PSYCHOLOGICAL AND BEHAVIOURAL TYPOLOGIES OF MEN WHO ASSAULT THEIR FEMALE PARTNERS

by

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Abstract

Since the 1970s, there have been numerous studies of the personality disorders, and psychological and behavioural characteristics of men who assault their female partners. The goal of these studies has been to describe and better understand potential underlying processes that result in female partner assault. These studies have revealed that men who assault their female partners are not a homogeneous group. They appear to be comprised of subgroups without personality disorders, those with different personality disorders, and differ on psychological and behavioural characteristics.

The literature most strongly supports the theoretical typology of Holtzworth-Munroe and Stuart (1994), yet this theoretical typology requires further validation research. This thesis was an empirical test of this typology. The typology was tested by collecting quantitative data on personality disorders and psychological and behavioural characteristics in a large sample of men who assault their female partners, and used statistical procedures to test whether the hypothesized subgroups existed in the sample. The statistical procedure used to test the presence of subgroups was cluster analysis, which can derive groups of individuals within a sample. The differences between possible subgroups identified in the cluster analysis were further tested using standard statistical procedures (discriminant function analysis and analysis of variance). The results of these procedures were compared to the Holtzworth-Munroe and Stuart (1994) theoretical typology and previous research.

The findings of the current study failed to support the Holtzworth-Munroe and Stuart (1994) theoretical typology. Holtzworth-Munroe and Stuart (1994) hypothesized the population of spousal assaulters was comprised of the family-only (50%), the dysphoric-borderline (25%), and the generally violent-antisocial (25%) spousal assaulter. The current study found three groups of spousal assaulters: Low-Level Antisocial (66%), Moderate Pathological (21%), and
Severe Pathological (13%). These three groups showed consistent increases across groups in the average number and percentages of personality disorders from the Low Level Antisocial (LLA) to the Moderate Pathological (MP) and Severe Pathological (SP) groups. The increases in the average number and percentages of personality disorders were paralleled by significant increases from the LLA to the MP and SP group in five of the eight external variables Holtzworth-Munroe and Stuart (1994) hypothesized spousal assailters vary upon.

The reasons for failure to support the Holtzworth-Munroe and Stuart (1994) typology were differences between the current study and the Holtzworth-Munroe and Stuart (1994) typology on (a) personality disorder types, (b) psychological and behavioural variables, and (c) psychopathology. The current study findings were similar to some previous and more current research findings of (a) some groups of generalized psychopathology, (b) some groups that include a combination of antisocial and borderline personality disorders, (c) some groups that include narcissistic personality disorder, and (d) some groups that are best described as in-between the Holtzworth-Munroe and Stuart (1994) family-only and generally violent-antisocial groups.

Some of the differences between the current study findings and previous typology research appear to be related to a focus in research on attempting to validate the Holtzworth-Munroe and Stuart (1994) typology. Research prior and subsequent to the development of their model had found the presence of other personality disorders (e.g., narcissistic), yet these findings have not been incorporated into typology models. This is prudent, given that there has not been a great deal of research on typologies of men who assault their female partners. Some authors have speculated that differences in typology study findings may be related to differences in study samples (e.g., Gortner, Gollan, & Jacobson, 1997). Due to this possibility, numerous
comparisons were made between the current study and previous research on study sample characteristics.

Methodological and interpretive issues were reviewed. Although the current study included the highest proportion of First Nations research participants (24.2%) compared to previous research, this group was not different than the rest of the research participants, with one exception. Their higher average number of previous convictions may be related to racial bias in the reporting of crime.

A number of future research directions were suggested. The most prominent recommendation is for a large study including the range of samples (e.g., spousal assault treatment and community recruited) that may clarify the differences in previous research and the current study findings.
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Chapter 1

Introduction

Numerous North American studies document that over one in ten women in an intimate relationship with a man has been physically assaulted by her partner in the previous year. Over three in ten women report a physical assault by a male partner in their adult life. At least half of this violence is of a serious nature such as kicking, hitting, beating, sexual assault, or use of a gun or knife (e.g., Statistics Canada, 1993). Furthermore, women assaulted by male partners are more likely to be repeatedly attacked, raped, injured or killed than persons attacked by other assailants (Browne, 1993). In the past 20 years, numerous studies have attempted to determine why some men use violence against women they love, but no definitive answer currently exists. At present, this violence is considered to emerge from a number of pathways and risk variables, but some proposed typologies are considered promising in terms of differentiating men who do and do not assault their female partners (Emery & Laumann-Billings, 1998; Gortner, Gollan, & Jacobson, 1997). The current research is intended to advance the understanding of men who assault their female partners through investigating the validity of one of the most widely accepted proposed typologies, that of Holtzworth-Munroe and Stuart (1994).

A man who perpetrates a physical act of aggression toward a woman with whom he is in an intimate relationship (i.e., sexual-emotional) has been described by many terms. MacLeod (1987) referred to these men as batterers. Similarly, Hamberger and Hastings (1991), Saunders (1992), and Holtzworth-Munroe and Stuart (1994) referred to them as men who batter. Murphy, Meyer, and O’Leary (1993) referred to them as partner assaultive men, Dutton (1995) referred to them as wife assaulters, and Gortner et al. (1997) referred to them as perpetrators of domestic violence. These different terms reflect a similar intent to specify the type of violent behaviour and the nature of relationship it occurs in. Taken literally, all these terms characterize the
behaviour as violent, but all do not specify the type of relationship it occurs in. An examination of the above literature reveals that these different terms include both (a) that the violence occurs within an intimate relationship between a man and a woman, and (b) the violence is of a severe nature. The terms that have been used above refer to a man who perpetrates a physical act of aggression towards a woman with whom he is in an intimate relationship. An accurate and perhaps promising term is partner assaultive men.

Incidence and Prevalence of Female Partner Assault by Men

Determining the incidence (rate of occurrence in previous year) and prevalence (lifetime rate) of men who perpetrate a physical act of aggression toward female intimate partners has depended on the definition of physical aggression and not on the nature of the relationship between men and women. A review of key studies of the incidence and prevalence of this violence (1) helps specify the severity of violence that occurs, (2) establish the recent and lifetime occurrence of this relationship violence, and (3) inform the choice of definition of these men for this research.

To begin, it is important to note that “the single most powerful risk marker for becoming a victim of violence is to be a woman” (Walker, 1999, p. 23). The next question is to determine what proportion of women are victims of violence at the hands of a male partner. A U.S. national probability study in 1985 with 6,002 families found that 11.6% of husbands had carried out at least one violent act towards their wives in the previous year, and that 3.4% of husbands had carried out a severe assault, labeled as “wife-beating” in the previous year (Straus & Gelles, 1990). In this study, currently married and cohabiting couples and separated, divorced and single individuals were included. “Wife-beating” was defined as an assault using behaviours including kicking, biting, hitting with a fist or object, beating up, or using a weapon against a woman.
Furthermore, women who were assaulted were assaulted an average of six times during the previous year.

The 1985 study was a resurvey of a 1975 study with 2,142 families. The 1975 study included only married or cohabiting couples. The 1975 study found that 12.1% of husbands had carried out at least one violent act towards his wife in the previous year, and that 3.8% of husbands had carried out a severe assault, labeled as "wife-beating" in the previous year (Straus & Gelles, 1990). A comparison of these incidence findings to other local and statewide studies on the incidence of this type of violence, which include 9,930 other research participants, shows consistent findings (Fagan & Browne, 1994).

American prevalence rates are also well established. The first U.S. National Family Violence Survey in 1975 involved hour-long, face-to-face interviews with married couples from more than 2,000 randomly selected homes regarding the use of resolving conflict. Twenty-eight percent reported at least one instance of physical assault during the current relationship and 16% had reported at least one aggressive act in the year before the survey (Koss, Goodman, Browne, Fitzgerald, Keita, & Russo, 1994). A national representative sample of over 1000 women (Straus, Gelles, & Steinmetz, 1980) and over 1000 women in Kentucky (Schulman, 1979) found that approximately 20% to 30% of women reported that physical violence had occurred sometime in their marriage. Rates of violence in non-married couples support prevalence findings of violence in intimate relationships. White and Koss (1991) questioned 2,602 women at 32 colleges and universities, and found that 32% had experienced physical aggression from a date or other intimate partner.

Canadian studies have found similar incidence and prevalence rates of spousal assault. In a large urban city, Smith (1987) used a random digit dialing survey with the Conflict Tactics Scale (CTS) with 604 18 to 50 year old women and found that, in the previous year, 14.4%
reported being abused by a male intimate, and 5.1% reported severe abuse. Abuse was defined as ranging from minor pushes and shoves to severe beatings, and was perceived by the victim as designed to cause pain or injury. Severe abuse was defined as any assault either causing or having a high probability of causing relatively serious pain or injury. The prevalence rate with the CTS alone produced a prevalence rate of 25.0% for abuse and 7.1% for severe abuse. Three supplemental questions to the CTS revealed a prevalence rate of 36.4% for abuse, and 11.3% for severe abuse.

Kennedy and Dutton (1989) used a combination of 454 face-to-face and 591 random digit dialing phone interviews ($N = 1,045$) with rural and urban female and male Alberta residents age 18 and over to determine an incidence rate with the Conflict Tactics Scale. Face-to-face interviews were conducted in Edmonton, and telephone interviews were conducted in Calgary and rural areas throughout Alberta. The sample was 50.7% male and 49.3% female. Respondents reported on their and their partners’ use of behaviours tapped by the CTS items; 90% of the first eligible respondents complied with the study. The rate of husband-to-wife violence was 11.2%; and was virtually identical to the rate found in the 1985 U.S. national sample of 6,002 (Straus & Gelles, 1986). The rate of severe violence was 3.0%, while the 1985 U.S. rate was 3.8%. After an analysis of age, rural/urban, relationship status, demographic and psychological variables, Kennedy and Dutton (1987) concluded that the family violence rates found in Alberta were comparable to the rates in all U.S. regions.

A random sample (random digit dialling) of 12,300 English and French speaking Canadian women from the ten provinces (the Territories and institutions were excluded) aged 18

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1 The questions which revealed other incidents of physical violence were: “Have you had any experiences as a victim of abuse by a husband or partner, a boyfriend or date, or any man you are, or were having a relationship with that I have not asked you about?”, and a question about having ever been sexually abused, and a question about any personal experience that might shed light on the problem of abuse.
and older were interviewed by telephone about their experiences of violence and harassment and perceptions of safety since the age of 16 (Statistics Canada, 1993). Thus, this study obtained prevalence data. Violence was defined in ways consistent with legal definitions of physical assault, and measured with violent items from the Conflict Tactics Scale. Twenty-nine percent of ever-married and common-law women reported violence of a criminal nature by their partners (Statistics Canada, 1993). Sixteen percent of ever-married or common-law women reported having been kicked, hit, beaten, sexually assaulted, or having a knife or gun used against them. The random-digit dialling method is considered to obtain a representative sample of women because only one percent of the female population lives in households without telephone service. Three percent of households were not contacted due to non-French or non-English speakers. The response rate was 64%. Other important findings were that, in those cases where women lived with an abusive man, almost two-thirds were assaulted more than once and 10% were subjected to ten or more attacks.

A summary of these relevant Canadian studies shows that the incidence rate of partner assault by men ranges from 11.2% to 14.4%, and that the prevalence rate is about 29%. A summary of U.S. studies establishes that the incidence rate of partner assault by men ranges from 11.3% to 12.1%. The prevalence rate of partner assault by men ranges between 20% to 30%.

Additional findings support the severity of this type of violence, and its existence in male and female intimate relationships. For example, women are up to six times more likely to suffer violence at the hands of a partner or ex-partner than from a stranger (Bachman & Saltzman, 1995; Koss et al., 1994), and they are more likely to suffer injury when the perpetrator is an intimate (Bachman & Saltzman, 1995). Many of the assaults by women against their husbands are acts of retaliation or self-defense (Straus, 1980). Straus and Gelles (1990) further explain that
One of the most fundamental reasons why women are violent within the family (but rarely outside of the home) is that for a typical American woman, her home is the location where there is the most serious risk of assault. The rate of husband to wife assault just presented is many times the female assault victimization rate outside of the family. The high risk of being assaulted outside of the home relative to outside is shown by statistics on homicide. The homicide victimization rates show that women are seldom murder victims outside the family: 21% of stranger homicide victims but 76% of spouse murder victims. ... It is not surprising that women, who commit only about a tenth of the non-spouse murders in the U.S., commit nearly half of the murders of spouses (pp. 98-99).

Furthermore, this violence is found across ethnic, racial, and socioeconomic classes (Hotaling & Sugarman, 1990). Also, 33% to 50% of women who are physically assaulted by their male partner are also sexually assaulted (Frieze & Browne, 1989). It is also important to note that, in terms of overall crime victimization, the victimization rate for women separated from their husbands was about three times higher than that of divorced women, and about twenty-five times higher than that of married women (Bachman & Saltzman, 1995).

Impact and Effects on Children, Women, and Men

Consequences of domestic violence involve all family members (Margolin, 1998). In general, battered women suffer serious physical, psychological and health effects, children who witness this violence suffer social and emotional problems, and spousal assailters are often chronically isolated and suffer from low self-esteem (MacLeod, 1987). A brief review of the impact of domestic violence is presented separately for children, women, and men below.

Children

The research on the effects of partner assault on children has not always isolated the impact of men's violence toward their female partners on children. Findings have included the impact of marital conflict, as well as any violence committed by women towards men. Second,
research has often assessed the impact of witnessing and/or experiencing violence from parents without clear differentiation of the effects from witnessing and/or experiencing violence. Third, available research has not adequately investigated age-related effects of the impact of male intimate partner violence on children. Fourth, the specific proportion of intimate partner violence by men that does not occur in the presence of children has not been ascertained. Fifth, the co-occurrence of spouse and child abuse is at least 40% (Appel & Holden, 1998; O'Leary, Slep, & O'Leary, 2000), yet research on the impact of spousal abuse on children does not regularly assess and distinguish between the effects of witnessing spousal violence and being a victim of child abuse on children (O'Leary et al., 2000).

Using the results of the 1975 and 1985 national surveys involving 8,145 families, Straus (1992) estimated that 10 million U.S. children witness physical abuse between their parents each year, with prevalence rates being at least three times the incidence rates. The incidence rates of partner assault were 11.6% for the 1975 survey and 12.1% in 1985. Thus, Straus (1992) estimates the prevalence rate of children witnessing physical abuse between their parents to range from 23.2% to 36.3%. Straus (1992) also projected that in two-thirds of cases children were exposed to repeated violence between their parents. The Straus (1992) findings are considered the best estimate due to the large sample size and national representation. The 1993 Canadian Violence Against Women survey did not investigate the incidence and prevalence rates of children who were victims of violence or witnessed assault of their mothers. Given the established similarity and incidence and prevalence rates of partner assault against females in both Canada and the U.S., the prevalence rate of children witnessing partner assault of women is assumed to be at least 23.2%. Parents commonly perceive that children are not aware of the violence. However, Jaffe, Wolfe and Wilson (1990) discovered, through interviews, that children
of violent parents could generally give detailed information about the violence that parents thought went unnoticed.

In addition to any effects of this violence that occurs in their presence, these children are also at greatly increased risk for physical and sexual abuse. It is estimated that child abuse co-occurs with witnessing parental violence between 45% and 70% of the time (Appel & Holden, 1998; Layzer, Goodson & deLange, 1986; Prescott & Letko, 1977; Straus et al., 1980). Children living with an abused mother are at 12 to 14 times greater risk of sexual abuse by the mother’s partner and seven times more likely to report sexual abuse occurring outside the home (McCloskey, Figuerdo, & Koss, 1995).

In terms of the psychological effects of witnessing parental violence, Margolin (1998) points out that witnessing violence is associated with emotional, behavioural and learning problems and that children’s susceptibility to witnessing this violence is affected by their developmental level, chronicity of exposure, physical proximity to the incident, and the child’s emotional closeness to the victim. Margolin (1998) further notes that

Witnessing violence between one’s parents is often recurring and chronic. It is most likely to occur in the home – the one environment generally associated with safety and protection of the child. Moreover, the aggressor and the victim are the persons with whom the child is most likely to identify and with whom the child would wish to turn to for support. The effects of exposure are not limited to the commission of the violent act; they also involve acts of parental omission, in terms of typical supportive and nurturing functions that may be disrupted as a consequence of domestic violence. It is not surprising, therefore, that exposure to marital violence has been associated with a variety of problems in children (p. 58).

Furthermore, in families in which there is violence between parents, there are additional mental health risks – notably separation of a child from a parent, parental alcohol problems, school and home relocation, and overall family stress (Jaffe, Wolfe, Wilson & Zak, 1986).
The direct psychological effects of exposure to marital abuse are multi-faceted and diverse, and have both immediate and chronic effects. These effects have been investigated through the use of retrospective reports by adults, current assessments of children’s exposure to this violence and of their functioning, and assessment of their immediate reaction to it.

When adult’s or older adolescent’s retrospective reports of inter-parental violence as a child or adolescent were examined, Hotaling and Sugarman (1986) found in 14 of 16 studies that witnessing inter-parental violence was found to be the most important risk for becoming a perpetrator and a victim of husband-to-wife violence. Similarly, Doumas, Margolin and John (1994) found that witnessing marital aggression was a significant predictor for husbands’ next generation abuse of their wives and abuse potential of their children. Taken together, these studies indicate that the childhood witnessing of inter-parental violence can “lay the foundation for an aggressively oriented behavioural repertoire as well as different expectations regarding aggression in adult intimate relationships” (Margolin, 1998, p. 633).

The effects of current exposure to marital violence, when these effects are isolated from a number of other variables, have often been investigated with children who accompany their mothers to shelters (Edleson, 1999). A number of these studies have demonstrated that witnessing marital violence is associated with internalizing and externalizing problems, problems with social competence, aggression and antisocial behaviour, difficult temperaments, extreme approaches to problem solving, and impaired empathic abilities (Edleson, 1999; Margolin, 1998). Some of these findings hold when parent to child aggression is controlled for and are not totally attributable to children being removed from their home environment. McCloskey et al. (1995) compared children from battered women’s shelters, children witnessing marital violence in their home environment and non-exposed children and found that both groups had more conduct disorders, attention deficit and hyperactivity, separation anxiety, and obsessive-compulsive
disorder than non-exposed children. Also, Jouriles, Murphy and O'Leary (1989) suggest that marital violence contributes unique variance, above that of general marital discord, to the prediction of conduct disorder and inadequacy-immaturity for boys and of inadequacy-immaturity for girls.

In examining the more immediate effects of childrens' exposure to domestic violence on their functioning, eight studies using the Child Behavior Checklist and the Behavior Problem Checklist, found that 26% to 75% of children exposed to spouse abuse were rated as showing clinical problems in percentages higher than community control children. Margolin (1998) notes that the effects of exposure to marital violence are less severe when assessed in non-referred community samples. This finding may be due to the better-controlled nature of the studies or perhaps reflect the fact that the violence witnessed is less serious. It has generally been found (e.g., Sternberg, Lamb, Greenbaum, Cicchetti, Dawud, Cortes, Krispin, & Lorey, 1993) that children who observe inter-parental violence exhibit a level of adjustment that is somewhat “in-between” that of children who are physically abused, and children who are physically abused and witness inter-parental violence, but worse than that of children in comparison or control groups.

Childrens' immediate reactions to marital violence have also been researched. It has been found that children perceive disagreements and the actors in disagreements as more negative when the conflict includes physical aggression compared to verbal aggression and non-violent conflict (Cummings, Vogel, Cummings, & El-Sheikh, 1989; El-Sheikh & Cheskes, 1995). Children also report more negative emotions and distress reactions to physical aggression (e.g., Cummings, Zahn-Waxler, & Radke-Yarrow, 1981). It has been generally found that children from families where physical aggression occurred between parents showed more extreme
reactions when faced with additional conflict (Margolin, 1998). Margolin (1998, p. 76) summarizes that exposed children

are more likely to distract themselves or their parents from conflict (O'Brien, Margolin, John, & Kreuger, 1991); to interfere or become actively involved in the parents’ conflict (Cummings et al., 1981; O'Brien et al., 1991); to become angry, to appear sad or frightened, or to leave the room (Garcia, O'Hearn, Margolin, & John, 1997); to be more distressed (Cummings et al., 1989); or to be more preoccupied, solicitous, and support seeking (Cummings, Pellegrini, Notarius, & Cummings, 1989).

Furthermore, lower cognitive functioning was found to be associated with increased exposure to witnessing parental violence (Edleson, 1999).

Different effects of witnessing domestic violence have been found with different ages, and in cases of serious domestic violence. However, clear patterns have not been established. For example, in a review of 23 studies of 1,069 children of violent homes, Fantuzzo and Lindquist (1989) found that, for three and a half to six year old children, (a) verbal conflict alone was associated with a moderate level of conduct problems; (b) verbal and physical conflict were associated with clinical levels of conduct problems and moderate levels of emotional problems; and (c) verbal and physical conflict and shelter residence were associated with clinical levels of conduct problems, higher level of emotional problems, and lower levels of social functioning and perceived maternal acceptance. Jaffe et al. (1990) have found that pre-school children were more likely to exhibit emotional distress, immature behaviour, and somatic complaints. Hughes (1988) found that witnessing violence and being physically abused clearly differentiated the distress levels of pre-school children, but less so for six to eight and nine to twelve year olds. Adolescents demonstrated anxiety, high levels of aggression, and acting out, for example, by running away (e.g., Jaffe et al., 1990). Gender effects have been mixed (Margolin, 1998). Other authors argue that research on the impact of witnessing violence needs to determine the potential influences of anxious attachments, social isolation and general family stress (Emery & Laumann-
Billings, 1998). The specific role of protective variables (e.g., Garmezy, 1983) in children raised in significantly adverse environments and family situations have not been well researched for children who witness domestic violence.

