409
	scidB3	-47.376	3.186	1	.074
	scidB4	-45.962	.356	1	.550
	scidB6	-46.406	1.245	1	.264
	scidB7	-46.164	.762	1	.383
	scidB8	-47.241	2.915	1	.088
	scidB9	-46.050	.533	1	.465
Step 4	awsTotal	-51.972	12.022	1	.001
	scidB1	-46.292	.661	1	.416
	scidB3	-47.839	3.756	1	.053
	scidB6	-46.809	1.694	1	.193
	scidB7	-46.349	.775	1	.379
	scidB8	-47.458	2.993	1	.084
	scidB9	-46.252	.581	1	.446
Step 5	awsTotal	-52.000	11.496	1	.001
	scidB1	-46.659	.814	1	.367
	scidB3	-48.072	3.640	1	.056

Step 6	scidB6	-47.053	1.603	1	.206
	scidB7	-46.528	.554	1	.457
	scidB8	-47.594	2.686	1	.101
	awsTotal	-52.233	11.411	1	.001
	scidB1	-46.789	.522	1	.470
Step 7	scidB3	-48.645	4.235	1	.040
	scidB6	-47.520	1.984	1	.159
	scidB8	-47.947	2.838	1	.092
	awsTotal	-52.541	11.506	1	.001
	scidB3	-48.684	3.792	1	.051
Step 8	scidB6	-47.694	1.812	1	.178
	scidB8	-47.989	2.401	1	.121
	awsTotal	-53.389	11.393	1	.001
	scidB3	-50.369	5.354	1	.021
	scidB8	-50.804	6.224	1	.013

a. Based on conditional parameter estimates

Variables not in the Equation

			Score	df	Sig.
Step 2 ^a	Variables	scidB5	.001	1	.977
	Overall Statistics		.001	1	.977
Step 3 ^b	Variables	scidB2	.293	1	.588
		scidB5	.007	1	.935
	Overall Statistics		.294	2	.863
Step 4 ^c	Variables	scidB2	.338	1	.561
		scidB4	.358	1	.550
		scidB5	.018	1	.892
	Overall Statistics		.649	3	.885
Step 5 ^d	Variables	scidB2	.314	1	.575
		scidB4	.406	1	.524
		scidB5	.050	1	.823
		scidB9	.572	1	.450
	Overall Statistics		1.216	4	.875
Step 6 ^e	Variables	scidB2	.435	1	.510
		scidB4	.411	1	.522
		scidB5	.030	1	.862
		scidB7	.555	1	.456
		scidB9	.355	1	.551
Step 7 ^f	Overall Statistics		1.774	5	.879
	Variables	scidB1	.518	1	.472
		scidB2	.085	1	.771
		scidB4	.393	1	.531
		scidB5	.110	1	.740
		scidB7	.262	1	.609
		scidB9	.492	1	.483

Step 8 ^g	Overall Statistics		2.271	6	.893
	Variables	scidB1	.348	1	.555
		scidB2	.455	1	.500
		scidB4	.837	1	.360
		scidB5	.021	1	.884
		scidB6	1.843	1	.175
		scidB7	.571	1	.450
		scidB9	.318	1	.573
		Overall Statistics		4.151	7

- a. Variable(s) removed on step 2: scidB5.
b. Variable(s) removed on step 3: scidB2.
c. Variable(s) removed on step 4: scidB4.
d. Variable(s) removed on step 5: scidB9.
e. Variable(s) removed on step 6: scidB7.
f. Variable(s) removed on step 7: scidB1.
g. Variable(s) removed on step 8: scidB6.

Logistic Regression for BPD Criteria Re-Run using Bootstrap Method

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	23.418	3	.000
	Block	23.418	3	.000
	Model	23.418	3	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	95.385 ^a	.238	.318

- a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001 for split file \$bootstrap_split = 0.

Classification Table^a

Observed			Predicted		
			Physical Assault (past year) - Self (CTS-2)		Percentage Correct
			.00	1.00	
Step 1	Physical Assault (past year) - Self (CTS-2)	.00	38	8	82.6
		1.00	14	26	65.0
	Overall Percentage				74.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	awsTotal	-.121	.040	9.256	1	.002	.886
	scidB3	1.591	.730	4.754	1	.029	4.907
	scidB8	1.737	.759	5.242	1	.022	5.681
	Constant	3.128	1.250	6.264	1	.012	22.824

a. Variable(s) entered on step 1: awsTotal, scidB3, scidB8.