There is evidence that witnessing parental violence has an effect on attitudes towards violence and conflict resolution in children. Not only do boys who witness parental violence approve more of the use of violence than girls, children who witness parental violence believed that the use of violence is justified and enhances one's reputation or self-image (Edleson, 1999).

**Women**

Specific physical and psychological effects of abuse from male partners have been identified for women. In terms of physical effects, research has shown that the U.S. incidence of severe assaults against wives by their husbands to be 3.8% (Straus & Gelles, 1990). What proportion of these women required medical attention is not known. The Statistics Canada survey (1993) revealed that 16% of ever married or common-law women reported having been severely assaulted (kicked, hit, beaten, sexually assaulted, or having a knife or gun used against them). Again it is not known what proportion of these women required medical attention. It has been well established that between 22% to 35% of emergency room visits by women are due to assaults by a male partner (Abbott, Johnson, Koziol-McLain, & Lowenstein, 1995; McVeer & Anwar, 1989; Randall, 1990). However, only eight percent of domestic violence cases presenting at emergency departments received referral or follow-up information (Warshaw, 1986). Of the women who present to physicians with injuries from male partner assaults, 53% present six or more times with trauma-related injuries (Stark, Flitcraft, & Frazier, 1979).

Research on the sequelae of partner assault on women's health and physical consequences is relatively uncommon (Acierno, Resnick, & Kilpatrick, 1997), and considered
inadequate (Emery & Laumann-Billings, 1998). However, the available findings indicate serious consequences. The physical injuries sustained by women can result not only in pain but broken bones, facial trauma, and tendon and ligament injuries (Campbell & Lewandowski, 1997). Battered women also report untreated loss of consciousness. The chronic headaches often described by battered women may be related to undiagnosed sequelae of neurological damage (Campbell & Lewandowski, 1997). As mentioned previously, rates of sexual assault for women who are physically assaulted is high (33% to 50%). This forced sex likely results in increased pelvic inflammatory disease, increased risk of sexually transmitted disease, vaginal and anal tearing, bladder infections, sexual dysfunction and pelvic pain (Campbell & Lewandowski, 1997). Death is unfortunately related to intimate relationships for women. Between 1982 and 1985, 52% of U.S. female homicides were committed by an intimate partner (Fagan & Browne, 1994). The Canadian statistics are similar: a current or past intimate male partner (Statistics Canada, 1997) killed 56% of female homicide victims aged 18 or older.

Resnick, Acierno, and Kilpatrick (1997) also postulate other long term sequelae that result from the induced generalized stress reactions to this violence, which can impair functioning of the immune, endocrine or autonomic systems, increasing the likelihood of contraction of infectious diseases. They further state that either assault related stress or assault related emotional problems may increase the risk of engaging in unhealthy behaviours, such as smoking, excessive alcohol or drug use, poor diet, lack of sleep, or insufficient physical exercise, all of which could contribute to future health problems or immune system disorders and that may lead to future chronic mental health problems. The inability to undertake effective problem solving or coping, and the use of avoidance-motivated behaviours, is considered by Barnett and LaViolette (1993) as an outcome to repeated assaults of women by men. Assault related inappropriate healthcare utilization places victims at higher risk of needing additional restorative
treatment. Women who have been victims of violence are at a higher risk of mental and physical health problems than non-victimized women are (Resnick, et al., 1997). This violence also produces acute emotional distress leading to an increased risk of developing major mental health problems, including Post Traumatic Stress Disorder (PTSD) and other anxiety disorders (Resnick et al., 1997). Common immediate reactions to assaults include shock, denial, withdrawal, confusion, psychological numbing and fear (Browne, 1987; Walker, 1979). Long term reactions include fear, anger, guilt, shame, feelings of powerlessness or helplessness, and a sense of being contaminated or worthless (e.g., Frieze, Hymer, & Greenberg, 1987). Women's reactions to assaults by their male partners are considered to closely parallel those of survivors of diverse traumatic events (Koss et al., 1994).

In terms of other psychological sequelae, controlled studies have consistently found that battered women have more depressive symptoms than other women do (Campbell & Lewandowski, 1997). Predictors of this depression are the frequency and severity of the current physical abuse and stress; these variables were stronger predictors than prior history of mental illness, or demographic, cultural, or childhood attributes (Campbell, Sullivan, & Davidson, 1995; Cascardi & O'Leary, 1992). Higher rates of PTSD have been documented in battered women in shelters (Astin, Lawrence, & Foy, 1993; Gleason, 1993) and in battered women identified in other contexts (Koss et al., 1994).

Men

Controlled research on the specific effects on men of assaulting their female partner does not presently exist. Previous research on partner assaultive men has focused primarily on comparing these men to non-violent men. The goal of these research endeavours has been to increase understanding of the reasons for mens' use of violence in their intimate relationships.
with women. Survey findings reveal that the use of this violence is not as physically dangerous for men as it is for women. American crime surveys reveal that female victims are more likely to be physically attacked by known individuals – husbands or ex-husbands (31% of assaults), boyfriends (16% of assaults), and acquaintances (9% of assaults) (Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997). However, men are 11 times more likely to be victimized by strangers than by known acquaintances (Bachman & Saltzman, 1995). Furthermore, aggravated assault against a wife or girlfriend is a relatively low-risk behaviour for a perpetrator in terms of identification or sanctions (Gillespie, 1989). Dutton (1987) found, in a quasi-experimental study, that the probability a man would be arrested given an assault was one percent. Thus men are extremely unlikely to endure criminal justice system sanctions and related effects.

Based on in-depth interviews with professionals working with assaulted women and partner assaultive men, MacLeod (1987) summarized that, in general, it was considered that increased battering further reduces mens’ self-esteem and increases their guilt and frustration. Men who are violent are chronically isolated and continued violence increases isolation for both the man and woman. Battering can result in a criminal record, which can limit future employment opportunities. Female partners who cannot take any more abuse kill some battering men (e.g., Walker, 1979).

A review of the studies of the psychological characteristics of assaultive men can suggest some of the difficulties experienced by this group. However, these personality characteristics do not exist in all assaultive men; therefore this research does not support the existence of a singular profile for these men. Also, it is not known whether psychological characteristics of assaultive men are exacerbated by their use of violence in intimate relationships. Finally, it is also important to note that the sum of the effects on children, women, and men have significant costs to society as a whole.
Studies of Partner Assaultive Men and Personality Typologies

Modern studies of partner assaultive men occurred a few years prior to the first documented treatment programs for assaultive men, as well as a few years prior to the first surveys of how couples resolved conflict (e.g., Straus, 1977). Up until twenty years ago, little was written about domestic violence (Jacobsen & Gottman, 1998) and partner assaultive men. The first treatment program for assaultive men was developed in 1976 by a shelter for battered women in a London suburb (Jennings, 1987). Both shelters and treatment programs for partner assaultive men soon spread to North America. The first North American treatment program for partner assaultive men was in Boston and began in 1977 (Carden, 1994). Another notable early program was the Domestic Assault Program, in Tacoma, Washington (Ganley & Harris, 1978). Ganley and Harris (1978) were the first to describe, qualitatively, some of the characteristics of male batterers. They noted that these men appeared dependent in their relationships, had difficulty in identifying emotions and in verbal expression of thoughts, held specific irrational beliefs, and minimized and denied their assaultive behaviour. Ganley and Harris (1978) did report that 63% of men in their residential treatment program were abused as children or witnessed physical abuse in their family, but note that this was a limited sample.

Faulk (1974) appears to have conducted the first empirical study of men who assault their female partners. Based on interviews with 23 of these men, the existence of five distinct types of these men were proposed. Later research was predominantly quantitative and measured a number of characteristics considered to be important based on clinical observations, or on the basis of a priori theoretical speculation and making comparisons on data (Holtzworth-Munroe & Stuart, 1994). For example, Ganley and Harris (1978) and Elbow (1977) made primarily clinical observations. Elbow (1977) investigated whether these men were approval seekers, defenders,
incorporators or controllers. Later studies examined the type of violence used; for example, the family-only wife assaulter and the generally violent mixed assaulter (Cadsky & Crawford, 1988). No consistent profile of men who assault their female partners emerged from this earlier research due primarily to the choice of different theoretical variables. However, the focus on comparisons between men who do and do not assault their female partners appears to be the most promising line of research.

Most of the differences between relationships where there is violence between men and women are due to differences between violent and non-violent men (Holtzworth-Munroe & Stuart, 1994). There are also strong reasons for the exclusive research focus on men.

... Battering is essentially a phenomenon perpetrated by men. Although research has shown there is a great deal of bilateral violence that occurs in domestically violent couples, there is a fundamental difference in both the form of and function of wife-to-husband violence. Wife initiated violence very rarely results in serious physical injury to men, and even more rarely does wife violence serve as a method of intimidation and control, which are the central functions of battering. Husband-to-wife violence, in contrast, often results in serious physical injury, and certainly has the capacity to create fear and control (Gortner et al., 1997, p. 339).

Therefore, the best way to understand this violence is to understand differences between violent and non-violent men. Similar research has found that spousal assaulters vary in the severity of physical and sexual violence, psychological abuse, violence outside of the family, criminal behaviour, type of personality disorder, substance abuse, anger, and depression (e.g., Hamberger & Hastings, 1991). These research findings also suggest the existence of particular types of spousal assaulters (Holtzworth-Munroe & Stuart, 1994). Gortner et al. (1997) agree that these men differ along several major dimensions, but that there are three major dimensions that may distinguish partner assaultive men: the severity of violence, generality of violence, and presence of psychopathology/personality disorders. Thus, the focus on men using this type of violence is warranted, as is the collection of information on variables that these men have been found to vary
upon. However, research has failed to consistently include the relevant identified variables for partner assaultive men. Thus, “no consistent typology has yet emerged, but the approach is promising” (Emery & Laumann-Billings, 1998, p. 127). The handful of studies of personality types of spousal assailters has not conclusively established the existence of the types of spousal assailters perhaps because of differences in research samples, measures, and methodologies.

Holtzworth-Munroe and Stuart (1994) logically assessed and integrated all existing research on the characteristics of partner assaultive men (e.g., Cadsky & Crawford, 1988; Elbow, 1977; Gondolf, 1988; Hamberger & Hastings, 1986; Saunders, 1992). Their analysis resulted in not only proposing the existence of different developmental trajectories for these men, but also the existence of three separate types in the following proportions: family-only (50%), dysphoric-borderline (25%), and generally violent-antisocial (25%). These three types differ in personality disturbance, and in the severity of physical and sexual violence, psychological abuse, violence outside of the family, criminal behaviour, substance abuse, anger, and depression. The family-only batterer is hypothesized to exhibit the lowest levels of physical violence, and psychological and sexual abuse. This type of batterer is the least likely to use extra-familial violence, have any related legal difficulties, or personality disorder. The dysphoric-borderline batterers tend to exhibit moderate to severe physical violence, and psychological and sexual abuse. Some extra-familial violence may exist. These men are the most depressed and psychologically distressed and emotionally volatile. They are likely to have substance abuse difficulties and have borderline and schizoidal personality characteristics. The generally violent-antisocial tend to exhibit moderate to severe physical violence, and psychological and sexual abuse. They have the highest levels of extrafamilial violence and the highest levels of criminal problems and related legal difficulties. They are likely to have substance abuse difficulties and are most likely to have an antisocial personality disorder or psychopathy (Holtzworth-Munroe & Stuart, 1994).
Other researchers have carefully investigated the arguments of 60 severely maritally violent couples and proposed the existence of a possible physiological marker that differentiates two types of partner assaultive men (Gottman, Jacobson, Rushe, Shortt, Babcock, La Taillade, & Waltz, 1995). Twenty percent of the men were found to show marked deceleration in heart rate activity, suggestive of focused attention in their violent behaviour, as measured by more verbal aggression toward their wives. These men had higher rates of extra-familial violence, scored higher on scales of antisocial behaviour and sadistic aggression, had lower scores of dependency, and a two year follow-up rate of divorce/separation of 0%. The other men (80%) showed increased heart rate activity and had a 27.5% rate of divorce at a two year follow-up (Gottman et al., 1995).

The studies of Gottman et al. (1995) and Holtzworth-Munroe and Stuart (1994) represent two of the major proposed typologies of partner assaultive men. However, these authors and others have recognized the need for further research and validation of these typologies. It is important to note that, although these typologies are best considered tentative, they certainly imply that not all partner assaultive men, or their acts of violence, are the same (Emery & Laumann-Billings, 1998). The importance of examining the differences among partner assaultive men, and making global comparisons between partner assaultive men and non-partner assaultive men is necessary to integrate and clarify the body of research on partner assaultive men. "What have appeared as inconsistencies in findings across studies actually may be reflective of different batterer samples" (Gortner et al., 1997, p. 339). Additionally, the investigation of different pathways to this type of abuse has been identified as of critical importance (Emery & Laumann-Billings, 1998).
Relevance of the Current Research

The current research project is relevant in two important ways. First, it contributes to the body of literature on partner assaultive men through an empirical test of Holtzworth-Munroe and Stuart’s (1994) proposed typology. The need for further research and validation efforts have been identified and encouraged in the literature (e.g., Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000; Waltz, Babcock, Jacobson, & Gottman, 2000). Determining the existence of such a typology could likely lead to further research of the underlying processes that result in partner assault. The second reason this research is important is that it could lead to increases in effectiveness of group psychological treatment for partner assaultive men through matching the type of psychological treatment to the type of partner assaultive man. The likelihood of increasing the effectiveness of psychological treatment is supported by recent research showing the effectiveness of group psychological treatment is related to certain personality characteristics of spousal assailters (Dutton, Bodnarchuk, Kropp, Hart, & Ogloff, 1997a; Saunders, 1996). Other potential benefits of this research would be increased safety of women and children through identification of spousal assailters less likely to benefit from psychological treatment, and improvement in criminal justice system policy and practice through the identification of spousal assailters at high risk of re-assault. Leaders in the battered women’s movement have recognized this need. Walker (1999) states:

Many of the early domestic violence policies based on non-psychological information may need some revisions now that researchers have collected better data. One example is in the popular community-sponsored programs for rehabilitating batterers who are often court-ordered into only one type of intervention program without any psychological assessment to see what type of treatment might work best for that particular person (p. 23).

The current study contributes to the research on personality typologies of partner assaultive men. These findings will be useful for criminal justice policy and practice. However,
the typologies proposed to date are considered tentative (Emery & Laumann-Billings, 1998), and
their existence needs to be further researched. The current research was directed at this issue.

A review of the literature of the research to date on partner assaultive men supports the
view that the most integrative and comprehensive typology to date has been proposed by
Holtzworth-Munroe and Stuart (1994). Their proposed typology includes the psychological and
behavioural variables that partner assaultive men are known to vary upon. The current research
tested the existence of the types in a large sample (approximately 100) of partner assaultive men.
Statistical procedures were employed in the assessment of the existence of Holtzworth-Munroe
and Stuart’s (1994) typology. It was hoped that the findings make important contributions to
better understanding the population of partner assaultive men.
Chapter 2

Literature Review

Beginning in the 1970s, a wide range of variables have been postulated and investigated in attempting to understand men’s partner assault of women. Two primary reasons for the diversity of variables investigated is that the variables chosen have been based on clinical observation and a variety of a priori theoretical speculation (Holtzworth-Munroe & Stuart, 1994). The range of variables investigated also reflects different theoretical models for men’s partner assault of women, from sociological and feminist explanations (e.g., Adams, 1988) to numerous psychological models such as pathological dependency (Faulk, 1974), and over- or under-controlled hostility (Hershorn & Rosenbaum, 1991). It is important to review research on variables investigated in men’s partner assault of women in order to understand what might influence this violence.

A review of adult variables in men’s partner assault of women also (a) provides a context and rationale for the current research, (b) provides some theoretical and empirical foundation for the current research, and (c) guides the selection of the research methodology and measures. Potential variables related to men’s partner assault of women are reviewed in separate and logical categories that emerge from the literature, and start with those that focus on the individual and from early infancy onward. This ordering was adopted because systematic multivariate and longitudinal research adequately investigating all potentially relevant variables in the origin of spouse abuse does not yet exist. However, theoretical models that integrate all potential variables have been proposed; notably those of Dutton (1988) and Holtzworth-Munroe and Stuart (1994).

The most integrative theory proposed in this area includes psychological and sociological factors. In Dutton’s (1988) nested ecological theory, individual experience factors, within nuclear and extended family factors, within occupational, religious, social affiliation and neighbourhood
factors, within societies' formal rules and informal norms are all postulated to influence whether a man will assault a female partner (Carden, 1994). The relative contribution of each of the four types of factors is not specified in the theory, nor is the possibility that one or two types of factors could potentiate partner assault without contributions from the other variables. However, Dutton's (1988) nested ecological theory broadens the range of variables that may potentiate partner assault and suggests that the interaction between the types of variables is likely complex. This theory also hints at potential developmental attributes of men's partner assault of women.

Holtzworth-Munroe and Stuart (1994) have proposed a developmental model in men's partner assault of women and divided variables into either distal (e.g., genetic/prenatal variables, and early family experiences) or proximal (e.g., attachment to other individuals, impulsivity and attitudes) risk factors. These risk factors are theorized to have at least additive and perhaps multiplicative effects in the development of partner assault in men (Holtzworth-Munroe & Stuart, 1994). However, at this time, the potential degrees of interaction between Holtzworth-Munroe and Stuart's (1994) distal and proximal risk factors, and between Dutton's (1988) psychological and sociological factors have not been empirically investigated. Holtzworth-Munroe and Stuart (1994) have also hypothesized distinct developmental trajectories for three subtypes of men who assault their female partners. These developmental trajectories also lack empirical support.

Cross-sectional and correlational studies have established associations between certain variables and men's partner assault of women. However, these studies do not provide support for causal inferences. Relationships between separate cross-sectional or correlational studies cannot be investigated. Cross-sectional or correlational studies do not allow investigation of the relative contribution of certain variables, of potential interaction between variables, and how relationships between variables might change over time. Longitudinal models and multivariate
methods are called for to help distinguish between variables that are indeed a cause, a marker, or a result of men's partner assault of women (Jacobson & Gortner, 1997).

Research on variables related to men's partner assault of women has had long-standing methodological limitations such as poor sample selection, reporter biases, and inadequate control groups. The large numbers of studies of variables in partner assault, and recent attention to methodological weaknesses have resulted in some convergence of findings of variables that are associated with increased rates of partner assault. Variables that have an increased association with increased rates of partner assault are currently termed "risk factors." It is important to note that risk factors may or may not have a causal role in this behaviour (Jacobson & Gortner, 1997).

One longitudinal study related a variety of variables to men's partner assault of women. The authors of this study stated that there was a predictive relationship between a variety of childhood psychological and sociological variables at age eight and spousal assault reported by female partners at age 30 (Huesmann, Eron, Lefkowitz, & Walder, 1984). However, the relationship was not statistically significant. Adequate evidence of predictive relationships between a variety of childhood psychological and sociological variables has yet to be found.

Additional longitudinal studies of specific variables and antisocial behaviour have provided empirical support for the conclusion antisocial behaviour results from a combination of social, psychological, and biological causes (Brennan & Raine, 1997). Since little serious research has examined a combination of broad etiological variables (e.g., social and psychological), it is not possible to determine relationships between etiological variables or determine the relative contributions of different variables. Furthermore, these studies have not assessed men's partner assault of women as part of antisocial behaviour, and therefore cannot be generalized to men's partner assault of women. However, cross-sectional research has found relationships between a range of variables and men's partner assault of women. These findings
require critical analysis to assess the validity and strength of the potential relationships with men’s partner assault of women.

The types of variables reviewed are (a) biological and genetic, (b) child and adolescent, (c) family, (d) sociological and (e) adult. The first four types of variables have been perceived to be related to female partner assault in men, yet only a few have an established relationship with female partner assault in men. Although the literature is extensive on the first four types of variables is extensive, it is summarized as only a few have an established relationship to female partner assault in men. It is important to emphasize that weaknesses in research methodology do not allow the investigation of causal influences for these variables, although causal influences have been perceived and led to the development of some misunderstanding. In contrast, adult personality variables have been more consistently related to female partner assault in men and their contribution is thoroughly examined. Finally, the potential relationships between different etiological variables are summarized, and empirical directions are presented.

**Biological and Genetic Variables**

The sheer complexity of the role of genetic variables in behaviour, along with research methodological and definitional issues, results in considerable difficulties both in interpreting research findings and in drawing conclusions from research findings (Carey, 1994). For example, some authors conclude that there is insufficient evidence to make a link between genes and physical aggression in adulthood (e.g., Coie & Dodge, 1998), whereas others feel that there is adequate evidence of a genetic effect in adult antisocial behaviour (e.g., Carey, 1994, Raine, 1993). One reason for the difference between these positions is definitional: antisocial behaviour includes a variety of illegal offences compared to physical aggression.
The specific mechanisms of how genetic variables affect behaviour are not known (Coie & Dodge, 1998). Although genetic variables have been suggested as relevant to men’s partner assault of women (Witkin, Mednick, Schulsinger, Bakkestrom, Christiansen, Goodenough, Hirschhorn, Lundsteen, Owen, Philip, Rubin, & Stocking, 1977), there appears to be inadequate evidence to support this conclusion. A primary reason for this is that research on genetic variables in men’s partner assault of women has not been conducted. Also, men’s partner assault of women has seldom been included in indices of physical aggression when this research has been done (e.g., Gottesman, Carey, & Hanson, 1983; Hutchings & Mednick, 1977). Specific research evidence relating genetic variables and men's partner assault of women does not exist. The study of the potential contributions of genetic variables to aggression is further complicated by the complexity of biological and neurobiological processes implicated in aggression (Raine, 1993; Volavka, 1995).

In terms of a possible relationship between genes and men's partner assault of women, researchers consider the possible model of this relationship complex and multivariate (Raine, 1993). However, researchers believe that a large number of variables, including genes, parenting, school and peer experiences contribute to the likelihood of aggression (Carey, 1994). Research on possible relationships between variables in adult aggressive behaviour is complicated by difficulties in separating environmental and learned variables. In twin studies, it has been observed that monozygotic twins imitate, collude, and reciprocally influence one another (Carey, 1994). Another complication is that adoptee families in twin studies have less than representative rates of criminal behaviour and do not possess family environmental variables that contribute to the liability to engage in antisocial behaviour (Carey, 1994). Research on the estimates of heritability of aggressive behaviour require large series of identical twins raised apart in random environments, and this is seldom achieved (Carey, 1994).
A review of research on other potential genetic factors in men's partner assault of women has not shown a relationship between this behaviour and an extra "Y" chromosome (Schiavi, Theilgaard, Owen, & White, 1984), male sex hormones (Turner, 1994), or neurotransmitters (e.g., McKenry, Julian & Gavazzi, 1995; Reid, 1995). Thus, there is no established relationship between genetic variables and men's partner assault of women.

**Childhood and Adolescent Variables**

Some childhood and adolescent variables appear to be related to developmental trajectories in violence from childhood through adulthood. It has been well established by longitudinal research that approximately half of antisocial children become antisocial adolescents, and approximately half of antisocial adolescents become antisocial adults (Pettit, 1997). Thus, one-quarter of antisocial adults have a history of antisocial behaviour in childhood. The degree to which this finding applies to men who assault their female partner is not known. Furthermore, the prediction of which antisocial children become antisocial adolescents is far from perfect, in terms of false-positive errors (those at risk but who are not violent adults) and false-negative errors (those not highly aggressive early in life who become violent adults) (Loeber & Hay, 1997). The extent to which these predictive errors apply to men who assault their female partners is not known. The proportion of female partner assaultive men who have histories of antisocial behaviour in childhood and/or adolescence is also not known. Thus, it is not possible to determine to what extent a life-course of antisocial behaviour may apply to female partner assaultive men.

An important weakness of the data on life-course antisocial individuals is that antisocial behaviour includes much more than physical violence. Antisocial behaviour includes offences against both genders, children, strangers, and motor vehicles, property, substance abuse and
white-collar offences. Thus, it is possible that life-course antisocial behaviour trends may relate more, or less, to the type of interpersonal violence of female partner assaultive men. Furthermore, it has been hypothesized that half of adult men who assault their female partners do not have a history of adult criminal involvement (Holtzworth-Munro & Stuart, 1994). Therefore, it does not seem that the interpersonal violence of men who assault their female partners is directly related to adult antisocial behaviour. Lastly, the majority of the research on antisocial behaviour trends is based on official criminal records (e.g., Farrington, 1989; Stattin & Magnusson, 1989) which cannot be considered to represent the commission of assaults against female partners by men. Dutton (1987) calculated that less than one percent of spousal assaults result in conviction (and are registered in criminal justice system records). Therefore, official databases are very poor sources of information upon which to identify partner assaultive men in research.

Methodological weaknesses exist in research on life-course continuities in antisocial behaviour, and in attempting to relate these findings to female partner assaultive men. Research on female partner assaultive men has found significant correlations with childhood characteristics such as witnessing partner assault (e.g., Choice, Lamke, & Pittman, 1995) and child conduct disorder (Hanson, Cadsky, Harris, & Lalonde, 1997). However, this research is cross sectional and correlational and does not provide evidence for causal influences of these variables in female partner assault in men. These designs cannot distinguish whether a variable is causal, is associated with increased rates of domestic violence, or is a result of domestic violence.

The investigation and specification of possible relationships among these variables in female partner assaultive men are further complicated by the likely existence of multiple pathways in the development of this behaviour (Holtzworth-Munroe & Stuart, 1994). Discontinuity in antisocial behaviour provides further complications given that seventy-five
percent of antisocial children do not become antisocial adults; the proportion for which there is discontinuity is far greater than for those for whom there is continuity. The variables related to desistance (stopping a behaviour, violence in this case) are also poorly understood (Loeber & Hay, 1997). As it presently stands, it is not possible to determine whether psychological and sociological variables in childhood and adolescence are causative variables in adult men’s partner assault of women (e.g., Jacobson & Gortner, 1997).

Although aggression is normal in the first six years of life (Caplan Vespo, Pedersen, & Hay, 1991), it decreases with increases in interpersonal and language skills, the ability to delay gratification, and the ability to infer the intentions of others (Coie & Dodge, 1998), and decreased parental and teacher tolerance for aggression (Pettit, 1997). A small subgroup of boys, however, does not show a decrease in aggression and are cruel to other children and animals. This behaviour is considered an advanced type of aggression and has implications in the development of conduct disorder and other forms of aggression (Loeber & Hay, 1997). In the later school years, some children exhibit proactive aggression (e.g., lying, cheating and stealing) and the carrying forward of aggressive behaviours from early childhood (Pettit, 1997). However, it is not known if this behaviour is associated with female partner assault in adult men.

Aggression in children has been associated with difficult temperament and poor emotional regulation, yet research has yet to establish a relationship between these variables and female partner assault in adult men. Also, violence has cognitive and emotional antecedents and components, yet the potential contribution of these variables to female partner assault in adult men is currently not known.

Childhood and adolescent psychiatric diagnoses do not appear to provide clear specification of psychological variables related to aggression. These diagnoses do provide some information on the severity of aggression in some children, but provide little clear evidence of
aggressive trajectories. Potential relationships with female partner assault in adult men have not been investigated.

For males, compared to females, the use of physical aggression in adolescence has been related to severe aggression (e.g., violent offences) in adulthood (Elliott, Huizinga, & Morse, 1987; Coie & Dodge, 1998). This significant gender difference holds across socioeconomic levels and culture (Loeber & Hay, 1998). Early use of, and the seriousness of early aggression have not been studied thoroughly in female partner assaultive men to determine the potential influences of these variables in female partner assault. Adolescent (and adult) impulsivity may be related to antisocial behaviour (Coie & Dodge, 1998), yet its potential role in female partner assault has not been thoroughly researched.

A relationship between adolescent aggression and adult female partner assault has not been established. The continuity of adolescent aggression to female partner assault in adult men does not appear to be strong. In fact, one of a few studies that have reported this continuity was not statistically significant (Huesmann et al., 1984) and therefore was an unsubstantiated conclusion.

The weaknesses in studies of adolescent psychological variables and adult aggression are similar to studies of childhood psychological variables and adult aggression. Causes, the role of confounding variables, changes in relationships over time, and relative contributions and interactions among variables cannot be determined. Few longitudinal studies (e.g., Farrington, 1994; Huesmann et al., 1994) include variables known to have associations with child or adolescent aggression from different domains (i.e., psychological and sociological) in adult aggression. Thus, adequate studies of how child and adolescent variables may be related to female partner assault in men do not exist.
Longitudinal multivariate studies which assess a number of variables are required to determine relationships between childhood and adolescent variables and female partner assault in men. Furthermore, there is building evidence (e.g., Huesmann et al., 1984; Raine & Brennan, 1997) for the combined influence of social, psychological and biological causes in antisocial behaviour. How these relationships may apply to female partner assaultive men need to be further investigated.

Familial Variables

Familial variables in promoting aggression are reviewed in this section. The types of variables reviewed are mother-infant relationships, types of parenting, parental characteristics, family structure, physical and sexual abuse, and children’s witnessing of marital violence. This body of literature has similar methodological weaknesses to the areas discussed previously; specifically, it is limited by the use of correlational and cross-sectional designs which do not allow determination of cause or inter-relationships among a number of variables in the development of aggression.

Some research has shown some relationships between attachment style and aggressive behaviour in early childhood (Loeber & Hay, 1997), parental warmth and school age conduct problems (Booth, Rose-Krasnor, McKinnon, & Rubin, 1994), maternal mood, maturity, and affective attitude towards care and nurturance of male children aged one to three and adult criminality (Booth et al., 1994). However, none have been related to adult violent behaviour, or female partner assault. These variables could contribute to understanding possible developmental aspects of female partner assault.

Being abused as a child has been implicated as a causative factor in female partner assault. Harsh discipline and parental coercion have been associated with children's later
aggression and violence (Dodge, Pettit, & Bates, 1994). yet it is not clear whether these parenting practices preceded or were evoked by high levels of children’s aggression or transgressions (Loeber & Hay, 1997). The role of parental punitiveness in children’s aggression is not clear, and this is difficult to determine as the effects of parenting on children’s behaviour are complex (Coie & Dodge, 1998). It may be that the relationship between punitiveness and aggression is moderated by the quality of the parent-preschool child relationship and amount of parent-preschool child warmth (Campbell, 1990). Parent’s use of asserting power in parenting occurs more frequently in young children with more behaviour problems and in children who also receive the most punishment (Cohen & Brook, 1995). Longitudinal studies have shown consistent influences of punishment on aggression in adolescence, but not in later childhood or early adulthood conduct problems (Cohen & Brook, 1995). In sum, findings on parental punitiveness lack consistent evidence as a causal variable in adult aggression.

Other familial conditions appear to be related to aggression in childhood, adolescence, and adulthood. These include parental divorce, parental conflict, being born to a teenage or single parent, being raised in a large family, and being parented by convicted criminals (Coie & Dodge, 1998). The effect of these familial conditions on aggression is considered to be mediated by the impact they have on disruption in parenting. These variables are described in more detail below.

Specific characteristics of parents have been found to have negative effects on boys referred to outpatient clinics. Poor maternal parental supervision and lack of persistence in discipline, and father’s substance abuse and antisocial personality disorder can disrupt positive child rearing, and directly affect the formation of conduct disorder in children (Frick, Lahey, Loeber, Stouthamer-Loeber, Christ, & Hanson, 1992). These findings are consistent with other studies and are not the result of socioeconomic or ethnic differences. Less severe behaviour problems in clinic-referred boys have been related to father’s alcoholism and antisocial
personality disorder (Frick et al., 1992). No maternal diagnoses were related to boy’s behavioural problems. Although these findings apply for boys with serious behavioural problems, it is not known whether such relationships exist in non-referred populations of boys. Both prior antisocial behaviour and lack of parental monitoring have been related to involvement with deviant peers; such involvement is related to escalation in antisocial behaviour (Loeber & Hay, 1997).

The structure of the family is associated with aggression in children. Numerous studies have found that aggressive children are often reared by single parents (e.g., Kupersmidt, Griesler, DeRosier, Patterson, & Davis, 1995). Single parenthood is associated with type of neighborhood (e.g., urban) and has been related to some juvenile aggression (Kupersmidt et al., 1995). Other variables may also be related to single parenthood as well (e.g., unemployment and authoritative parenting). However, it is not known whether these differences carry into adulthood, or are in any way related to female partner assault in men.

The possible contribution of abusive parenting to adolescent and adult violence has received considerable research attention. Comprehensive reviews reveal that methodological weaknesses (notably the overuse of self-report and retrospective data, the inadequate documentation of childhood abuse or neglect, and the infrequent use of control groups) undermine the degree to which these findings provide evidence of such a relationship (Widom, 1989). These methodological weaknesses may underestimate actual relationships. In prospective studies, 20% of children who were abused and neglected were later delinquent. In retrospective studies with adolescents, childhood abuse estimates range from 8% to 26% (Widom, 1989). Similar findings are found in studies of abuse, neglect and violent behaviour. Although there is a link between child abuse and adolescent delinquency, it does not appear to be a direct causal link (Smith & Thornberry, 1995). It may be that the effect of abuse may potentiate community and
spousal violence (Smith & Thornberry, 1995). Whether findings from studies of delinquents and adolescents would apply to adults has not been determined.

It is also important to recognize that the impact of child abuse can result in depression, anxiety, withdrawal, and self-punitive behaviour. Furthermore, the impact of abuse and/or neglect are likely influenced by the nature and severity of the abuse or neglect, the age of the child when it occurred, the characteristics of the child and perpetrator, or the child’s perception of the event (Widom, 1989). The type of abuse (i.e., physical or sexual), has different negative impacts (Cicchetti, 1989). Physical abuse is known to have clearer effects on subsequent child aggressive behaviour whereas sexual abuse and neglect have different negative consequences (Fagot, Hagan, Youngblade, & Potter, 1989). Furthermore, what may be more important to understand is the cumulative negative impact of abuse, instead of the different impacts of different types of abuse (Loeber & Hay, 1997). The severity, frequency and chronicity of abuse “predict behaviour problem levels and competence ratings, suggesting that aside from some categorical effects that distinguish sexual abuse from other kinds of abuse, variables relating to the degree of abuse are most significant in predicting its effects” (Coie & Dodge, 1998, p. 820). Interactive effects may also exist among abuse variables. Thus, it is important to determine possible relationships between increased severity and frequency of physical and sexual abuse and later aggression and later violence in adult intimate relationships.

In surveys of marital aggression, 16% to 17% of adults who reported using marital aggression reported that they witnessed marital violence as children (Straus, 1992). This finding is somewhat higher than the established incidence rate for men’s partner assault of women of 11.2% to 14.4%. Thus the available evidence suggest that there is small, but higher likelihood of partner violence if marital violence was witnessed as a child.
Not only do child characteristics interact with familial and environmental variables in the development of aggression, there are a number of different types of variables that may result in a propensity to become aggressive. Although it has been found that some familial variables make a clear contribution to aggression (e.g., witnessing marital violence), a large range of variables are involved.

The prediction of aggression is best achieved by considering multiple risk variables in family life. For example, Farrington (1989) found that the best independent familial childhood predictors of violence up to age 32 were low parental interest in the boys' education, authoritarian parents, a convicted parent, and harsh parental discipline (Loeber & Hay, 1997, p. 396).

In sum, a number of variables are related to childhood and adolescent aggression, but further research is required to determine whether these familial variables are related to adult aggression and men's partner assault of women.

**Sociological Variables**

The sociological variables of age, sex, peer relationships, ethnicity, socioeconomic status, marital status, living environment, and societal structure and their association with aggression are reviewed. As in the review of familial variables, methodological weaknesses and a lack of research on potential relationships to adult male assault of female partners only suggest that these variables are potential influences and are not established causes in this type of violence. In examination of these variables in samples of men in treatment for female partner assault, there is some question whether female partner assault by men is equal across racial, ethnic, religious, employment, socioeconomic, and educational groups (Hastings & Hamberger, 1997), yet clear conclusions have yet to be drawn.

Compared to the U.S., trends in overall violence have not been studied as thoroughly in Canada. Although there may be some differences in violent crimes between Canada and the U.S.,
incidence and prevalence rates of female assault by males in both countries are virtually identical. Rates of female partner assault are higher in couples under 30 compared to couples over 40 but the reasons for this are not clear (Jacobson & Gortner, 1997). It may be related to the overall decline in aggression with older age. Also, physical violence may be less necessary to maintain control in relationships once control is established (Jacobson & Gortner, 1997).

The sex difference in self-reported serious violent offending is sixfold at age 18, and males of all ages perpetrate more violence and crime than females (Stanton, Baldwin, & Rachuba, 1997). In terms of relationship violence, there has been considerable debate about whether the rates of adult male-to-female and female-to-male violence are similar. However, in serious violence and less serious violence, adult female-to-male violence is known to be retaliatory (Jacobson et al., 1994; McLeod, 1987). Also, women are at much higher risk to sustain serious physical injury and require emergency medical attention compared to males (Resnick et al., 1997; Abbott et al., 1995).

Since men’s assault of female partners is found across ethnic, racial and socioeconomic groups (Hotaling & Sugarman, 1990), significant differences attributable to these variables are not expected to exist. Race has emerged as a correlate in violent crime in research, but it is in association with other variables (e.g., substance abuse, socioeconomic status) “that it has its effect” (Stanton et al., 1997, p. 327). Furthermore, racial biases exist in the reporting of crime in the U.S., and socioeconomic status, geographic location, and urban stress are independently associated with violence, and do not support racial differences in violence or in men’s assault of female partners (Jacobson & Gortner, 1997; Stanton, et al., 1997).

Geographic location does not appear to be related to the use of violence towards female partners. Kennedy and Dutton (1989) did not find differences in urban-rural rates of female partner assault by men.
There is some data suggesting a relationship between socioeconomic status and men's assault of female partners. Large-scale surveys have found that low-income couples report higher rates of partner violence compared to high income couples (Hotaling & Sugarman, 1990); however, these findings are difficult to interpret. Samples of court-ordered treatment of partner assaultive men have unemployment rates ranging from 30% (Bodnarchuk, Kropp, Ogloff, Hart & Dutton, 1995) to 75% (Hastings & Hamberger, 1997). It is difficult to determine whether these high unemployment rates are causative in men's assault of female partners.

In terms of marital status, unmarried cohabiting couples generally report slightly higher rates of partner assault than married or dating couples (Pan, Neidig, & O'Leary, 1994). It is difficult to determine how cohabitation may relate to increased reported rates of female partner assault, particularly because of confounds of other sociodemographic variables (Jacobson & Gortner, 1997).

In attempting to understand the causes of men's assault of female partners, some have hypothesized a role for the socially and culturally sanctioned domination of females, including the use of violence (e.g., MacLeod, 1987). However,

battering occurs in a patriarchal societal context, where patriarchal values predominate, and physical force by men against women is legitimized. Although patriarchy is the important overall context surrounding battering, it, in itself, in an incomplete explanation for the phenomenon on male battering. Not all men are physically violent in relationships. Also, there is a growing body of research that shows similar prevalence rates in lesbian and gay male relationships, which can't be attributed to patriarchy (Dutton, 1994). The complexity of battering is likely to be best accounted for by considering how other psychological, social, and biological variables interact with patriarchy (Jacobson & Gortner, 1997, p. 128).

Thus, it appears that the patriarchal social structure may influence partner assault, but evidence is currently not conclusive.

In sum, no sociological variables have been clearly linked to increased rates of men's assault of female partners. Importantly, the cumulative effects of these variables in this violence
are not known. It has been established that child abuse variables are cumulative in their effects, and the situation may be similar for sociological variables. The possibility of cumulative and interactive effects among biological and genetic variables, child and adolescent variables, familial and sociological variables clearly require further investigation. Current studies have typically been correlational and cross sectional and focused on variables from a single domain (e.g., familial), and do not allow the determination of causal and interactive relationships among variables. This review of these types of variables suggests multiple avenues of further study to better understand what may contribute to men’s assault of female partners.

Adult Variables

Certain sociological and psychological variables in adult males are related to assault of female partners. A few sociological variables and a number of psychological variables have been extensively studied in female partner assaultive men. However, methodological issues limit the conclusions that can be drawn from this research. These issues are described before a review of the sociological and psychological variables in men’s assault of female partners.

Personality disorders have been extensively compared in men who do, and do not assault their female partners. Substantial differences in personality disorders appear to exist in men who do, and do not assault their female partners.

Research on personality disorder differences between men who do and do not assault their female partners, and research on personality disorders among men who assault their female partners, has led to exploratory research in the development of typologies of personality disorder, and personality and behavioural characteristics of these men. Prior to reviewing the research on personality disorders and exploratory research on different typologies, measurement and
conceptual issues are reviewed. This section concludes with a description of the experimental hypothesis for the current study.

Methodological Issues in Adult Sociological and Psychological Variables in Female Partner Assaultive Men

The first methodological issue in research of adult sociological and psychological variables in female partner assaultive men is that these variables have been studied in men who have referred themselves, or were referred by the legal system for treatment of female partner assault. It is not known to what extent these findings may generalize to men who have not been referred for treatment. It is also not known to what extent findings from men who are self- or court-referred for treatment apply to men who are rejected from treatment for severe pathology or total denial of female partner assault (Hart et al., 1993).

The second methodological issue is a limitation of the research designs dominant in the study of adult sociological and psychological variables in female partner assaultive men. The dominant research designs used are cross-sectional and correlational. Unfortunately, whether a variable is a cause or a result of men's female partner assault cannot be determined with cross-sectional or correlational research designs. The only conclusion that can be drawn with these designs is that a variable may have an increased association with female partner assault in men.

Although it is not possible to determine causal relationships from a number of research studies, it is possible to conclude that certain variables have an increased association with men's assault of female partners. A number of variables have been found to exist in female partner assaultive men in higher proportions than in men who do not assault their female partners. Variables found in higher proportions in female partner assaultive men are considered to be
related to the higher likelihood of men’s partner assault of women, and are referred to as risk factors (Jacobson & Gortner, 1997; Kropp Hart, Webster, & Eaves, 1995).