Bootstrap for Variables in the Equation

		B	Bootstrap ^a				
			Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
						Lower	Upper
Step 1	awsTotal	-.121	-.013	.051	.003	-.254	-.050
	scidB3	1.591	.552	2.992	.032	.093	5.274
	scidB8	1.737	1.089	4.371	.026	.169	21.832
	Constant	3.128	.372	1.618	.016	.855	7.363

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Appendix L: Ethics Approval

Department of Justice Human Research Ethics Committee:



Department of Justice

Justice Human Research Ethics Committee

Level 21
121 Exhibition Street
Melbourne, Victoria 3000
GPO Box 123A
Melbourne, Victoria 3001
Telephone: (03) 8684 1514
Facsimile: (03) 8684 1525
DX 210077

30 September 2011

Reference: CF/11/7181

Mairead Dolan
C/o Prof James Ogloff
Monash University

Re: How does personality pathology and romantic attachment style relate to the mode and motivation of violence used against intimate partners?

Dear Prof James Ogloff,

I am happy to inform you that the Department of Justice Human Research Ethics Committee (JHREC) considered your response to the issues raised in relation to the project *How does personality pathology and romantic attachment style relate to the mode and motivation of violence used against intimate partners?* and granted **full approval** for the duration of the investigation. The Department of Justice reference number for this project is CF/11/7181. Please note the following requirements:

- To confirm JHREC approval sign the Undertaking form attached and provide both an electronic and hardcopy version within ten business days.
- The JHREC is to be notified immediately of any matter that arises that may affect the conduct or continuation of the approved project.
- You are required to provide an Annual Report every 12 months (if applicable) and to provide a completion report at the end of the project (see the Department of Justice Website for the forms).
- Note that for long term/ongoing projects approval is only granted for three years, after which time a completion report is to be submitted and the project renewed with a new application.
- The Department of Justice would also appreciate receiving copies of any relevant publications, papers, theses, conferences presentations or audiovisual materials that result from this research.
- All future correspondence regarding this project must be sent electronically to ethics@justice.vic.gov.au and include the reference number and the project title. Hard copies of signed documents or original correspondence are to be sent to The Secretary, JHREC, Level 21, 121 Exhibition St, Melbourne, VIC 3000.

If you have any queries regarding this application you are welcome to contact me on (03) 8684 1514 or email: ethics@justice.vic.gov.au.

Yours sincerely,

Dr Yasmine Fauzee
Secretary,
Department of Justice Human Research Ethics Committee

Monash University Human Research Ethics Committee:



MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date: 11 October 2011

Project Number: CF11/2745 - 2011001629

Project Title: How does personality pathology and romantic attachment style relate to the mode and motivation of violence used against intimate partners

Chief Investigator: Prof Mairead Dolan

Approved: From: 11 October 2011 to 11 October 2016

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.**
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. **Complaints:** The researchers are required to inform MUHREC promptly of any complaints made about the project, whether the complaint was made directly to a member of the research team or to the primary HREC.
6. **Amendments to the approved project (including changes in personnel):** Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.



Professor Ben Canny
Chair, MUHREC

Cc: Prof James Ogloff; Mr Simon Vincenzi

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Victoria Police Research Coordinating Committee:

National Liaison and Research Unit
Strategy and Policy Division
Corporate Strategy and Governance Department

Victoria Police Centre, 637 Flinders Street,
Melbourne VIC 3005
DX 210096

Telephone 9247-3385

Facsimile 9247-6712

Email research.committee@police.vic.gov.au

www.police.vic.gov.au

6 June 2013

Mr Simon Vincenzi
School of Psychology and Psychiatry
Monash University
Centre for Behavioural Forensic Science
505 Hoddle Street
CLIFTON HILL VIC 3068

Dear Simon,

Re: Application to the Research Coordinating Committee for *The relationship between the facets of psychopathy, romantic attachment style, and aggression type in men who engage in intimate partner violence*

I write to advise you that the Victoria Police Research Coordinating Committee (RCC) has approved your request to undertake the above research involving Victoria Police. Please note that the Committee has approved the provision of Criminal History Data with consent. The Committee has **not** approved your request to place recruitment information in police stations

This approval is conditional on:

- Evidence of approval from the Department of Justice HREC,
- The researcher providing the entire list of the participating males' details in bulk, with their consent. (Victoria Police will provide all criminal history conviction information, but will not be providing the name of the participating individual and the date of charges prior to the conviction date, due to limited resourcing capacity, In the event that Victoria Police staff cannot positively confirm an individual's identity through LEAP, then this request will not be processed with a notation to this effect being recorded in a report that will accompany the completed information. You will NOT incur a fee for this service)
- The Research Organisation signing a Research Agreement outlining the conditions governing the conduct of research involving Victoria Police.