Another methodological limitation in research on sociological and psychological variables in men who assault their female partners is the inadequate use of control groups. In order to determine that a sociological and psychological variable is different in female partner assaultive men compared to non-female partner assaultive men, a control group of non-female partner assaultive men must be used. This is not always the case in research on variables in female partner assaultive men (Gortner et al., 1997).

Retrospective bias is another methodological limitation in this area of research. This bias is prominent in men’s self reports of their past use of physical violence and psychological abuse towards their female partners (Edleson & Brygger, 1986; O’Leary & Murphy, 1992). Obtaining corroborative evidence (e.g., from men’s female partners) is particularly important to limit retrospective bias in men’s self-reported physical violence and psychological abuse. An example of the importance in obtaining corroborative evidence is in research comparing men who report they have and have not assaulted their female partners.

The final methodological problem is the type of variables selected for research with this population. Research of variables in female partner assaultive men tend to be selected from biological, sociological, or psychological domains (Jacobson & Gortner, 1997). A small body of literature suggests that variables from these domains interact in men’s assault of female partners (Farrington, 1994). Similarly, antisocial behaviour is considered to result from a combination of social, psychological, and biological causes (Brennan & Raine, 1997). Despite evidence supportive of the inclusion of variables from these different domains in research on female partner assaultive men, the inclusion of variables from different domains (e.g., familial background, attitudes towards women, depression, and anger) is seldom reflected in research.
These methodological limitations need to be considered in assessing research findings on adult variables in men's assault of female partners. Otherwise, a false sense of consistency among findings may be interpreted when such a conclusion may not be justified (Gortner et al., 1997). These methodological limitations also need to be addressed in research to further the understanding of what ultimately contributes to men's assault of female partners.

**Adult Sociological Variables**

The primary sociological variables that have been researched in female partner assaultive men are age, race, socioeconomic status, and marital status.

With regard to age, rates of domestic violence are higher among couples under age 30 than couples over 40 (Jacobson & Gortner, 1997), yet it is difficult to determine what accounts for this finding. This difference may be related to more general declines in aggression after age 40 (Blumstein & Cohen, 1987), or that the use of physical violence is less necessary to maintain relationship control (Jacobson & Gortner, 1997). Aldorondo and Sugarman (1986) found a relationship between younger age, low socioeconomic status, high marital conflict and men's continued assaults against female partners. However, young age alone did not relate to continued use of assaults against female partners. The average ages of men who are self- and court-referred for treatment for assaults of female partners do not indicate that this behaviour only occurs in young men. The ages observed range from the early 20s up to over 60, with averages between 32 to 35 years (Bodnarchuk et al., 1995; Hanson et al., 1997; Hastings & Hamberger, 1997). It is not known if the range and average ages of men self- and court-referred for treatment generalize to men who are not self- or court referred for treatment.

Racial differences in rates of men's assault of female partners have not been substantiated in research and are not considered to exist. In general, socioeconomic status, geographic location,
and urban stress are independently associated with levels of violence, whereas race is not (Jacobson & Gortner, 1997; Stanton et al., 1997). Although U.S. nationally representative surveys have found incidence rates of female partner assault in men three to four percent higher and twice the severity in African-American families (Hampton & Gelles, 1994), confounds exist (geographic location, crowding, and urban stress). Hampton and Gelles (1994) hypothesized that African-American men's pro-violence attitudes toward women may contribute significantly to the severity of their violence. However, these pro-violence attitudes may exist in other minority groups and may be more related to geographic location, crowding, urban stress, and socioeconomic status.

It is important to be cautious in the interpretation and generalization of findings from men who are court-referred for treatment for female partner assault because a racial bias exists in the reporting of crime in the U.S. (Stanton et al., 1997). This racial bias may result in higher rates of arrest, conviction, and court-referred treatment for males of racial minorities who assault their female partners. This racial bias may also exist in Canada. Some evidence suggests that racial bias may not be prominent in men who are court-referred for treatment for female partner assault. In men self- and court-referred for treatment for female partner assault, racial minorities do not constitute the majority. For example, an American study found that 85% of identified men were Caucasian (Hastings & Hamberger, 1997), while a Canadian study found that 74% were Caucasian (Bodnarchuk et al., 1995). In sum, there is a lack of evidence to support the conclusion that there is a relationship between racial differences and female partner assault in men.

Although violence is found across socioeconomic groups (Hotaling & Sugarman, 1990), there is some evidence of a relationship between socioeconomic status and men's partner assault of women. In both African-American and Caucasian samples, higher levels of this type of
violence are found among low income families (Hampton & Gelles, 1994; Hotaling & Sugarman, 1986). Low socioeconomic status was found to be one of three strong discriminators in men who did and did not engage in female partner assault (Aldorondo & Sugarman, 1996). Adequate evidence exists to conclude that unemployment is associated with increased rates of female partner assault in men (Aldorondo & Sugarman, 1996; Hotaling & Sugarman, 1986; Hastings & Hamberger, 1997). Financial stress, as measured as income level below the poverty line, has been found to be associated with men's assault of a female partner in male military personnel (Pan et al., 1994) and in community women (Campbell, 1986). Specification of interactive relationships with other variables and potential confounds are needed to determine the exact contribution of low socioeconomic status to this violence.

Marital status appears to be related to female partner assault. Unmarried or cohabiting couples generally report slightly higher rates of partner assault compared to married or dating couples in military samples (Pan et al., 1994). Cohabiting couples appear to be at higher risk for female partner assault by men, but confounds include lower age and socioeconomic status (Jacobson & Gortner, 1997). Furthermore, since many of the above sociodemographic variables are correlated, several possible confounds are pertinent considerations (Jacobson & Gortner, 1997).

In sum, (1) the only sociological variable that has an established association with men's assault of female partners is socioeconomic status, and (2) socioeconomic status appears to have relationships with other variables (i.e., marital conflict and low age). Further research is required to determine possible relationships between men's assault of female partners with other sociological variables such as neighborhood variables and other correlated sociological variables.
Adult Psychological Variables

Adult psychological variables have been researched much more extensively than sociological variables in men’s assault of female partners. Studies of variables comparing men who do and do not assault their female partners show that the two groups vary on a number of psychological characteristics such as substance abuse, anger, depression, attitudes about women, attributions about women they are in relationships with, and type of personality disorder (e.g., Hamberger & Hastings, 1991). In comparisons of studies among men who assault their female partners, consistent differences have been found in the variables that assess the severity of marital violence, the generality of violence, and psychopathology or personality disorders (Holtzworth-Munroe & Stuart, 1994). These variables are discussed when reviewing studies of comparisons among men who engage in this type of violence.

Substance abuse.

The first psychological characteristic that is different in men who do and do not assault their female partners is substance abuse. Alcohol use has been consistently related to this behaviour in a number of cross-sectional studies (Leonard & Blane 1992; McKenry et al., 1995). Although alcohol problems are clearly related to physical aggression against wives, alcohol use “is neither a necessary nor sufficient condition for abuse to occur” (Heyman, et al., 1995, p. 46). Men’s hostility, marital discord, alcohol and other stressors were found to be associated with men’s assaults of their wives (Heyman et al., 1995). Interviews with women assaulted by their male partners support the view that alcohol alone does not cause this violence. These women report that men are violent toward them when they are sober as well as when drinking (McLeod, 1987; Walker, 1979). This assertion is further supported by the finding that only 23% of assaults in community couples were committed when the man was intoxicated (Pernanen, 1991).
The role of alcohol and personality variables in married men’s assault of wives appears to change over time. Prior to marriage and six months after marriage, alcohol consumption was significantly related to physical aggression (as reported by female partners) but this association weakened after six months of marriage and was not associated with violence at 18 and 30 month follow-ups (Heyman et al., 1995). Heyman et al. (1995) found an interactive relationship between heavy alcohol use and aggressive personality characteristics and men’s assault of female partners at an 18-month follow-up. However, this interactive relationship was not found at a 30-month follow-up. These results show that the relationship between alcohol use and men’s assault of female partners changes over time, although the reasons why are not known.

More serious female partner assault has been associated with alcohol and drug problems in a military population. Pan, Neidig, and O’Leary (1994) found that the existence of an alcohol problem increased the severity of female partner assault by 70%, and a drug problem increased the severity by 158%. Hanson et al. (1997) found higher alcohol abuse scores in severely violent men compared to men whose violence was moderately severe. The relationship between severity of female partner assault and severity of alcohol problems needs to be longitudinally investigated in non-military populations, and possible confounding variables (e.g., income, personality characteristics) need to be controlled.

Findings from research on the relationship between alcohol use and men’s assault of female partners are similar to those on the relationship between alcohol abuse and violence. Long-term drinking patterns (i.e., alcohol abuse) are more predictive of general violence than the use of alcohol before a violent incident (Hastings & Hamberger, 1997).

High rates of alcohol abuse in men self- or court-referred for treatment for assault of female partners provide further support for the association between alcohol problems and men’s female partner assault. Dutton and Starzomski (1994) found that 76% of identified partner
assaultive men reported alcohol problems and Cadsky and Crawford (1988) found that 40% met DSM-III criteria for alcohol abuse. In contrast, the prevalence of alcohol abuse in the U.S. is about 5% (American Psychiatric Association, 1994). Substance abuse and alcohol abuse are also considered risk factors in men's assault of female partners (Kropp et al., 1995; Saunders, 1993). Furthermore, alcohol is considered to be a stronger predictor of violent behaviour when it co-occurs with mental illness (Hastings & Hamberger, 1997). The available evidence supports the conclusion that alcohol and substance abuse are associated with female partner assault in men.

Anger and hostility.

Anger and hostility have been associated with increased female partner assault in men. As stated previously, men's hostility, marital discord, alcohol use, and other stressors were related to female partner assault (Heyman et al., 1995). There is sufficient evidence to conclude that men who assault their female partners are more angry and hostile towards their female partners, in both overt and covert ways, than men who do not engage in this behaviour (Jacobson & Gortner, 1997; Hastings & Hamberger, 1988), even when marital distress is controlled (Gortner et al., 1997). Assaultive men also express more contempt towards their female partners, which can be considered as an aspect of hostility (Gortner et al., 1997).

Men self- and court-referred for treatment for assault of their female partners differ in the amount of expressed anger and hostility. Saunders (1993) found differences in the amount of anger in three different types of female partner assaultive men. Saunders (1993) hypothesized that men who use violence towards female partners in an instrumental way (i.e., to create fear, gain compliance) do not express corresponding hostility. Men who are severely violent to their female partners, compared to men with less severe violence toward female partners, exhibited higher amounts of belligerence and contempt in arguments with female partners (Gottman, et al.,
Thus, there is evidence that there are differences in the severity of expressed anger and hostility expressed towards female partners among these men.

**Head injury.**

Research has shown a relationship between head injury and aggression (Kavoussi, Armstead, & Coccaro, 1997). However, some research does not find a relationship between head injury and spousal assault (Warnken, Rosenbaum, Fletcher, Hoge, & Adelman, 1994), whereas other research does (Rosenbaum, Hoge, & Adelman, 1994). Better-controlled research, which controls for confounds such as antisocial personality disorder (which includes disregard for safety of self and impulsivity), will help provide clearer evidence. More research appears necessary to reconcile contrasting findings. Finally, a correlation between head injury and aggression (and spousal assault) cannot be interpreted as evidence that head injury is responsible for aggression (Kavoussi et al., 1997).

**Depression.**

Higher than normal rates of depression has been found in men who assault their female partners. Moderate levels of depression, as assessed with the Beck Depression Inventory, have been found in men who are self- and court-referred for treatment for female partner assault (Cadsky & Crawford, 1988, Hanson et al., 1997). Men who assault their female partners, compared to men who do not, have elevations on the depression subscale of the MCMI-I (Hastings & Hamberger, 1988). The same pattern on a subscale of depression has emerged in data collected with the Basic Personality Inventory (Barrera, Palmer, Brown & Kalaher, 1994). Increased depression has been related to increased violence severity in military samples (Pan et al., 1994), but this relationship has not been studied in non-military populations.
While the depressive symptomatology reported by most female partner assaultive men is higher than men who do not assault their female partners (e.g., Hanson et al., 1997; Hastings & Hamberger, 1988), it often fails to meet diagnostic thresholds for depression (Gortner et al., 1997). It is also difficult to determine whether some of the higher levels of depression are the result of situational variables such as arrest, separation or low self-esteem (Saunders, 1996) or even marital distress. In sum, adequate evidence exists to suggest that men who assault their female partners have higher amounts of depressive symptomatology than men who do not assault their female partners do. It is important to note that it is not clear whether higher amounts of depressive symptomatology are a result or cause of this violence.

Relationship factors.

Marital distress in female partner assaultive men may be related to anger, hostility, and depression (Jacobson & Gortner, 1997). Marital distress and marital satisfaction have not been consistently measured in studies comparing men who do, and do not assault their female partners (e.g., Dinwiddie, 1993; Hastings & Hamberger, 1988; LaTina Wonderlich, Beatty, Christie, & Staton, 1993). However, research that has included measures of marital distress and satisfaction have found differences between men who do, and do not assault their female partners (Barrera et al., 1995; Hanson et al., 1997). Some researchers argue (Gortner et al., 1997; Jacobson & Gortner, 1997) that differences in depression and anger between men who do, and do not assault their female partners are the result of marital distress, but this has not been studied longitudinally.

The relationship between attitudes and men’s assault of their female partners is unclear. Some research has not found any relationship between men’s assault of female partners and self-reported traditional sex-role beliefs, patriarchal beliefs, or dyadic power (Hotaling & Sugarman,
1990; Saunders, 1993; Smith, 1990). However, the specific attitude of approval of men’s violence in marriage was a stronger predictor of female partner assault than lower levels of egalitarianism and higher levels of marital distress (Kaufman-Kantor, Jasinsky, & Aldorondo, 1994; Saunders, Lynch, Grayson, & Linz, 1987). This remains to be studied in non-married samples.

The relationship between men’s unrealistic expectations of their female partners, and negative attributions about their female partners has not been adequately researched in men’s assault of female partners. Unrealistic assumptions and negative attributions have been postulated as having a causal role in men’s assault of female partners.

When these expectations are not met they may be prone to assign negative intentions, selfish motivation, and blame onto their wives. These attributions form the fuel of chronic anger and frustration that increase the risk of violence (Dutton & Starzomski, 1993; Holtzworth-Munroe & Stuart, 1994, op. cit. Gortner et al. 1997).

Thus, unrealistic expectations are hypothesized to result in negative attributions, increased anger and arousal that may result in female partner assault.

A review of the personality characteristics of men who do, and do not assault their female partners, demonstrates that men who assault their female partners have higher levels of substance abuse, anger, hostility, depression, relationship distress, and attitudes supportive of the use of violence toward wives in marriage.

In addition to the personality characteristics reviewed, personality disorders have been widely researched in men who assault their female partners. Men who assault their female partners show more personality disorders than men who do not engage in this behaviour (e.g., Hamberger & Hastings, 1991). (Evidence demonstrating this difference is presented in a later section.) However, “no personality disorder diagnosis or cluster has emerged consistently that discriminates between violent and non-violent men” (Gortner et al., 1997, p. 344). Although the
personality features and disorders of men who assault their female partners are considered somewhat diffuse (Jacobson & Gortner, 1997), evidence suggests some reliable differences among this population (e.g., Holtzworth-Munroe & Stuart, 1994; Saunders, 1992). Research on reliable differences among this population has led to the development of typologies of personality disorders and personality characteristics (e.g., Cadsky & Crawford, 1988; Gondolf, 1988; Gottman et al., 1995; Rothschild, Dimson, Storaasli, & Clapp, 1997).

Prior to reviewing evidence of personality disorders and typologies of men who assault their female partners, methodological and conceptual issues that limit conclusions that can be drawn from these areas of research are discussed. Reviews of the personality disorders and typologies of men who assault their female partners follow these issues.

Measurement Issues in Personality Disorders and Typology Research

The central measurement issue in personality disorder research in men who assault their female partners is how personality disorders have been assessed. The primary measure (the Millon Clinical Multiaxial Inventory-II) that has been used to assess personality disorders in this population appears to overestimate the incidence of personality disorders in this population (e.g., Hart et al., 1993). Thus, research using this measure may result in the overestimation of personality disorders in this population. This measurement issue is also relevant to typology research because personality disorder assessment results have been used in typology development.

In brief, typologies are a structural classification of entities (e.g., individuals) into homogeneous and discrete subgroups on the basis of similarity of properties, which do not merely reflect general dimensions or factors (e.g., Lorr, 1994; Meehl, 1995). Therefore, a typology describes a number of homogeneous and discrete subgroups.
Personality disorders have been widely studied in men who assault their female partners with the Millon Clinical Multiaxial Inventory-II (e.g., Beasley & Stoltenberg, 1992; Dutton & Starzomski, 1993; Hastings & Hamberger, 1991; Murphy et al., 1993). The Millon Clinical Multiaxial Inventory-II (MCMI-II) is a 175-item self-report questionnaire that assesses clinical disorder and personality disorder constructs similar to Axis I and Axis II Diagnostic and Statistical Manual disorders in DSM-III-R (Choca & Van Denberg, 1997; Millon, 1992). Scores over 75 indicate the presence of a particular characteristic, and those above 85 define a characteristic as a predominant feature in one’s personality. (The MCMI-III, introduced in 1994, has been used once with partner assaultive men by Gondolf [1999].)

The MCMI was developed for a psychiatric population (Millon, 1987). It is not clear that men who assault their female partners comprise a psychiatric population. The definitional boundaries of “mental disorders” (American Psychiatric Association, 1994) and “psychiatric” group membership are also unclear. One way of conceptualizing membership in a psychiatric population is by both the degree of impairment and degree of treatment necessity (Widiger & Corbitt, 1994). In psychiatric populations, it may be assumed that there is marked impairment in social or occupational functioning and hospitalization is necessary (Widiger & Corbitt, 1994). This does not seem to be the case with the majority of men who assault their female partners. Psychiatric treatment does not appear to be strongly advised in treatment programs for men who assault their female partners. In fact, no inpatient psychiatric treatment is listed in recent Canadian or U.S. surveys of treatment programs for men who assault their female partners (Health Canada, 1998; Williams & Becker, 1994).

The use of the MCMI in a non-psychiatric population may not fit with the groups targeted by the MCMI’s norms (Millon, 1987). “From a purely statistical standpoint, the test would be expected to over-diagnose problems with the non-psychiatric examinee” (Choca & Van Denberg,
1997, p. 7). Thus, if men who assault their female partners were considered a non-psychiatric population, the MCMI would over-diagnose the presence of personality disorders in this population. Furthermore, half of the men who assault their female partners are hypothesized to not have a personality disorder (Holtzworth-Munroe & Stuart, 1994), and this half could in no way be considered members of a psychiatric population, and the use of the MCMI would be inappropriate with them.

Some empirical evidence supports the view that the MCMI-II, compared to interview-based methods, overestimates the incidence of Diagnostic and Statistical Manual personality disorders (Hart et al., 1993) in self- and court-referred men who assault their female partners. Compared to the interview-based Personality Disorder Examination (Loranger, 1988), the MCMI-II produced a rate of 90% for any personality disorder in self- and court-referred men, whereas the Personality Disorder Examination (PDE) produced a significantly lower rate of personality disorder of 50% for both groups (Hart et al., 1993). In this study, 52% of men were court-referred and 48% were self-referred.

The MCMI-II appeared to overestimate the number of personality disorders in men who assault their female partners. The MCMI-II produced an average of 4.30 personality disorder diagnoses; the PDE produced 1.12 (Hart et al., 1993).

The MCMI-II produced different personality disorder diagnoses than the PDE. Only the personality disorders of antisocial (29.4%), sadistic (26.5%), and borderline (23.5%) were diagnosed with sufficient frequency in female partner assaultive men with the PDE (Hart et al., 1993). The MCMI-II produced personality disorder diagnoses of antisocial (44.1%), sadistic (50.0%), borderline (38.2%), and avoidant (35.3%), narcissistic (29.4%), passive-aggressive (52.9%), histrionic (14.7%), self-defeating (14.7%), and schizotypal (14.7%).
Hart et al. (1993) note that the prevalence rates of personality disorders produced in their study are likely conservative as the study population did not include men rejected from treatment for severe pathology or total denial of violence. Another limitation of this study is that the findings may also not generalize to men who are not self- or court-referred for treatment for assault of female partners.

In sum, the results of this study suggest that the MCMI-II, compared to an interview-based assessment of DSM personality disorder criteria, overestimates the incidence and number of personality disorders in men who assault their female partners. Other research comparing the MCMI-II to other interview-based measures suggests that the MCMI-II overestimates the presence of personality disorders in non-psychiatric populations. Compared to the interview-based Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II; First, Spitzer, Gibbon, Williams, & Benjamin, 1994), the MCMI-II showed poor to good sensitivity (correct diagnoses) and inadequate specificity (incorrect diagnosis) in the diagnosis of personality disorders (Marlowe, Husband, Boniskie, Kirby, & Platt, 1997).

Further support of the MCMI-II's overestimation of personality disorder in men who assault their female partners comes from research using the MCMI-III. The MCMI-III is considered an improvement over the MCMI-II and to be more applicable to this population (Gondolf, 1999). In a large sample study (N = 840) of court-referred men, Gondolf (1999) found that 48% of the men had MCMI-III scores suggestive of a personality disorder (85 and above). This finding is substantially lower than the 90% finding using the MCMI-II, and is similar to the 50% finding using the interview-based PDE (Hart et al., 1993). Since Gondolf's (1999) study population was all court-referred whereas Hart et al.'s (1993) was 52% court-referred, results of these two studies are not directly comparable.
In sum, use of the MCMI-II with men who assault their female partners does not appear to be appropriate or applicable. Compared to interview based methods, the use of the MCMI-II in research with men who assault their female partners appears to over-estimate the incidence of personality disorders in men who assault their female partners. Previous research findings using the MCMI-II need to be interpreted cautiously and with the view that the presence of personality disorders are overestimated. The use of more conservative methods in personality disorder assessment with men who assault their female partners is indicated.

The difficulties in using the MCMI-II with men whom assault their female partners and its overestimation of personality disorders has implications for its use in typology research. A number of studies of typologies in this population have used the MCMI-II (e.g., Cadsky & Crawford, 1988, Hamberger, Lohr, Bonge, & Tolin, 1996b, Saunders, 1992). The main issue is the degree to which the MMCI-based personality disorder typologies validly reflect personality disorders. The typologies that have been developed are likely not based upon valid estimates of the incidence and type of personality disorders. The use of personality assessment instruments other than the MCMI-II has been recommended (Hamberger et al., 1996b).

**Personality Disorders in Men Who Assault their Female Partners**

One important difference between men who do and do not assault their female partners is that men who do assault their female partners show significantly more personality pathology, and are diagnosed with a range of personality disorders, as assessed with a few different personality measures (e.g., Dinwiddie, 1992; Murphy et al., 1993; LaTina et al., 1993). The types of measures used range from the MCMI (Hastings & Hamberger, 1988; Hamberger & Hastings, 1991), MCMI-II (Beasley & Stoltenberg, 1992), the Minnesota Multiphasic Personality
Inventory (LaTina et al., 1993), the Home Environment and Lifetime Psychiatric Evaluation Record (Dinwiddie, 1992), and the MCMI-III (e.g., Gondolf, 1999).

A second difference is that there appear to be some differences in the proportion of personality disorders in men who assault their female partners (Dinwiddie, 1992; Hastings & Hamberger, 1988; Hart et al., 1993). Some of these differences may be a result of the use of different measures used in the assessment of personality disorders. Findings from studies using the MCMI are not consistent with the few studies using the MMPI. A study using the MMPI found elevations on hypomanic and psychopathic deviate subscales for men who assaulted their female partners (LaTina et al., 1993). As demonstrated previously, the use of the MCMI-II appears to result in overestimation of the incidence of personality disorders compared to interview-based methods.

In studies that have used versions of MCMI, different personality disorder subscales are elevated in different studies, and there are not consistent findings across studies (e.g., Hastings & Hamberger, 1988; Murphy et al., 1993). Some of the lack of consistency may be a result of the different study samples. Some studies have used the MCMI-I (Murphy et al., 1993) with primarily court-referred men who assault their female partners, whereas others have not reported the proportion of court-referred participants (Hamberger & Hastings, 1986).

Other studies have reported MCMI-I and MCMI-II findings for samples of self- and court-referred men without comparison to men who do not assault their female partners (Dutton & Starzomski, 1994; Hart et al., 1993). It is not possible to integrate findings from studies comparing men who do and do not assault female partners, and studies comparing types of female partner assaultive men, e.g., self- and court-referred.

Thus, although there may appear to be some consistency among findings comparing men who do and do not assault their female partners on types of personality disorders, differences in
samples (i.e., self- and court-referred, military samples), measures (e.g., MCMI-I, MCMI-II, MMPI), and methodologies limits the degree to which these findings can be integrated. Furthermore, the MCMI-II is presumed to overestimate the presence of personality disorders, which weakens confidence in findings produced with it. Further research is necessary to ascertain potential reliable and valid differences in personality disorders in men who assault their female partners.

Additional Measurement and Methodological Problems

A methodological issue in personality disorders and typology research is the interpretation of the measurement issues described in personality disorder assessment. The incidence and type of personality disorders in men who assault their female partners, as assessed with the MCMI-II, are likely overestimates of the prevalence and may not reflect the types of personality disorders that may exist in this population.

The other important methodological issues are specific to typologies. As described previously, a typology is a classification of entities into homogeneous and discrete subgroups on the basis of similarity of properties (c.f. Lorr, 1994; Meehl, 1995). Typologies are useful in theory development (Simon, Sales, Kaszniak, & Kahn, 1992), contribute to the understanding of etiological variables in subgroups (Venaziano & Venaziano, 1995) and improving intervention practice (Hutton & Miner, 1995). The main methodological issues in typology research with men who assault their female partners are (a) what variables are selected in the development of a typology, and (b) how typologies are developed and validated.

The variables selected in typology development studies vary (e.g., Gondolf, 1988; Saunders, 1992; Tweed & Dutton, 1998). Variables have been selected in these studies based on a priori theoretical reasons and/or clinical observations. Studies that integrate personality
characteristics and other psychological variables within typology studies are rare, with two exceptions. Holtzworth-Munroe and Stuart (1994) have established that men who assault their female partners vary upon three major dimensions and eight primary variables. Holtzworth-Munroe and Stuart (1994) logically and comprehensively reviewed two types of studies of personality characteristics and typologies of men who assault their female partners. The two types of studies reviewed were (a) studies of personality characteristics selected based upon clinical observation and *a priori* theoretical speculation, and (b) studies that used cluster analysis or factor analysis to identify subgroups. Holtzworth-Munroe et al. (2000) also conducted an empirical test of the Holtzworth-Munroe and Stuart (1994) theoretical model.

The three dimensions that men who assault their female partners were found to vary upon were the severity of marital violence, the generality of violence, and psychopathology or personality disorders. The eight variables that men who assault their female partners were found to vary upon were the severity of physical violence, psychological abuse, sexual abuse, extrafamilial violence, criminal behaviour and legal involvement, presence and type of personality disorder, substance abuse, depression, and anger (Holtzworth-Munroe & Stuart, 1994).

Different typology development studies have not always included all relevant variables that these subgroups of these men are known to vary upon (Holtzworth-Munroe & Stuart, 1994). Thus, typology development studies need to assess the key variables that men who assault their female partners are known to vary upon.

The final conceptual issue in typology research with men who assault their female partners is how typologies are developed and validated. A strength of typology development studies is the use of empirical methods (i.e., cluster and factor analysis). The major weakness in typology research is the lack of replication studies. At present, only one study has attempted to
investigate the validity of a previously developed typology. Numerous researchers have recommended replication studies (Gondolf, 1988, Hamberger et al., 1996b; Rothschild et al., 1997; Saunders, 1992), yet replications are very rare.

**Typologies in Men Who Assault their Female Partners**

As described previously, typologies are classifications of homogeneous and discrete subgroups of entities. Typologies of men who assault their female partners have utility in theory development, contribute to the understanding of etiological variables in subgroups, and intervention improvements. The development of typologies in men who assault their female partners is relatively recent.

Although further research is required to establish the existence and replicability of typologies of men who assault their female partners, there are four important reasons why typologies of these men are useful. First, these typologies would lead to increases in the theoretical understanding of the causes of this behaviour in general and for subgroups of these men (Gondolf, 1988). Second, it would be possible to determine what types of treatment are best for certain types of men who assault their female partners (Saunders, 1992). Third, knowledge that there are differences in the amount and severity of physical abuse among subgroups of these men would lead to the development of more appropriate community treatment and criminal justice interventions, including differential probation supervision, imposition of no-contact orders, and safety planning with victims (Hamberger et al., 1996b). Fourth, further information on the correlates of men’s partner assault of women in general and for subgroups of these men, improves the understanding of risk factors for this violence (Holtzworth-Munroe and Stuart, 1994).
Some research suggests that different subgroups of men who assault their female partners respond differently to different types of treatment. Saunders (1996) found a relationship between personality characteristics and treatment outcome, and personality characteristics and disorders interacted with type of treatment. Men with antisocial characteristics were less likely to be violent at 18-month follow-up if they attended the feminist cognitive-behavioural treatment group, whereas men with dependent characteristics had better outcomes with a process psychodynamic-oriented treatment group (Saunders, 1996). Dutton, Bodnarchuk, Kropp, Hart, and Ogloff (1997a) found that elevations on MCMI-II indices of borderline, avoidant, and antisocial personality disorder were predictive of poorer treatment outcome on indices of physical violence and psychological abuse.

Researchers have found high overall rates of personality disorders in men who assault their female partners (e.g., Hart et al., 1993). Researchers have also found some variability in the types of disorders found in men who assault their female partners. Findings of variability in the types of disorders have led researchers to investigate the presence of subgroups of these men with particular personality disorders, as well as psychological and behavioural characteristics (e.g., Hamberger & Hastings, 1986).

There have been some differences in the samples, measures and methodologies in research on typologies of men who assault their female partners. However, since there is some convergence of findings in this research, it provides some evidence that typologies of men who assault their female partners exist. The research methods and findings of different typology studies are reviewed to assess the similarities in typologies of men who assault their female partners.
Two studies developed typologies based on socio-demographic, behavioral, and attitudinal and personality variables (Cadsky & Crawford, 1988; Saunders, 1992). Cadsky and Crawford (1988) examined the personality, socio-economic, demographic, family background, levels of violence, depression, and attitudes of 172 identified female partner assaultive men. The variables with bimodal and skewed distributions (anger, depression, general violence, severity of violence to partner, attitudes toward women, and alcohol use) were selected for inclusion in cluster analysis. Bimodal and skewed distributions were considered indicative of subgroups on certain variables. Two types of batterers emerged – “partner-only” batterers (62%), and “mixed” batterers (38%), who also assaulted other men (at rates less than with which they assaulted their partners).

Partner-only and mixed batterers were not different on measures of education, academic performance, income, employment status or depression. Partner-only batterers were more likely to be two years older, legally married (53% vs. 35%), and in their current relationship longer (7 vs. 5 years), compared to mixed batterers (Cadsky & Crawford, 1988). No significant differences were found in the quality of the relationships between the two types.

Based on self-reports, mixed batterers, compared to family-only batterers, had higher rates of violence to previous partners (56% vs. 29%), used more overall and severe violence in their relationships, and had higher scores on measures of hostility and dyscontrol. Mixed batterers had lower scores on self-esteem. There were no differences on a measure of depression, and the levels of depression were not elevated (Cadsky & Crawford, 1988). This study did not use a standardized scale of personality, except for clinical diagnoses of possible antisocial personality disorder. “Mixed” batterers were more likely to meet DSM-III criteria for antisocial personality disorder, compared to “partner-only” batterers (30% and 8% respectively).

Saunders (1992) examined psychological and behavior data from 165 identified female partner assaultive men. Cluster analysis of twelve variables (depression, anger, generalized violence, severity of partner violence, attitudes toward women, alcohol use, marital satisfaction, psychological abuse, marital conflict, impression management, childhood abuse, and arrests for drunk driving) revealed three categories, in the corresponding percentages: (1) “family-only” - 52%, (2) “generally violent” - 29%, and (3) “emotionally volatile” - 19% (Saunders, 1992). The amount of variance accounted for by assignment to the three categories was 90.4%, and the correct rate of classification to each of the three groups using the 12 variables as predictors was 93.3% (Saunders, 1992).

“Family-only” batterers had high scores on a measure of social desirability. Scores on anger, depression, and jealousy were adjusted for the high score on social desirability. Comparison of the adjusted scores for family-only batterers with the other two groups showed no differences in anger, depression, and jealousy. The family-only group reported the lowest scores on psychological abuse, marital conflict, and the highest level of marital satisfaction.

“Generally violent” batterers had the highest scores for violence outside of the home. They had the lowest scores on depression and anger. Their violence was usually associated with alcohol use, and they reported the most frequent use of severe violence. Their reports of marital satisfaction and conflict were moderate compared to other batterer categories. Their attitudes about sex roles were more rigid than family-only batterers. They also had high rates of arrest for drunk driving.

“Emotionally volatile” batterers reported the highest levels of anger, depression, and jealousy. They reported being severely violent less often than generally violent batterers. They
had the same levels of psychological abuse and satisfaction in their relationships as generally violent batterers. They reported infrequent alcohol use associated with their violence.

A strength of this study is the use of standardized measures to measure a number of variables, including variables from the three basic dimensions that this population has been found to vary upon – the severity of marital violence, generality of the violence, and psychopathology/personality disorders. A shortcoming of this study is that it did not include a measure of personality disorders. The primary weakness of this study is that cluster analysis was used on variables that were not norm-referenced. This population is known to have, for example, higher rates of anger and hostility, which could be indexed to normative data to permit determination of relative severity and allow for comparisons across typology studies. This would also increase the validity of the typologies that are developed.


Gondolf (1988) developed a typology of men who assault their female partners from six variables (physical abuse, verbal abuse, blame after abuse, substance abuse, general violence and previous arrests) derived from intake interviews at a battered women’s shelter. The variables were derived from 84-item intake interviews with over 6,000 women in Texas battered women’s shelters. Variable scores were sums of the presence of women’s reports of the abuser’s behaviour. The six index variables were cluster analyzed, and resulted in a three-cluster solution with significant differences across clusters. The clusters were named “sociopathic” (7%), “antisocial” (41%), and “typical” (52%) batterers. Sociopathic batterers had extremely high scores on physical abuse to their female partners and children, high rates of verbal abuse, and had sexually abused their female partners. This cluster had a long arrest history of property, violent, and drug/alcohol crime. Antisocial batterers had used extreme verbal and psychological abuse to
female partners. Although the antisocial batterer is generally violent, he is less likely to have been arrested than the sociopathic batterer. The typical batterer had lower scores on measures of verbal, physical sexual abuse and abuse towards children. The typical batterer had the least general violence and arrests (Gondolf, 1988).

An important characteristic of this study is the sample from which it was developed. The female partners who needed to take refuge in a shelter for battered women may have been in relationships with the most severely violent partner assaultive men. Previous studies that have used self- and court-referred batterers found a small proportion of antisocial batterers. Importantly, the percentage of female partner assaultive men with moderate levels of physical and verbal abuse identified in other subgroups named “family-only” batterers is very similar – approximately 50%.

Hamberger and Hastings (1986).

Hamberger and Hastings (1986) derived the first typology with factor analysis of the Basic Eight MCMI scores (asocial, avoidant, submissive, gregarious, narcissistic, aggressive, conforming, and negativistic). MCMI data was collected from 99 men in treatment for assault of female partners (the proportion of self- and court-referred men was not reported). Factor analysis revealed three key personality factors. These were schizoidal/borderline, narcissistic/antisocial, and passive-dependent/compulsive. These three factors accounted for 44%, 25%, and 11% (80% total) of the factor variance, respectively. The descriptions of the three key personality factors can be compared to results from other studies.

Eight subgroups were developed by assigning each subject to the eight possible combinations of scores on the three factors. Each subgroup was comprised of 10 to 16 participants per group. Seven of the subgroups exhibited psychopathology, whereas the eighth,
comprising 12% of the sample, did not exhibit any MCMI personality pathology elevations. This assignment resulted in groups that can be described as (1) borderline personality; (2) narcissistic or antisocial personality disorder; (3) dependent or compulsive; (4) extremely aggressive and unpredictable antisocial, (5) intensely conflicted, extremely frustrated and dysphoric borderline syndrome, (6) narcissistic and manipulative, oversensitive to rejection and dependent, (7) dependent, anxious, moody, dejected, and occasional impulsive angry outbursts, and (8) self-confident, assertive, without clear pathology.

Rothschild et al. (1997).

A recent study cluster analyzed the MCMI-II profiles of 183 identified U.S. military veteran males (Rothschild et al., 1997). The median age for this group was 40-49 (the mean was not reported); this group is older than most identified samples, which are in the low 30s. The only MCMI-II subscale that exceeded the base rate cut-off score of 75 was narcissism. The names given to the clusters and the proportion in each group are as follows: subclinical narcissism (28%), narcissistic personality disorder (47%), and high general psychopathology/substance dependence (25%). The subclinical narcissism group had the lowest MCMI-II subscale scores except the scales labeled desirability, histrionic, narcissistic, and compulsive, which were lower than the narcissistic personality disorder group and higher than the high general psychopathology/substance dependence.

The narcissistic personality disorder group had high scores on narcissistic, desirability, antisocial, dependent, histrionic, compulsive and aggressive/sadistic subscales, with only the narcissistic subscale exceeding a score of 75. The high general psychopathology/substance dependence group had passive-aggressive, avoidant, dysthymic disorder, self-defeating,
antisocial, schizoid, aggressive/sadistic, alcohol dependence, drug dependence, anxiety disorder, and schizotypal scale scores that exceeded 75.

In sum, the first group, subclinical narcissism, did not have any clinical elevations, indicating personality disorders, on MCMI-II scales. The second group, narcissistic personality disorder, had one clinical elevation and the third group, high general psychopathology/substance dependence group, had a number of clinical elevations. The authors (Rothschild et al., 1997) felt that their MCMI-II profile typology was consistent with the Holtzworth-Munroe and Stuart’s (1994) three group typology (discussed in the introductory chapter and later in this section). The findings are similar in that the first group did not show elevated personality disorder subscale scores. However, the second group’s personality profile was predominantly narcissistic, whereas Holtzworth-Munroe and Stuart’s (1994) second type is comprised of dysphoric-borderline personality disorder. Rothschild et al.’s (1997) third category is generally similar to Holtzworth-Munroe and Stuart’s (1994) third type, as the third type is considered likely to have antisocial personality disorder or psychopathy. Most importantly, similarity was found between two of three of Rothschild et al.’s (1997) personality typology groups and those of Holtzworth-Munroe and Stuart (1994).

Gottman et al. (1995).

As presented in the introductory chapter, Gottman et al. (1995) investigated the arguments of 60 severely maritally violent couples and proposed that heart-rate reactivity differentiated between two types of partner assaultive men. Twenty percent of the men \((n = 12)\) were found to show marked deceleration in heart rate activity in laboratory arguments, which was considered suggestive of focused attention in their violent behaviour outside the laboratory.

These men had higher rates of extra-familial violence, scored higher on scales of antisocial
behaviour and sadistic aggression, and lower scores of dependency. The other men (80%) showed increased heart rate activity (Gottman et al., 1995).

The results of this study cannot be considered to generalize to the complete population of men who assault their female partners, as the study was likely conducted with a severely violent subgroup of the population of spousal assaulters. Although the results may describe this severely violent subgroup, it has been criticized on a number of conceptual and methodological grounds. The main criticism is that the measures used to code affective responses had low inter-rater reliability (.56). Secondly, it is not generally found that psychopathic and criminal persons have deceleration in heart rate in responses to stimuli, and that the baseline heart rate measured in the study may not have been the "true" baseline of the men in the study (Margolin, Gordis, Oliver, & Raine, 1995; Ornduff, Kelsey, & O'Leary, 1995). However, the results of the Gottman et al. (1995) study are considered to be a contribution to further understanding of men who assault their female partners due to the classificatory strengths of heart rate on its own, and the interactional and individual characteristics in this populations warrants further study (Margolin et al., 1995).


Tweed and Dutton (1998) explored the psychological differences between two types of men who assault their female partners. Two groups of men were selected. The first group was men with elevated MCMI-II antisocial subscale scores and high severe physical violence to female partners. This group was labeled the instrumental subgroup, and was intended to consist of the generally violent-antisocial batterer described by Holtzworth-Munroe and Stuart (1994). The second subgroup was comprised of elevated MCMI-II borderline personality, schizoid personality, and major depression subscale scores. This subgroup was labeled impulsive, and was
intended to consist of the dysphoric-borderline batterer described by Holtzworth-Munroe and Stuart (1994).

The MCMI-II subscale scores chosen to comprise the instrumental and impulsive men who batter may not consist of discrete generally violent-antisocial and dysphoric-borderline subgroups. Comparison of group mean subscale scores for the instrumental and impulsive groups reveals that the highest subscale mean score for the impulsive group is antisocial (84), whereas this score is 89 for the instrumental group. The difference in this subscale score is not significant. Secondly, according to Holtzworth-Munroe and Stuart (1994), the physical violence of the generally violent-antisocial and dysphoric-borderline subgroups is considered to be moderate to severe. Thus, Tweed and Dutton’s (1998) selection of the instrumental subgroup may include some men who may be members of the dysphoric-borderline group.

The impulsive subgroup had a significantly higher anger score than the instrumental group, and the instrumental group had higher physical violence scores compared to the impulsive subgroup. However, other indices (psychological and sexual abuse, extrafamilial violence, criminal behaviour) that the subgroups may differ on in ways consistent with Holtzworth-Munroe and Stuart’s (1994) were not investigated. There were no significant differences between the subgroups on MCMI-II subscales of alcohol or drug dependence, whereas the dysphoric-borderline subgroup is hypothesized to have moderate levels of substance abuse, and the generally violent-antisocial subgroup is hypothesized to have high levels of substance abuse (Holtzworth-Munroe & Stuart, 1994). An overall weakness of this study is the use of the MCMI-II to assess personality disorders and characteristics. The use of the MCMI-II would likely have resulted in greater differences in personality disorders than what may exist.
As described previously, in brief, Holtzworth-Munroe and Stuart (1994) logically reviewed the research on personality and behavioural characteristics of men who assault their female partners. Two types of studies were reviewed: (a) studies of personality characteristics selected based upon clinical observation and *a priori* theoretical speculation, and (b) studies which used cluster analysis or factor analysis to identify subgroups. In comparing results of these studies, these authors made the logical conclusion that overall, both types of studies showed that men who assault their female partners differed upon three major dimensions: the severity of marital (or relationship) physical violence; generality of violence; and degree of psychopathology/personality disorders. In order to make comparisons between studies, Holtzworth-Munroe and Stuart (1994) rated the study findings as being low, moderate or severe on the three major dimensions described above. Due to differences in study samples, measures and methodologies, only these general ratings were possible.