You will need to ensure the completion of the Research Agreement and return it to Victoria Police before the research can commence. The Research Agreement will be forwarded to you electronically in due course.

If you have any queries or require further clarification please contact the RCC Secretariat on the contact details above.

Yours sincerely,

Dr David Ballek
Secretariat, Research Coordinating Committee

Appendix M: Consent Form

MONASH University

School of Psychology and Psychiatry
Faculty of Medicine, Nursing and Health Sciences



CONSENT FORM

I, _____, agree to participate in a research project entitled:
(your name)

**HOW DOES PERSONALITY PATHOLOGY AND ROMANTIC ATTACHMENT STYLE RELATE
TO THE MODE AND MOTIVATION OF VIOLENCE USED AGAINST INTIMATE PARTNERS?**

conducted by Monash University.

The researcher, Simon Vincenzi, has discussed this research with me. I have had the opportunity to ask questions about this research and I have received answers that are satisfactory to me. I have read and kept a copy of the Information Sheet and understand the general purposes, risks and methods of this research.

I agree to take part because (please tick boxes):

1. I know what I am expected to do and what this involves. ☐
2. I agree to complete some questionnaires as part of the study. ☐
3. The risks, inconvenience and discomfort of participating in the study have been explained to me. ☐
4. All my questions have been answered to my satisfaction. ☐
5. I understand that the project may not be of direct benefit to me. ☐
6. I can withdraw from the study at any time. ☐
7. I am satisfied with the explanation given in relation to the project as it affects me and my consent is freely given. ☐
8. I can obtain a summary of the overall results of the study when it is completed via the Centre for Forensic Behavioural Science (CFBS) website. ☐
9. I understand that my personal information will be kept private. ☐
10. I agree to allow the collective results from this study to be published, provided that any details that might identify me are removed. ☐

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Signed by the participant: _____ Date: _____

Signed by the researcher: _____ Date: _____

Should you have any concerns regarding this research please contact:

Justice Human Research Ethics Committee:

Secretary, Human Research Ethics Committee
Department of Justice
21/121 Exhibition St
Melbourne VIC 3000
Tel: 03 86841514
Fax: 03 86841525
Email: ethics@justice.vic.gov.au

Or

Victoria Police Research Coordinating Committee

Secretariat, Research Coordinating Committee
Strategic Research Unit, Level 3, Building C,
Victoria Police Centre, 637 Flinders Street
Melbourne 3005
Tel: +61 3 9247 3690 Fax: +61 3 9247 3115
Email: research.committee@police.vic.gov.au

Or

Monash Human Ethics Committee (The number of the project is xxxx):

Executive Officer
Standing Committee on Ethics in Research Involving Humans (SCERH)
Building 3E Room 111, Research Office
Monash University VIC 3800
Tel: +61 3 9905 2052 Fax: +61 3 9905 1420
Email: SCERCH@adm.monash.edu.au

Appendix N: Information sheet

MONASH University

School of Psychology and Psychiatry
Faculty of Medicine, Nursing and Health Sciences



HOW DOES PERSONALITY PATHOLOGY AND ROMANTIC ATTACHMENT
STYLE RELATE TO THE MODE AND MOTIVATION OF VIOLENCE USED
AGAINST INTIMATE PARTNERS?

NOTE: This information sheet is for you to keep

INVITATION

My name is Simon Vincenzi and I am a provisional Psychologist doing research under the supervision of Professor Mairead Dolan and Professor James Ogloff from the School of Psychology and Psychiatry. This research is toward a doctorate degree at Monash University.

You have been invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take your time to read this information carefully. If you are unclear about anything, the researcher will be glad to provide you with more information. Take time to decide whether or not you wish to take part.

Purpose of Study

There are thought to be many different factors that contribute to men using violence toward their wives or partners. It is also believed that these factors may be different for different people. I hope that the findings of this research will help us to better understand which factors play the greatest role in leading men to use violence against their wives or partners, which may possibly lead to better assistance and help for offenders to prevent violence.

Why have I been chosen?

We hope to have 50 participants in the study who have acted violently toward their partners, and an additional 50 who have not acted violently toward their partner but have experienced relationship difficulties. We are looking for volunteers who do not have a history of significant head injury or brain damage. To ensure that all the participants in this study have similar characteristics we are only including people who speak fluent English.

Do I have to take part?