A logical analysis of these ratings for all studies resulted in the conclusion that three discrete types of female partner assaultive men existed in the approximate following proportions: 50% family-only, 25% dysphoric-borderline, and 25% violent-antisocial (Holtzworth-Munroe & Stuart, 1994). These authors then proposed variables upon which to assess the three major dimensions that men who assault their female partners vary upon. These variables had also been assessed in a number of studies of characteristics of men who assault their female partners. These variables were severity of physical violence, psychological and sexual abuse, extrafamilial violence, criminal behaviour/legal involvement, personality disorder, alcohol/drug use, depression, and anger.

Family-only batterers are described as engaging in the least severe marital violence and the least likely to engage in psychological and sexual abuse. The violence of this group is
generally restricted to family members; these men are the least likely to engage in violence outside of the home or to have related legal problems. Also, they evidence little psychopathology, and either no personality disorder or a passive-dependent personality disorder.

Dysphoric-borderline batterers should be found to engage in moderate to severe wife abuse, including psychological and sexual abuse. This group’s violence is primarily confined to the family, although some extra-familial violence and criminal behaviour may be evident. These men are the most psychologically distressed, dysphoric, and emotionally volatile. They may evidence borderline and schizoidal personality characteristics and may have problems with substance abuse.

The generally violent-antisocial batterers engage in moderate to severe marital violence, including psychological and sexual abuse. These men should engage in the most extra-familial aggression, and have the most extensive history of related criminal behaviour and legal involvement. They are likely to have problems with alcohol and drug abuse, and are the most likely to have an antisocial personality disorder or psychopathy.

With the exception of the Gottman et al. (1995) study, some key commonalities exist in the psychological and behavioural typologies reviewed. First of all, across studies and samples, approximately 50% of identified men are best described as family-only batterers who have lower rates of abuse towards partners, a lack of personality disorder, and less generalized violence. Second, the other groups of female partner assaultive men appear to comprise two distinct groups that are similar in their degree of relationship violence, although one group uses higher amounts of generalized violence. Finally, personality pathology exists in these two groups, but the type of personality pathology (e.g., dependent, antisocial) is not clear.

The results of the Tweed and Dutton (1998) study provide some support for differences between dysphoric-borderline and generally violent-antisocial subgroups in their levels of anger,
and on measures on MCMI-II subscales of schizoid and depression personality variables in ways consistent with Holtzworth-Munroe and Stuart’s (1994). Further research is indicated to provide evidence of reliable differences between dysphoric-borderline and generally violent-antisocial subgroups.

In sum, the existing typology studies, including Tweed and Dutton’s (1998), do not clarify the composition of the second and third types of men who assault their female partners. The characteristics of the second and third types are best clarified through further research that addresses the weaknesses of previous studies. Studies investigating the validity of typologies are reviewed next.

Typology Validation Studies

Hamberger et al. (1996b).

Hamberger et al. (1996b) attempted to validate the Holtzworth-Munroe and Stuart (1994) typology. The primary advantages of this study are the use of a large identified sample ($N = 800$), standardized assessment of personality characteristics, severity of violence and verbal abuse, depression, anger, and socially desirable responding. Interview data was collected on levels of extra-familial violence and alcohol and drug use. The weaknesses of this study are that standardized measures were not used to assess the degree of substance abuse and extrafamilial violence, the degree of sexual violence was not assessed, and the MCMI-I was used in the assessment of personality disorders. A fundamental weakness was that, of the eight variables that this population is known to vary upon, only the data from personality disorders variables (subscales of the MCMI-I) were cluster analyzed.

The cluster analysis of the MCMI’s basic eight personality scores revealed six clusters, but three clusters comprised less than 5% of the sample, and are not be discussed in detail. The small number of men in these clusters did not allow for statistical comparisons. In brief, the
fourth cluster \((n = 33)\) showed elevations on MCMI-I subscales of schizoidal/asocial, avoidant, dependent-submissive, and passive aggressive-negativistic scales. This cluster appeared to be an exaggerated version of Cluster 1 (Hamberger et al., 1996b). The fifth cluster \((n = 43)\) had elevations on the avoidant, antisocial-aggressive, and passive-aggressive-negativistic subscales. The sixth cluster \((n = 29)\) had elevations on schizoidal-asocial, avoidant, and dependent subscales. The fifth and sixth cluster were not elevations of larger clusters.

Of the three major clusters, the first \((21.2\%)\) had scores over 75 on the dependent-submissive and passive-aggressive-negativistic MCMI-I scales. The second cluster \((30.5\%)\) had scores approaching 85 on narcissistic and antisocial-aggressive and a score of over 75 on histrionic-gregarious. Cluster 3 \((48.2\%)\) did not have any scores over 70 (Hamberger et al., 1996b). Cluster 3 had the lowest alcohol/drug abuse problems compared to the other two clusters. Clusters 1 and 2 did not have different scores on alcohol/drug abuse. The target variable of assault, however, had a limited range (as rated on ordinal scales in clinical interviews) and limited comparisons between groups. Cluster 3 men were the most likely to restrict their violence to intimate partners and were the least likely to assault non-family members. Cluster 1 men scored in the moderate range on these variables. Cluster 1 had significantly higher levels of substance abuse problems and depression than Clusters 2 and 3. Cluster 1 men had average generalized violence scores between men in Clusters 2 and 3. Cluster 1 men exhibited higher rates of partner violence than Cluster 2, but higher rates of extrafamilial violence than in Cluster 3.

Hamberger et al. (1996b) report that their results for Cluster 1 and 2 do not match the characteristics of Holtzworth-Munroe and Stuart’s (1994) dysphoric-borderline and generally violent-antisocial groups. They found that alcohol abuse rates were higher in Cluster 1, and both Cluster 1 and 2 had similar drug abuse scores, whereas Holtzworth-Munroe and Stuart report that
Cluster 1 should have moderate alcohol/drug scores and Cluster 2 should have high alcohol/drug scores. The difference may be a result of the lack of use of a standardized measure without a restricted score range. Furthermore, Cluster 1 men did not differ significantly from Cluster 2 on the measure of anger. According to the Holtzworth-Munroe and Stuart (1994) typology, Cluster 1 men should have high levels of anger and Cluster 2 men should have moderate levels of anger. The Cluster 1 men were not considered to be deemed dysphoric-borderline as the men as a group did not show an elevation reflective of this syndrome.

Despite these weaknesses, Hamberger et al. (1996b) viewed the overall pattern of their findings supportive of the basic structure of Holtzworth-Munroe and Stuart's (1994) typology. Hamberger et al.'s (1996b) findings are clearly supportive of the existence and proportion of the family-only subgroup, and the two other groups vary in some ways consistent with Holtzworth-Munroe and Stuart's (1994) typology. However, this study cannot be considered an unqualified validation of the Holtzworth-Munroe and Stuart (1994) typology despite its positive evaluation. It also appears that the two of three main clusters found by Hamberger et al. (1996b) are not easily characterized and compared to the Holtzworth-Munroe and Stuart (1994) typology. The need to replicate the study using other personality assessment instruments is recommended by Hamberger et al. (1996b). Other improvements in a validation would include use of standardized measures of sexual violence, alcohol and drug abuse, and a more conservative measure of personality disorders.

A few recent studies have tested the Holtzworth-Munroe and Stuart (1994) typology (Waltz et al., 2000; Holtzworth-Munroe et al., 2000) with generally supportive results. Both studies use community-recruited couples rather than court-referred and treatment samples, and both recommend further validation research.
Waltz et al. (2000)

Waltz et al. (2000) recruited three groups of couples from the community - domestically violent \((n = 51)\), low-level domestic violent \((n = 24)\), and a maritally distressed non-violent comparison group \((n = 32)\). Data were collected on violence and abuse with the Conflict Tactics Scale (Straus, 1979), a count of the number of self-reported general assaults since age 18, the MCMI-II, ratings of affect in marital arguments (Specific Affect: Gottman, McCoy Coan & Collier, 1996), and attachment with the Adult Attachment Scale (Collins & Read, 1990). Groups of spousal assaulters were derived based on the wife’s reports of the husband’s violence, the number of people to whom the man was violent to other than his spouse, and antisocial, borderline and dependent personality data from the MCMI-II. Thus, not all MCMI-II personality scores were used in the derivation of the clusters. Groups were compared on self-reported exposure to violence in the family of origin, behaviour during marital interaction, attachment style, partner report of emotional abuse and jealousy, substance abuse, depression, narcissism and dependency (Waltz et al., 2000). Three groups emerged, which were labeled family only (53%), generally violent (24%), and a pathological group (23%). The three groups were significantly different on four of the five variables they were derived with (except for the dysthymia score).

The generally violent group had the highest levels of violence towards partners and violence outside the home, whereas the family only group had the lowest level of violence towards partners. The generally violent and pathological group had higher scores on the Antisocial and Borderline scales of the MCMI-II than the family only group, and the pathological group had higher scores on the antisocial scale than generally violent group. These findings are consistent with the Holtzworth-Munroe and Stuart (1994) theoretical typology.
The authors also found that the groups differed significantly on the Alcohol and Drug Dependence, Narcissistic, Aggressive-Sadistic, and Schizotypal MCMI-II scales. Compared to the family-only group, the generally violent and pathological groups combined had higher scores on all five of the above MCMI-II subscales.

The authors state their results generally support Holtzworth-Munroe and Stuart (1994), and note that their sample may lack generalizability as it is a community sample and there may be differences between couples that would and would not participate in their study, and intact couple relationships compared to those that are separated or divorced. These results may also be different than court-referred and treatment populations of spousal assaulters. An advantage of their study is that the Holtzworth-Munroe and Stuart (1994) model appeared to be robust as wife's reports of husband's violence were used instead of men's self-reports. An important finding is the lack of theoretically predicted differences in personality disorders between the generally violent-antisocial and dysphoric-borderline (in this study the pathological) groups of the Holtzworth-Munroe and Stuart (1994) model. This may be "due to a methodological problem as the available validity studies have used the MCMI or MCMI-II to assess psychopathology, and the confusion about group differences may be due to limitations of these measures. The Antisocial and Borderline scales of the MCMI-II have a high correlation \( r = .64 \) within our violent sample) and a high percentage of overlapping items" (Waltz et al., 2000, p. 666).

As well, psychopathology may not be a useful typing factor for these two groups either theoretically or empirically, as borderline personality organization is prevalent for moderate and high levels of spousal violence (Waltz et al., 2000). Finally, the authors further recommend further empirical exploration of the model.
Holtzworth-Munroe et al. (2000).

Holtzworth-Munroe et al. (2000) also used a community recruited married violent couples sample \((n = 102)\) and non-violent comparison group \((n = 62)\) to investigate the validity of the Holtzworth-Munroe and Stuart (1994) typology. The non-violent comparison group was subdivided into a maritaly distressed and non-maritally distressed group to control for the possible influence of marital distress on other psychological variables such as anger and depression (e.g., Jacobson & Gortner, 1997).

In the screening portion of the study, participants completed the Short Marital Adjustment Test (Locke & Wallace, 1959, op cit. Munroe-Munroe et al., 2000) and the Conflict Tactics Scale (Straus, 1979). Once screened in, data were collected on the men on the three major dimensions Holtzworth-Munroe and Stuart (1994) hypothesized they vary upon severity of marital violence, generality of violence, and psychopathology-personality disorder. The measures used were the Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996, op cit. Munroe-Munroe et al., 2000), the Generality of Violence Questionnaire (developed for the study), and the Millon Clinical Multiaxial Inventory III. Data were also collected on psychological and behavioural variables Holtzworth-Munroe and Stuart (1994) hypothesized subgroups would vary upon: the Borderline Personality Organization questionnaire (Oldham et al., 1985), Sexual Experience Survey (Koss & Gidycz, 1985, op cit. Munroe-Munroe et al., 2000), Psychological Maltreatment of Women Inventory (Tolman, 1989), adult arrest records, state driving records, the Criminality Questionnaire (designed for the study), the Hare Psychopathy Self-Report Checklist Revised (Hare, 1985, op cit. Munroe-Munroe et al., 2000), the Short Michigan Alcohol Screening Test (Selzer, 1971), the Drug Abuse Screening Test (Skinner 1982), and the Quantity-Frequency Index of Alcohol Use (Cahalan, 1970, op cit. Holtzworth-Munroe et al., 2000). Other data were collected on hypothesized Holtzworth-Munroe
and Stuart (1994) distal (e.g., family of origin violence and attachment) correlates of spousal assaulter types. Data was not collected on the variables of anger and depression that were included in the original model of Holtzworth-Munroe and Stuart (1994).

Cluster analysis was performed on scores on two of four (two were dropped) groups of items constructed from the MCMI-III subscales of Antisocial, Borderline and Dependent considered most theoretically relevant. This was done to address the weaknesses of using these subscales as identified by Waltz et al. (2000). These two scales were Antisociality and Fear of Abandonment. The men's reports of their violence towards their partners and their general violence scores were cluster analyzed revealing a four-group solution. Thus, compared to previous studies, this study used personality disorder, violence towards partners, and generalized violence in the derivation of subgroups.

The largest group was best described as a family-only batterer (36%). The other groups were low level antisocial (33%), dysphoric-borderline (15%), and generally violent-antisocial (16%). These proportions of the types of spousal assailters were somewhat different than those originally hypothesized by Munroe-Munroe and Stuart (1994).

The family-only group did not differ from the two comparison groups (of non-violent martially distressed and non-maritally distressed men) except on the use of abuse towards female partners. The low-level antisocial group had higher scores on the Antisocial scale, intermediate scores on most other scales, and less general violence than the generally violent-antisocial. The dysphoric-borderline group had high levels of marital violence like the generally violent-antisocial and lower Antisocial scores, and the highest Fear of Abandonment score. The generally violent-antisocial group had the highest levels of marital violence and generalized violence.
In comparisons on theoretically predicted variables (not used in developing the clusters) the generally violent-antisocial group also had the highest level of involvement in criminal activity, psychopathy, and substance use and abuse. The dysphoric-borderline group had the highest score on the measure of borderline personality organization. The family only group did not differ significantly from the non-violent comparison groups on any theoretically predicted variables (e.g., substance abuse, criminality, generalized violence, etc.) except for having higher levels of psychological and physical abuse towards female partners. This finding supports the Holtzworth-Munroe and Stuart (1994) predictions about the family-only group.

Holtzworth-Munroe et al. (2000) report that the three groups originally hypothesized by Holtzworth-Munroe and Stuart (1994) emerged and generally differed as predicted. The authors believe the low-level antisocial group found most closely resembles the originally hypothesized family-only batterer and the family-only subgroup found in clinical samples. This is a plausible interpretation, as previous studies have developed typologies on clinical samples. Also, the family-only group found in this study has previously not been studied as this study used a community sampled versus a clinically sampled population. Therefore, Waltz et al.'s (2000) finding likely includes some of men who were not sampled in previous studies.

Holtzworth-Munroe et al. (2000) suggest that it is possible to conceptualize the three clusters of family-only, low-level antisocial and generally violent-antisocial as following along a continuum of antisociality, as the family-only group had the lowest levels of violence and risk factors for violence, whereas the generally violent-antisocial had the highest levels of violence and risk factors for violence (the low-level antisocial group fell in between). However, the dysphoric-borderline could not be placed along this continuum. Holtzworth-Munroe et al. (2000) believe that the dysphoric-borderline group's similarity to the generally violent-antisocial on
most scores, yet the highest borderline scores, indicates that the borderline features appear to be a separate dimension of batterer characteristics.

Holtzworth-Munroe et al. (2000) state there is strong support for the Holtzworth-Munroe and Stuart (1994) typology. They also note that their sample was not random nor a representative community sample. There may be differences between spousal assaulters in intact relationships and those who are not, and differences between a community and clinical sample (e.g., more severely violent men do not volunteer to participate in this kind of research). The authors recommend research to test the stability of these typologies, as none has been done to date, and further research on subtypes of this population.

In summary, on studies of typologies of female partner assaultive men, what is lacking in the current literature are (a) replication studies of typologies that have been developed, (b) further empirical testing of the most promising typology proposed to date, that of Holtzworth-Munroe and Stuart (1994), and (c) conducting such a test on a representative sample of spousal assaulters. The benefits of further empirical testing of their typology would contribute to determining whether there are reliable differences among men who assault their female partners. As described previously, the development of a valid typology would help increase theoretical understanding of the causes of this behaviour in general and for subgroups of these men, help determine the best treatment for subgroups of these men, improve probation and victim safety, and improve the understanding of risk factors for this violence.

The current research was a test of the Holtzworth-Munroe and Stuart (1994) typology. The current weaknesses in previous typology validation research were addressed. A more conservative measure of personality disorders was used, as were standardized measures of all theoretically predicted variables and characteristics these men are known to vary upon (severity
of marital violence, psychological and sexual abuse, extra-familial violence, criminal
behaviour/legal involvement, personality disorders, alcohol/drug use, depression, and anger).

_Hypothesis_

For the present study, the following hypothesis was tested.

_Hypothesis:_ The three primary psychological and behavioural types of men who assault their female partners proposed by Holtzworth-Munroe and Stuart (1994) exist in a sample of the population of men who assault their female partners.
Chapter 3

Method

The purpose of this study was to investigate the validity of the Holtzworth-Munroe and Stuart (1994) typology of men who assault their female partners. The method to test the study hypothesis consisted of (a) quantitative assessment of the behavioural and psychological characteristics men who assault their female partners are known to vary upon, and (b) statistical procedures to test the existence of the proposed typologies.

Design

The design of this research project is a correlational field study (i.e., non-experimental) to conduct a confirmatory analysis. Relationships between variables in a sample of female partner assaultive men were compared to the relationships hypothesized by Holtzworth-Munroe and Stuart (1994) exist among female partner assaultive men. Therefore, the design of the study can be described as an attempt to test a theoretical model.

The sample of research participants is not random. Men who were either self- or court-referred for treatment for female partner assault were asked to participate in this research. Since many spousal assailters are not identified by the criminal justice system (Hart, Kropp, Roesch, Ogloff, & Whittemore, 1994), it is possible that men who are self- and court-referred for this treatment are in some way different than the entire population of men who assault their female partners. However, the model being tested (Holtzworth-Munroe & Stuart, 1994) was developed from research with self- and court-referred men in treatment for assault of female partners (e.g., Cadsky & Crawford, 1988; Elbow, 1977; Hamberger & Hastings, 1986; Saunders, 1992). Therefore, the sample of research participants in this study is not different than research samples used by Holtzworth-Munroe and Stuart (1994) to develop their typology.
Research Participants

Research participants were recruited from (a) correctional offices supervising men on probation for assault against a wife or girlfriend and (b) treatment programs for men who have been abusive towards wives or girlfriends. All men recruited from treatment programs were court-referred. A number of agencies in the Greater Vancouver area run these treatment programs. Data were collected from 93 men, all were over age 18, and had physically assaulted their wife or girlfriend within the past year, as determined either through a recent conviction or self-report. Data were collected from men of varying socio-economic backgrounds, yet with a generally lower socio-economic status consistent with other studies (Cadsky & Crawford, 1988; Saunders, 1992). Research participants were collected from a primarily Caucasian population and a range of ethnocultural minorities, consistent with other studies (e.g., Dutton & Starzomski, 1994; Saunders, 1992).

For the present study, men must be or have been in an intimate relationship of at least six months duration with the women they have assaulted. Physical acts of aggression may range from severe assault such as beating or using a weapon against a victim to less severe actions such as slapping, pushing, and throwing objects at the victim. An attempt was made to collect corroborative information on men's abusive behaviour from their female partners. Due to the difficulty in collecting this data, an attempt was made to contact every 5th man's female partner.

Variables

The variables selected for this study are both the personality disorder variables and psychological and behavioural variables Holtzworth-Munroe and Stuart (1994) hypothesized that the three subgroups regularly vary upon. Table 1 shows which instruments were used to measures each of the key typology variables. Often the instruments selected are those that have
been used or been recommended in previous research. As the construct of psychopathy may be related to possibly high levels of antisocial personality disorder in this population, the Psychopathy Check List: Screening Version was added to inform study findings.

Table 1

*Typology variables and corresponding instruments*

<table>
<thead>
<tr>
<th>Typology Variable</th>
<th>Instrument</th>
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<tbody>
<tr>
<td>Severity of physical violence and sexual abuse</td>
<td>Severity of Violence Against Women Scale</td>
</tr>
<tr>
<td>Psychological abuse</td>
<td>Psychological Maltreatment of Women Inventory</td>
</tr>
<tr>
<td>Extrafamilial violence</td>
<td>Extrafamilial violence scale</td>
</tr>
<tr>
<td>Criminal behaviour/legal involvement</td>
<td>Sociodemographic and Family Background Data Form</td>
</tr>
<tr>
<td>Personality disorder</td>
<td>Structured Clinical Interview for DSM-IV Axis II Personality Disorders</td>
</tr>
<tr>
<td>Alcohol/drug use</td>
<td>Brief Michigan Alcohol Screening Test</td>
</tr>
<tr>
<td></td>
<td>Drug Abuse Screening Test</td>
</tr>
<tr>
<td>Depression</td>
<td>Beck Depression Inventory</td>
</tr>
<tr>
<td>Anger</td>
<td>Multidimensional Anger Inventory</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>Psychopathy Check List: Screening Version</td>
</tr>
</tbody>
</table>

Two other variables, marital adjustment and social desirability, were measured in the study. As noted in the literature review, research in this area should measure marital adjustment as marital adjustment may vary among female partner assaultive men (e.g., Gortner et al., 1997). A measure
of socially desirable responding, the Marlowe Crowne Social Desirability Scale (Crowne & Marlowe, 1960), was included. This measure has been used in previous research (e.g., Dutton & Starzomski, 1994; Saunders 1992).

**Instruments**

Instruments for the present study consist of standardized self-report questionnaires and one standardized semi-structured interview schedule. The instruments chosen to measure the Holtzworth-Munroe and Stuart (1994) typology are those most often used, or recommended for use in research with this population. Survey forms/questionnaires previously developed were used to assess amounts of extrafamilial violence, criminal behaviour and legal involvement, and sociodemographic and family background information.

Men completed all measures. Female partners completed measures of her partner’s physical and psychological abuse towards her using partner report versions of the Severity of Violence Against Women Scales (Marshall, 1992) and the Psychological Maltreatment of Women Inventory (Tolman, 1989) (See Appendix B, Female Partner Telephone Contact and Consent Form, and Appendix C, Female Partner Interview). The reason for this is that identified men (i.e., on probation and beginning treatment) are known to minimize the amount and severity of abuse they have used against their wives or girlfriends (e.g., Edelson & Brygger, 1986).

**Severity of Violence Against Women Scales**

This self-report questionnaire asks respondents to indicate on a 4-point scale (0 = never, 1 = once, 2 = a few times, and 3 = many times) how often they have committed various acts (46 items) of violence during the previous 12 month period (Marshall, 1992). The acts of violence listed on this measure include symbolic violence such as throwing or smashing objects; threats of
violence; mild violence, such as pushing or shaking; minor violence, such as pulling hair or scratching; moderate violence, such as slapping; serious violence, such as punching or burning; and sexual violence, such as forced sex. There is a version for men’s self-reports of their violence, and another for women’s reports of the violence perpetrated against them.

This scale has demonstrated good internal consistencies with alphas ranging from .92 to .96 (Marshall, 1992). The scale has good content validity as its items cover behaviours that have been cited in the family violence literature (e.g., Barnett & LaViolette, 1993; MacLeod, 1987). In addition, it has established factorial validity where the nine subscales accounted for 81% of variance in severity ratings (Marshall, 1992). This scale allows for the combining of subscales into larger composite scales (Marshall, 1992).

To measure the variable of physical violence, a total score of scales measuring symbolic violence and threats of violence and physical acts of violence, and a scale measuring sexual violence were used. The 19 items in the symbolic violence and threats of violence are made up from the symbolic violence, mild threats, moderate threats and severe threats subscales. The 21 items of the physical acts of violence are made up from the items from the mild, minor, moderate, severe violence scales. The six items of the sexual violence scale are made up from the items from the sexual violence subscale. Previous combinations of Marshall’s (1992) subscales (threats or symbolic acts of violence, acts of physical violence, and sexual violence) have yielded similar alpha coefficients to individual subscales for both men’s self-reports and female partner reports of men’s violence, and ranged from .84 to .92 (Bartel, 1995).

*Psychological Maltreatment of Women Inventory*

The Psychological Maltreatment of Women Inventory (PMWI) is a 62-item self-report scale designed to assess the frequency of various forms of nonphysical abuse (Tolman, 1989).
Respondents are asked to rate how often they have committed various acts of abuse on a 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = very frequently). Scores are provided for two subscales including Emotional/Verbal and Dominance/Isolation as well as an overall score of psychological abuse. Dominance/isolation includes 27 items related to the man’s actions that result in the isolation of the partner from resources (e.g., social support), rigid observance of traditional sex roles, and demands for subservience. The 23 items from the emotional/verbal abuse subscale relate to degrading behaviour towards women, verbal attacks, and withholding emotional resources. Previous research suggests that the scales have good internal consistency with alphas of .91 for the dominance isolation scale and .93 for the emotional/verbal abuse scale (Tolman, 1989). The PMWI has good content validity as its items were derived from several sources including two existing scales of partner abuse as well as behaviours reported in the descriptive clinical literature (Barnett & LaViolette, 1993; Walker, 1979).

**Extrafamilial Violence Scale**

This twenty-three-item scale was developed to assess direct threats and physical violence towards non-familial men (See Appendix E) (Bodnarchuk et al., 1995). The twenty-three items were selected from of Marshall’s (1992) Severity of Violence Against Women Scales, and modified with the behavioural acts directed towards another man. Marshall items specific to intimate relationships were removed.

The items included one act of symbolic violence (item 4), one act of mild threat (items 6), three acts of moderate threats (items 10, 11, 12), five acts of serious threats (items 13, 15, 16, 17, 18, 19), two acts of mild violence (items 20 & 21), one act of minor violence (item 28), and all
acts of severe violence (items 32 to 40). The physical violence subscale of the original measure
had an alpha coefficient over .80 (Marshall, 1992).

**Criminal Behaviour/Legal Involvement**

This variable was comprised of a sum score of the number of self-reported legal
involvement(s) and the sum of the number of crimes men have been convicted of listed in official
criminal records. The number of legal involvement(s) was summed from the Sociodemographic
and Background Information Form.

**The Structured Clinical Interview for DSM-IV Axis II Personality Disorders**

The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) is
designed to allow the standardized, reliable, and accurate diagnoses of the DSM-IV Axis II
personality disorders (First et al., 1994). The SCID-II interview questions are designed to
investigate relevant diagnostic criteria listed in the DSM-IV and differentiate between the DSM-
IV personality disorders. Diagnostic criteria are rated as 1 = absent or false, 2 = subthreshold, 3
= threshold or true, or ? = inadequate information to code the criterion. In order to meet
diagnostic criteria for DSM-IV personality disorders, a number of items must be coded threshold
or true. Example criterion questions are, “Have you often become frantic when you thought that
someone you really cared about was going to leave you?” (borderline personality disorder), and
“Have you done things that are against the law – even if you weren’t caught – like stealing, using
or selling drugs, writing bad checks, or having sex for money?” (antisocial personality disorder).
A wide range of inter-rater reliabilities (.48 to .98) for categorical diagnoses and satisfactory
internal consistency coefficients (.71 to .94) have been found (Maffei et al., 1997). The lowest
inter-rater reliability is for mixed personality disorder; next lowest was depressive personality
disorder, and all others ranged from .83 to .97 (Maffei et al., 1997). This measure was selected because the inter-rater reliability for personality disorder diagnoses of interest was .91 for schizoidal and borderline and .95 for antisocial (Maffei et al., 1997).

The current researcher has had formal training in the administration and interpretation of the SCID-II with a number of inpatients in his internship in clinical psychology.

*Brief Michigan Alcoholism Screening Test*

The Brief Michigan Alcoholism Screening Test (BMAST) is a 10-item self-report instrument used for identifying problem drinkers or alcoholics (Porkorny, Miller, & Kaplan, 1972). Ten yes/no items assess the medical, social, family, and legal consequences of alcohol use. Positive responses are weighted (1-5 points) and are summed to produce a "clinical score." Reliability and validity have been established for the cut-off score of ≥ 6 (Porkorny et al., 1972). During test construction, the internal consistency was .92 (Porkorny et al., 1972). The BMAST has excellent known-groups validity, being able to classify most respondents as alcoholic or nonalcoholic (Porkorny et al., 1972). In addition, it has been found to correlate highly with other measures of alcohol abuse (Porkorny et al., 1972).

*Drug Abuse Screening Test*

The Drug Abuse Screening Test (DAST) is a 28-item self-report questionnaire that yields a quantitative index of problems related to drug misuse (Skinner, 1982). Items on the scale are answered true or false. The DAST has demonstrated good reliability and internal consistency with an alpha of .92 (Skinner, 1982). Factor analyses of item intercorrelations suggest a unidimensional scale (Skinner, 1982). The DAST has also demonstrated good concurrent validity, correlating .75 with current DSM-III drug abuse diagnosis and .74 with lifetime DSM-
III drug abuse diagnoses (Gavin, Ross & Skinner, 1989). A two-week test-retest reliability of .85 has been found (El-Bassel, Schilling, Schinke, Orlandi, Sun, & Back, 1997).

**Beck Depression Inventory**

The Beck Depression Inventory is a widely used instrument comprised of 21 items assessing a wide range of depressive symptomatology. The internal reliability of the scale is .86 split-half corrected (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). A high internal consistency of .91 and test-retest of .86 has been reported for the total scale (Ambrosini, Metz, Bianchi, Rabinovich, & Undie, 1991).

**Multidimensional Anger Inventory**

The Multidimensional Anger Inventory (MAI) (Siegel, 1986) is a 38-item self-report scale assessing the following dimensions of anger response: frequency, duration, magnitude, mode of expression, hostile outlook, and range of anger-eliciting situations. Siegel (1986) reported reliability coefficients for the entire scale (coefficient alphas of .84 and .89 for two separate samples) and test-retest reliability of .75. The scale also correlates highly with other conceptually similar anger inventories (Siegel, 1986).

**Dyadic Adjustment Scale**

The Dyadic Adjustment Scale (Spanier, 1976) is a 32-item scale that assesses global relationship adjustment. The scale has four subscales of dyadic satisfaction, dyadic cohesion, dyadic consensus, and affectional expression, which emerge as independent components in factor analysis (Spanier, 1976). High internal consistency is reported for both the total scale (.94) and its components (.73 to .94) (Spanier, 1976). This measure discriminates between divorced and
married couples (Spanier, 1976). Scores below 100 indicate marital distress; scores 100 and over indicate adjustment and satisfaction.

**Marlowe-Crowne Social Desirability Scale**

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), consisting of 33 items, measures participants' attempts to underreport their unfavorable conduct on self-report measures. In a factor analysis (Paulhus, 1984), this measure appears to consist of impression management and self-deception factors, although it is more strongly related to impression management.

**Psychopathy Check List: Screening Version**

The Psychopathy Check List: Screening Version (PCL: SV) (Hart, Cox, & Hare, 1995) consists of 12 items rating both factors of the construct of psychopathy.

Interpersonally, psychopaths are grandiose, egocentric, manipulative dominant forceful and cold-hearted. Affectively they display shallow and labile emotions, cannot form long-lasting bonds to people, principles or goals, lack empathy, anxiety, and genuine guilt or remorse. Behaviourally, psychopaths are impulsive and sensation-seeking and tend to violate social norms – the most obvious expressions of these predispositions involve criminality, substance abuse, and a failure to fulfill social obligations and responsibilities (Hart et al., 1995, p. 4).

It is a brief, valid, and reliable tool to screen for the presence of psychopathy in forensic and non-forensic settings, and can be used without criminal record information (Hart et al., 1995).

**Sociodemographic and Family Background Data Form**

Data on sociodemographic variables collected in a number of previous studies of the personality and behavioural characteristics of these men were collected (See Appendix D) (e.g.,
Hastings & Hamberger, 1988; Saunders, 1992). Men reported their age, employment status, educational attainment, level of income, type of employment, and their racial or ethnic heritage. Men reported their relationship status, length of relationship, number of children, and whether and what type of marital violence they witnessed as children.

Procedures

Participation in the present study was voluntary and individuals were free to terminate their involvement at any time. The purpose of the study was explained to all participants. Signed consent was obtained from men before participating in the study (See Appendix A, Men’s Consent Form). If wives or girlfriends were willing to be interviewed by telephone, verbal consent was obtained (See Appendix B, Female Partner Telephone Contact and Consent Form). Participation in and information gathered in the study was kept completely confidential, except when there was a perceived threat to the safety of an individual (i.e., where it is believed that an individual will harm to his spouse or himself or where there is evidence of child abuse). Confidentiality did not have to be broken in the study.

A formal agreement was established with the British Columbia Corrections Branch, Ministry of Attorney General, for authorization to collect research data from local probation offices on men likely on probation for assault of a wife or girlfriend. An agreement to recruit self-referred men was made with community treatment programs (e.g., Burnaby Family Life).

Notices to offer participation in the study were made at five probation offices. Interested men were directed to enquire further about participation with their probation officer, and interview appointments were booked with researchers. The researcher requested contact numbers for wives or girlfriends from interview participants after completion of study measures.
For community treatment program participants, treatment staff informed treatment group members that the researcher would attend the successive treatment session to explain the aims and procedures of the research study. Appointments with the men who agree in principle to participate in the study were made after the next community treatment program session.

Requests for the participation of female partners of self- and court-referred men was similar. At the end of the interview, the researcher explained the importance of obtaining information about the female partner’s experience of abusive behaviour. Men were asked to provide contact information for his current partner, or ex-partner if the man was single and the previous relationship was longer than six months.

Men first completed the Structured Clinical Interview for DSM-IV Axis II Personality Disorders. The order of the remaining measures was counterbalanced for both men and their wives or girlfriends. Honorariums of $40 were provided to men, and honorariums of $20 were provided to women upon study completion. Honoraria cheques were mailed to female participants.

Explanation of the present study, subject consent, and completion of the measures took place in an interview scheduled subsequent to a verbal agreement to participate in the study. Participants were informed that they may withdraw from the study at any time. For men, the time to complete the study measures and the interview ranged from ninety minutes to two hours. For female partners completion of the study measures was approximately one-half hour.

Two researchers (one is the present researcher) were involved in the study. Both have M.A. degrees in psychology and are experienced in working with clinical populations. The male researcher had clinical experience in working with female partner assaultive men. The female researcher had clinical experience with women who have been assaulted by their male partners.
The female researcher interviewed all female participants and the male researcher interviewed all male participants.

**SCID-II Inter-Rater Reliability**

Three procedures were used to enhance and measure the reliability of the use of the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II). The first (as recommended in the SCID-II manual) was to read the manual, watch and score the training video for this measure, and compare trainer ratings to the standard. The second was to have another trained SCID-II rater conduct inter-rater reliability ratings on the first five audiotaped SCID-II interviews to determine whether adequate reliability was obtained. The third procedure was to conduct reliability ratings on every fifth interview throughout the duration of the study in an attempt to control for rater drift. This procedure was applied to 15 further interviews. All correlations were calculated on the 133 rated SCID-II items. In addition, the primary researcher had received comprehensive training in the use of the SCID-II in his predoctoral internship in clinical psychology.

For the first inter-rater reliability procedure, the percent agreement of item ratings between the primary researcher and the training video was 90%, and 92% for the second rater and the training video. For the second inter-rater reliability procedure, the correlation between the two raters was $r = .96$, demonstrating that an acceptable level of reliability had been attained in the beginning of the study. For the third procedure, the correlation was $r = .90$, showing that a small degree of rater drift had occurred. Overall, for the level of inter-rater reliability for 20 SCID-II interviews was .92.
Data Analytic Methodology

The data analytic design tested whether Holtzworth-Munroe and Stuart's (1994) proposed typology of female partner assaultive men has empirical support. The data analytic methodology used to test Holtzworth-Munroe and Stuart's (1994) theoretical typology was a confirmatory cluster analysis. Holtzworth-Munroe and Stuart (1994) proposed that three discreet types of female partner assaultive men exist, and in the following proportions: family-only (50%), dysphoric-borderline (25%), and generally violent-antisocial (25%). The three types vary upon severity of physical, psychological and sexual abuse, personality disorders, depression, anger, extra-familial violence, substance abuse, criminal involvement and legal problems.

There are solid theoretical and methodological reasons to use cluster analysis. Cluster analysis was used for four reasons. First, the procedure detects groupings of variables when the numbers of groups or members of a group are not known (SPSS, 1999). Second, cluster analysis identifies the underlying structure of members of a larger group (Hair, Anderson, Tatham, & Black, 1998). Third, it is a preferred technique to explore non-homogeneous samples (SPSS, 1999), and to derive subgroups of a sample. Fourth, it can be applied in a heuristic and theoretically driven manner to compare and interpret subgroups (Burns, Kubilis, Bruehl, & Harden, 2001).

To test the study hypothesis, a standard five-step cluster analytic algorithm was followed, as described in Hair et al. (1998).

1. Determine the objectives of cluster analysis, and select cluster variables.

2. Select a research design in cluster analysis (i.e., hierarchical or non-hierarchical cluster analytic methods), detect and consider removing outliers, and standardize the data.

3. Assess the assumptions being used in cluster analysis, i.e., the representativeness of the sample, and the impact of multicollinearity.
4. Derive clusters and assess the overall fit.

5. Interpret the clusters.

The first stage was to determine the objectives of cluster analysis. The objective of this study was to test Holtzworth-Munroe and Stuart's (1994) theoretical typology, by deriving clusters from a sample of the population of spousal assailers. This stage included the selection of cluster variables based on theoretical, conceptual, and practical considerations. (A rationale for the selection of the study variables has been described earlier.)

The second stage was the selection of a research design in cluster analysis. In hierarchical methods the number of groups to be derived is not specified and in non-hierarchical methods the groups are specified. In the current study, a non-hierarchical method was used. As recommended in Hair et al. (1998), outliers were removed and the data were standardized. The data was standardized (z-scores) to control for bias introduced by the different scales used to measure the personality and behavioural variables. In order to provide a strong test of the typology, the cluster solution was developed based on personality disorder variables, as was done in earlier typology studies (e.g., Hamberger & Hastings, 1986) and in most post-1994 studies (Hamberger et al., 1996; Holtzworth-Munroe et al., 2001).

In the third stage, the assumptions used in cluster analysis, the representativeness of the sample, and the impact of multicollinearity were reviewed.

In the fourth stage, the statistical procedure was a K means cluster analysis that derived a three group cluster solution using standardized scores on SCID-II personality disorder scales. The standardized scores of SCID-II personality disorder subscales entered into the K-means were avoidant, dependent, obsessive-compulsive, passive-aggressive, depressive, paranoid, schizotypal, schizoid, histrionic, narcissistic, borderline, and antisocial.
The three-group solution was then compared to the theoretical three-group typology. The derived cluster solution was statistically tested using (a) discriminant function analysis, and (b) analyses of variance on theoretically relevant personality and behavioural variables across groups. The variables used in the discriminant function analysis and analyses of variance were the psychological and behavioural variables Holtzworth-Munroe and Stuart (1994) predicted the three groups would vary upon. These variables are termed "theoretically predicted" as they were not used in the derivation of cluster groupings. These variables are: physical violence, psychological abuse, extrafamilial violence, criminal convictions, alcohol use, drug use, depression, and anger.

In the fifth stage, the clusters were compared to the Holtzworth-Munroe and Stuart (1994) theoretical typology and other previous typology studies.
Chapter 4

Results

The current study tested whether the Holtzworth-Munroe and Stuart (1994) psychological and behavioural typology of men who assault their female partners existed in a sample of the population of men who assault their female partners.

First, descriptive characteristics of the study participants are presented and compared to previous studies. Study participants were compared on the following characteristics: socio-demographic (e.g., age, employment status, and ethnicity), family background, previous mental health involvement, criminal justice system involvement, referral to spousal assault treatment, and study sample characteristics (e.g., spousal assault treatment, community recruitment). Second, the method and steps of the data analysis used to test the Holtzworth-Munroe and Stuart (1994) typology are described.

Data were collected from 91 spousal assaulters primarily from five probation offices in different geographical locations to obtain a large sample and to obtain a potentially greater cross section of the population of spousal assaulters. Only three men were sampled from spousal assault treatment programs, and all three of these men were court-referred. Men were sampled from probation offices to obtain a range of personal backgrounds and psychological characteristics, and to obtain both those currently mandated for treatment, as in other studies (e.g., Hamberger et al., 1996), and those not currently seeking treatment and not convicted of assault (e.g., Cadsky & Crawford, 1988; Holtzworth-Munroe et al., 2000). Finally, due to the prominence of studying personality disorders in spousal assaulters (e.g., Gondolf, 1999; Hamberger & Hastings, 1988; Hamberger et al., 1996) probation offices were considered to be an appropriate setting to access a wide range of personality disorder variables. It should be noted that 60.7% of the sample were court-mandated for spousal assault treatment.
The sample size \( N = 91 \) excludes two men dropped from data analyses, as their levels of violence outside the home was six times higher, their number of criminal convictions was eight times higher, and their levels of psychological abuse was twice as high as the average of all men in the study. Because of the nature of calculation of group membership in cluster analyses, where outliers can lead to artificial results (Hair et al., 1998), there were reasonable grounds to remove these two cases. Preliminary analyses also showed that the cluster solutions that included these two outliers were less distinct and these two cases usually formed a distinct subgroup. All results presented are based on the 91 remaining participants.

**Socio-Demographic Data and Comparisons**

In this section, the representativeness of the sample on socio-demographic, family background, mental health and criminal justice system involvement, spousal assault treatment status, and the sample source are presented and compared to previous studies. Given the importance of sample comparisons in typology research (Gortner et al., 1997), this information is presented in greater detail than is typical for other areas of research.