It is up to you to decide whether or not to take part and you can take as long as you need to do so. If you do decide to take part you will be given this information sheet to keep and asked to sign a consent form. A copy of the consent form will also be given to you to keep. If you agree to take part, you can change your mind and withdraw at any time and stop the session, without any disadvantage to you. Up to a certain point, your data can be withdrawn from the study if you decide that you don't want it to be included. If at a later date you want your information to be removed from the study you can contact me (Simon Vincenzi) to do this.

What will happen to me if I take part?

You will need to take the envelope of questionnaires home and complete in your own time. They will assess what your personality is like, as well as the type of violence used against your partner, and questions relating to your relationships. When you have completed the questionnaires, put them back into the envelope and bring them to the following week's men's behaviour change session, where you will receive \$30 for compensation of your time.

What do I have to do?

The project will involve around 50 minutes of your time in total.

What are the possible advantages/disadvantages?

Although the study, which is purely research, does not present any significant risks or benefits for you directly, you may find some of the assessments tiring. It is important that if you feel at all uncomfortable or tired at any point in the study you can stop participating, and contact any of the support services on the contact sheet provided to you in the envelope. You will have to think about times when you have been violent with your intimate partner, and this may provoke feelings of distress. The information we get from this study may help us gain a better understanding of men who act violently toward their partners and may, in the future, lead to better assistance and help for offenders to prevent them from acting violently.

Will my taking part in this study be kept confidential?

All information collected about you will be strictly confidential. Your name will not be on ANY of the information collected, or on any publication of the results. At the beginning of the study you will be assigned a participant number and this will be used to identify any information collected from the assessments and from your files. This ensures that you are not identifiable in any of the data collected. We do not analyse individual subject data, all data is pooled for analysis on certain groups.

There are certain limits to confidentiality for the study that you must be aware of

Please be aware that in situations where there is a danger to yourself or to others, I may have to breach confidentiality and inform someone. But you would be informed first if this were the case.

Further, do not tell me about any non-adjudicated criminal activities you have engaged in. That is, do not tell me about any criminal matters/charges that **have not been dealt with in court, as it will not be confidential.**

Data for the study will be kept in the form of a coded database. Only the research team will have access to the coded data. The data will be stored at Monash University for five years, and then destroyed.

What if something goes wrong?

This study does not carry a risk of physical or significant psychological harm to those taking part.

You can complain about the study if you don't like something about it.

You can contact Justice Human Research Ethics Committee:

Secretary, Human Research Ethics Committee
Department of Justice
21/121 Exhibition St
Melbourne VIC 3000
Tel: 03 86841514
Fax: 03 86841525
Email: ethics@justice.vic.gov.au

You can contact the Victorian Police:

Secretariat, Research Coordinating Committee
Strategic Research Unit, Level 3, Building C,
Victoria Police Centre, 637 Flinders Street
Melbourne 3005
Tel: +61 3 9247 3690 Fax: +61 3 9247 3115
Email: research.committee@police.vic.gov.au

What if I experience distress as a result of the study?

You are free to withdraw from the study at any time without any consequences to yourself. However, if you find that you experience distress as a result of the study, the Clinical Psychology Centre (CPC) in Clayton will take-on any participants who feel they have been adversely effected. The CPC can be contacted on **9902 4480**. Alternatively, you can call **Lifeline's** free 24 hour counselling line on **13 11 14**. In the event of an emergency, call your local hospital.

What will happen to the results of the Study?

The results will be published as Papers at the end of the 15-month period in academic journals and also presented at meetings. Only the combined results of all participants will be published. You will not be identified in any report or publication.

If you have any questions, or would like to take part in the study, please send mail to:

Simon Vincenzi
School of Psychology and Psychiatry
Monash University
Wellington Road, Clayton, VIC 3800
Ph: [REDACTED]
Email: [REDACTED]



Contact details for support services

We don't anticipate that you will experience significant distress as a result of this study, however if you feel you are experiencing negative affects, contact one of the services listed below:

The Clinical Psychology Centre:

Building 1, 270 Ferntree Gully Road
Notting Hill, VIC, 3168
T: 9902 4480
E: cpc@monash.edu
W: <http://www.cpc.monash.org>

Men's Line Australia:

24-hour telephone support, information and referral service for men.
T: 1300 78 99 78

Lifeline:

24-hour crisis support line
T: 13 11 14

The Crisis Assessment and Treatment Team (CATT):

A 24-hour, seven-day a week service used for assessment and treatment of mentally ill people in crisis situations.
T: 1800 629 354

In an emergency, contact the emergency department of your nearest hospital.