Table 2 presents the socio-demographic characteristics of the 91 spousal assaulters. When the characteristics of the present study are compared to previous studies, the study sample appears representative and within the usual range of socio-demographic characteristics of the populations of spousal assaulters accessed in previous studies.
### Table 2

**Socio-demographic characteristics, \(N = 91\)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean and Standard Deviation or Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>35.03 years (SD = 9.04)</td>
</tr>
<tr>
<td>Income</td>
<td>$24,071.04 (SD = 19,030.76)</td>
</tr>
<tr>
<td>Education</td>
<td>56.04% high school education or less</td>
</tr>
<tr>
<td>Employment</td>
<td>21.98% full-time, 13.19% part-time,</td>
</tr>
<tr>
<td></td>
<td>8.79% student, 1.09% on disability</td>
</tr>
<tr>
<td>Employment type</td>
<td>86.75% blue collar</td>
</tr>
<tr>
<td>Relationship status</td>
<td>10.99% married, 18.68% common-law,</td>
</tr>
<tr>
<td></td>
<td>16.48% in a relationship</td>
</tr>
<tr>
<td></td>
<td>26.37% separated or divorced, 27.47% single</td>
</tr>
<tr>
<td>Relationship length</td>
<td>5.33 years (SD = 5.95)</td>
</tr>
<tr>
<td># of Children</td>
<td>1.11 (SD = 1.22)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>67.03% Caucasian/European, 24.18% First Nations</td>
</tr>
<tr>
<td></td>
<td>3.29% Middle Eastern, 2.20% Asian</td>
</tr>
<tr>
<td>Born in Canada</td>
<td>91.11%, and 8.89% landed immigrant</td>
</tr>
</tbody>
</table>

Compared to previous research, the sociodemographic characteristics of the current study sample are similar on the characteristics of age, income and education. Compared to previous research, the current study sample has a smaller proportion in a relationship or married, a greater
proportion of men with a First Nations ethnic heritage. These differences are summarized in Table 3.

Table 3

*Socio-demographic comparisons between current study and previous research samples, (N = 91)*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description of Current Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Similar to Canadian and U.S. samples</td>
</tr>
<tr>
<td>Income</td>
<td>Similar to below average incomes in Canadian and U.S. samples</td>
</tr>
<tr>
<td>Education</td>
<td>Within range of previous research</td>
</tr>
<tr>
<td>Employment</td>
<td>Lower than Canadian and U.S. samples</td>
</tr>
<tr>
<td>Relationship status</td>
<td>Fewer in relationship or married compared to Canadian and U.S. samples</td>
</tr>
<tr>
<td>Relationship length</td>
<td>Somewhat lower than previous research</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Higher percentage of First Nations, and similar percentage of Caucasians in Canadian and U.S. samples</td>
</tr>
</tbody>
</table>

The similarities and differences between the current study sample and previous research samples on the above variables are briefly explained.

**Age.**

The average age of 35.03 years of study participants is very similar to both Canadian and American samples. The average age ranges from 32.2 (Crawford & Cadsky, 1988) to 36.1 years
(Hart et al., 1993) in Canadian studies. The average age ranges from 30.6 (Saunders, 1992) to 38.1 years in American samples (Rothschild et al., 1997).

**Income.**

The average income of the study sample is consistent with below average incomes found in many other studies (e.g., Hanson et al., 1997; Rothschild et al., 1997; Saunders, 1992).

**Educational level.**

Most previous Canadian samples have near, or slightly more, than a high school education (e.g., Dutton & Starzomski, 1994; Dutton et al., 1997a). In the current study, 43.96% had more than a high school education, lower than Hart et al.'s (1993) Canadian sample where 68.0% had more than a high school education. Although American studies have a greater range of education, the current study is within the range of 40.5% to 77.7% with more than a high school education (Saunders, 1992; Hamberger & Hastings, 1986).

**Employment status.**

The employment status of the study sample is lower than Canadian and American studies. Just over one-third (35.17%) of the study sample was employed either full or part time. The full-time employment rate of Canadian studies ranges from 43.7% full-time to 82.8% full or part-time (Hanson et al., 1997; Barrerra et al., 1994). The employment rates of American samples range from 64% to 83.5% full-time (Gondolf, 1999; Hamberger & Hastings, 1991).
**Relationship status.**

A smaller proportion of the current study participants were in a relationship compared to other Canadian and American studies. Under half (46.15%) were in a relationship (29.67% married or common-law, and 16.48% in a relationship). Canadian samples range from 45.9% married to 100% married or in a relationship (Cadsky & Crawford, 1988; Hanson et al., 1997). American samples range from 49% to 100% common-law or married (Gondolf, 1999; Gottman et al., 1995).

**Relationship length.**

The average length of relationship of the study sample of 5.33 years is slightly lower than previous samples. The average length of relationship ranges from 6.2 to 8.48 years (Murphy et al., 1993; Chase et al., 2001).

**Ethnicity.**

Compared to Canadian samples, the current study sample had a smaller proportion of Caucasian and a higher proportion of First Nations men. The current study was comprised of 67.03% Caucasian and 24.18% First Nations. Canadian samples range from 80.2% to 84.7% Caucasian (Barrera et al., 1994; Hart et al., 1993). Barrera et al.'s (1994) sample was not more than 7.0% First Nations, and Hart et al. (1993) reported that 25.3% of their sample was Native or Asian.

Compared to American samples, the current study had a similar proportion of Caucasian participants. American samples range from 44.3% to 91.1% Caucasian (Rothschild et al., 1997; Flournoy & Wilson, 1991). The second most common ethnic group in American samples is African-American, which comprise between 13.1% and 34.4% of study samples (Hamberger &
Hastings, 1986; Rothschild et al., 1997). Although Gondolf’s (1999) sample was 55% ethnic minorities, their ethnic membership was not reported. As noted in the introduction and literature review, spousal assault is not higher among any ethnic group. However, visible minorities appear to be over-represented in spousal assault populations (e.g., Gondolf, 1999), suggesting a possible racial bias in the reporting of this crime (Stanton et al., 1997).

**Family Background Data and Comparisons**

Table 4 shows the family background of study participants. Compared to other socio-demographic data categories, there is a lack of family background information in previous studies, making it difficult to determine the degree of similarity or difference on this variable.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents currently married</td>
<td>50.00</td>
</tr>
<tr>
<td>Physically punished as a child</td>
<td>83.52</td>
</tr>
<tr>
<td>Consider self emotionally, physically or sexually abused</td>
<td>61.54</td>
</tr>
<tr>
<td>Observed, or know of father/stepfather assaulting mother</td>
<td>46.15</td>
</tr>
</tbody>
</table>

Adequate comparative data is lacking to compare the marital status of study participants. In Hamberger and Hastings' (1991) sample, 25.2% of study participants’ parents were divorced. Regarding physical punishment as a child, different studies enquired about different types of physical abuse making direct comparisons less clear. Three-quarters (75.4%) of Hanson et al.’s
(1997) sample reported that they were physically abused; in Hamberger and Hastings (1986) sample, 11.4% reported that they were physically abused as a child.

Regarding the proportion of the current sample considering themselves emotionally, physically or sexually abused; clear comparison is not possible, as the question was not directly posed in previous studies.

The study sample is similar to previous studies on the variable of witnessing or knowledge of violence between parents. The range found in previous studies is 48% witnessed physical abuse between their parents (LaTina et al., 1993) to 54.2% of Murphy et al.'s (1993) sample had witnessed physical violence towards their mother by a male partner. As mentioned in the literature review, methodological problems limit what conclusions can be drawn from this data.

*Mental Health Involvement Data*

Table 5 shows the current and past mental health and medical involvement of study participants. As in the previous section, there is little comparative data available.
Table 5

Current and past mental health involvement, \((N = 91)\)

<table>
<thead>
<tr>
<th>Type</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior counselling</td>
<td>52.75</td>
</tr>
<tr>
<td>Current other counselling</td>
<td>31.87</td>
</tr>
<tr>
<td>Previous hospitalization for mental health reasons</td>
<td>19.78</td>
</tr>
<tr>
<td>Self-reported head injury</td>
<td>21.98</td>
</tr>
</tbody>
</table>

In the current sample, 52.75\% had been involved in previous counselling. Study participants were not asked about the type of previous counselling, so this previous involvement could include spousal assault treatment. The percentage who reported previous counselling in other studies ranges from 36.4\% to 73.1\% (Saunders, 1992; Hamberger et al., 1996).

No comparative data was available from other samples for current other types of counselling and previous mental health hospitalizations. The proportion with self-reported head injuries is also difficult to interpret and compare, as study participants were not asked about loss of consciousness and head-injury symptoms, nor was any possible information of cognitive impairments sought.

Criminal Justice System Involvement and Spousal Assault Treatment

Table 6 shows that seventy percent of participants were currently involved with the criminal justice system for spousal assault.
Table 6

*Criminal justice system involvement and spousal assault treatment, (N = 91)*

<table>
<thead>
<tr>
<th>Criminal Justice and Spousal Assault Treatment Referral</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involved with criminal justice system for spousal assault</td>
<td>71.43</td>
</tr>
<tr>
<td>Court-mandated for spousal assault treatment</td>
<td>62.20</td>
</tr>
<tr>
<td>Currently in treatment for spousal assault</td>
<td>38.46</td>
</tr>
</tbody>
</table>

Involvement with the criminal justice system for spousal assault means that these men were either recently convicted of an assault, breaches of a peace bond, criminal harassment, or were currently on bail for a violent offence against a female partner. In the current sample, 62.20% were court-mandated to participate in spousal assault treatment. The difference of 9.23% percent between those currently involved with the criminal justice system for spousal assault and those court-mandated for spousal assault treatment may reflect that some men were on bail (reporting to probation prior to trial), or were on probation and had yet to be referred for spousal assault treatment. Since study participants were accessed at probation offices, more of those involved with the criminal justice system may have later gone to court-ordered spousal assault treatment.

For the available comparative data, the current study participants are within the wide range of previous involvement with the criminal justice system. In Cadsky and Crawford's (1988) sample, about one-third of the spousal assaulters were on probation or parole and could be considered to be court-mandated to receive treatment. In Hanson et al.'s (1997) sample, 83.4% were on probation (not necessarily for spousal violence).

The average number of total previous convictions was within the range of previous studies. The current study sample had an average of 7.54 previous convictions ($SD = 7.00$). In
Cadsky and Crawford's (1988) sample, the 'wife assaulter' group had an average of 2.4 and the 'mixed assaulter' group had an average of 5.4 previous convictions. Hanson et al.'s (1997) sample had an average of 4.5 previous convictions. Dutton, Bodnarchuk, Kropp, Hart, and Ogloff (1997b) found an average of 8.7 previous convictions for men referred to a spousal assault treatment program. Thus, compared to later studies, the past involvement with the criminal justice system does not appear markedly different.

**Geographic Location Type and General Socioeconomic Status of Location**

The sample was obtained from five probation offices in the Greater Vancouver area of British Columbia and a mid-sized city (population 70,000) in central British Columbia. The probation offices have catchment areas of a range of socio-economic and ethnic backgrounds. The other source of study participants was two spousal assault treatment programs, and three court-ordered-participants were obtained from them. Table 7 shows the geographic location type and general level of socio-economic status of the geographic locations.

**Table 7**

<table>
<thead>
<tr>
<th>Geographic Location Type and Socioeconomic Status</th>
<th>n</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban, upper middle class</td>
<td>39</td>
<td>42.86</td>
</tr>
<tr>
<td>Urban, low class</td>
<td>29</td>
<td>31.87</td>
</tr>
<tr>
<td>Urban, middle class</td>
<td>18</td>
<td>19.78</td>
</tr>
<tr>
<td>Suburban, middle class</td>
<td>7</td>
<td>7.69</td>
</tr>
</tbody>
</table>
Two probation offices were in urban and generally upper middle class locations. However, these areas are large, and lower socio-economic areas are within all probation office catchment areas.

The majority of previous studies did not sample from more than one geographic location (e.g., Hamberger et al., 1996; Holtzworth-Munroe et al., 2000; Murphy et al., 1993). The exceptions are Gondolf (1999), who sampled from four different American cities, and Dutton et al. (1997a) and Hart et al. (1993) who sampled from two Canadian cities. Dutton et al. (1997a) and Hart et al. (1993) did not find any differences in socio-demographic characteristics, while Gondolf (1999) found some differences in socio-economic status. The literature does not suggest any differences in personality and behavioural characteristics of spousal assailters in different geographical areas and there is no literature that specifically suggests differences in personality and behavioural characteristics in different socio-economic groups (e.g., Gondolf, 1999).

**Study Sample Type**

Studies of the behavioural and personality characteristics of spousal assailters have used a variety of referral sources, from community recruitment to forensic samples, with both court-referred and voluntary participants. Men similar to those sampled in the current study (primarily from probation offices) may also appear in general forensic (e.g., forensic clinic), mental health, and community recruitment settings, which have been used as recruitment sources in previous research. Reviews of previous typology research have suggested that the differences in findings may be reflective of differences in the study samples (Gortner et al., 1997).

As stated previously, 96.70% of study participants were accessed through provincial probation offices. The majority of study participants (71.43%) were involved with the criminal justice system for spousal assault. A range of sample sources has been used in previous studies (i.e., community recruitment to spousal assault treatment). Many other studies used men in the
initial stages of spousal assault treatment who were all court-ordered (Chase et al., 2001; Dutton et al., 1997a; Hart et al., 1993; Rothschild et al., 1997). Some studies included a mix of men (approximately 50% each) who were court- and self-referred for treatment (e.g., Dutton & Starzomski, 1994). Many studies did not report the proportions of types of referrals to spousal assault treatment programs (Dinwiddie, 1992; Hamberger & Hastings, 1986 & 1991; Hastings & Hamberger, 1988; LaTina et al., 1993; Murphy et al., 1993; Tweed & Dutton, 1998). An exception is Murphy et al.'s (1993) sample that was 87.5% voluntary (i.e., not court-mandated).

The proportion of spousal assaulters who are court referred in previous studies has a large range, from 5.9% (Holtzworth-Munroe et al., 2001) to 100% (Hart et al., 1993). Most previous samples report approximately 70% to 83.4% court-referred participants (Gondolf, 1999; Hanson et al., 1997; Saunders, 1992; Saunders, 1996).

Other studies used married community samples that were obtained primarily through advertising (Gottman et al., 1995; Holtzworth-Munroe et al., 2000; Shields et al., 1988; Waltz et al., 2000). The proportion of those court-ordered for spousal assault treatment was not usually reported, although 5.9% of Holtzworth-Munroe et al.'s (2000) sample was involved with domestic violent treatment.

Thus, the current study sample is within the range of the proportion of court-ordered and non court-referred (sometimes termed self-referred) spousal assaulters. However this range is substantial, and potential differences in the personality and behavioural characteristics, and possibly subgroups, of court-referred and voluntary study samples may exist.

*Personality and Behavioural Variables and Personality Disorder Variables and Comparisons*

In this section, the representativeness of the sample on personality disorder and theoretically predicted psychological and behavioural variables of the Holtzworth-Munroe and
Stuart (1994) model is compared to previous research. This comparison is important for two reasons. First, in attempting to validate or test a typology, it is important to collect information that helps determine whether the study sample is representative of the population it is being sampled from. This was accomplished by comparing the current study to previous studies on psychological and behavioural variables that Holtzworth-Munroe and Stuart (1994) predicted they would vary upon.

Second, since cluster analysis calculates group membership on the basis of relationships between scores for individuals, scores on variables that are much higher or lower than the target population could produce misleading results.

*Personality and Behavioural Variables*

The means and standard deviations for the theoretically relevant personality and behavioural variables in the Holtzworth-Munroe (1994) typology are presented in Table 8. These average scores are compared to previous study findings. It is important to note that (a) no other typology studies have collected data on all relevant cluster variables, and (b) few studies collected data on more than two or three of the relevant cluster variables. These make comprehensive comparisons on clusters variables between studies difficult.
Table 8

*Descriptive statistics for psychological and behavioural variables, (N = 91)*

<table>
<thead>
<tr>
<th>Measure</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of Violence Against Women Scale</td>
<td>26.42</td>
<td>18.94</td>
</tr>
<tr>
<td>Psychological Maltreatment of Women Inventory</td>
<td>119.33</td>
<td>31.21</td>
</tr>
<tr>
<td>Extrafamilial violence scale</td>
<td>16.80</td>
<td>13.32</td>
</tr>
<tr>
<td>Criminal convictions</td>
<td>7.54</td>
<td>7.00</td>
</tr>
<tr>
<td>Brief Michigan Alcohol Screening Test</td>
<td>13.16</td>
<td>8.59</td>
</tr>
<tr>
<td>Drug Abuse Screening Test</td>
<td>13.07</td>
<td>8.54</td>
</tr>
<tr>
<td>Beck Depression Inventory</td>
<td>17.47</td>
<td>9.60</td>
</tr>
<tr>
<td>Multidimensional Anger Inventory</td>
<td>117.46</td>
<td>21.04</td>
</tr>
</tbody>
</table>

For the Severity of Violence Against Women Scales (Marshall, 1992), there is little comparative data as it is relatively new compared to the Conflict Tactics Scale. Marshall (personal communication, 2001) was not aware of any norms for spousal assault populations on the SVAWS and few studies have used it with spousal assaulters, only spousal assault victims. Table 9 shows the means and standard deviations of comparative studies. There is a considerable range of scores for the treatment populations in the Dutton et al. (1997a) and Bartel (1995) study.
Table 9

Severity of Violence Against Women Scales, (N = 91)

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutton et al. (1997a)</td>
<td>18.4</td>
<td>-</td>
</tr>
<tr>
<td>Bartel (1995)</td>
<td>62.9</td>
<td>17.6</td>
</tr>
<tr>
<td>Current study</td>
<td>26.42</td>
<td>18.94</td>
</tr>
</tbody>
</table>

"-" denotes missing data

Thus, the average score for physical violence is within the range of previous studies that used treatment samples (i.e., Dutton et al. 1997; Bartel, 1995).

For men’s self reports on the Psychological Maltreatment of Women Inventory (Tolman, 1989) in the current study, the average score is similar and slightly lower than the averages found in previous studies. Several additional studies have used this measure (e.g., Willson, McFarlane, Malecha, Watson, Lemmey, Schultz, Gist & Fredland, 2000) but have not reported mean scores on this measure. Table 10 shows the mean and standard deviations of comparative studies.
Table 10

Psychological Maltreatment of Women Inventory, \((N = 91)\)

<table>
<thead>
<tr>
<th>Study</th>
<th>(M)</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutton et al. (1997a), by female partners</td>
<td>135.6</td>
<td>34.6</td>
</tr>
<tr>
<td>Dutton, Starzomski, &amp; Ryan (1996)</td>
<td>134.3</td>
<td>-</td>
</tr>
<tr>
<td>Bodnarchuk et al. (1995)</td>
<td>134.1</td>
<td>35.9</td>
</tr>
<tr>
<td>Tolman (1999), by battered women</td>
<td>131.8</td>
<td>23.8</td>
</tr>
<tr>
<td>Current study</td>
<td>119.33</td>
<td>31.21</td>
</tr>
</tbody>
</table>

For the Extrafamilial Violence Scale, there are no direct comparative measures, as a consensus on the definition of violence outside the home has yet to be established (e.g., pushing another person may not be considered physical violence towards a stranger). Also, the amount of extra-familial violence has not been regularly collected and measured in the same way in previous studies (e.g., Cadsky & Crawford, 1988; Hanson et al., 1997). Different researchers have documented acts of extra-familial violence, as has the current study, yet it is not possible to compare the magnitude of this behaviour (Flourney & Wilson, 1991; Hamberger et al., 1996; Hanson et al., 1997; Holtzworth-Munroe et al., 2000; Saunders, 1992; Waltz et al., 2001). The current study sample had an average of 7.54 previous convictions, similar to the 8.4 average of Dutton et al.'s (1997b) sample.

For the Brief Michigan Alcohol Screening Test, scores of six and above are considered to correctly classify alcoholics (Porkorny et al., 1972). The average score of the current sample of
13.15 exceeds this cut-off, indicating significant problems with alcohol. Table 11 shows the mean and standard deviations of previous studies.

Table 11

*Brief Michigan Alcohol Screening Test, (N = 91)*

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartel (1995)</td>
<td>9.0</td>
<td>7.8</td>
</tr>
<tr>
<td>Hanson et al. (1997)</td>
<td>5.2</td>
<td>-</td>
</tr>
<tr>
<td>Cadsky &amp; Crawford (1988)</td>
<td>4.6</td>
<td>-</td>
</tr>
<tr>
<td>Current study</td>
<td>13.16</td>
<td>8.59</td>
</tr>
</tbody>
</table>

The study sample has a much higher mean score on Drug Abuse Screening Test (Skinner, 1982), as shown in Table 12. Scores exceeding five are considered drug misuse on this measure. Thus, the mean score for this indicates greater substance abuse problems for the study population.

Table 12

*Drug Abuse Screening Test, (N = 91)*

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current study</td>
<td>13.07</td>
<td>8.54</td>
</tr>
<tr>
<td>Bartel (1995)</td>
<td>8.1</td>
<td>5.0</td>
</tr>
<tr>
<td>Dutton and Starzomski (1994)</td>
<td>5.6</td>
<td>-</td>
</tr>
<tr>
<td>Dutton et al. (1997a)</td>
<td>5.5</td>
<td>6.0</td>
</tr>
</tbody>
</table>
The study sample has a much higher mean score on the Beck Depression Inventory (Beck et al., 1961), as shown in Table 13. This score is within the range of 17 to 20 of borderline clinical depression.

Table 13

*Beck Depression Inventory, (N = 91)*

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamberger et al. (1996)</td>
<td>9.1</td>
<td>-</td>
</tr>
<tr>
<td>Saunders (1992)</td>
<td>10.2</td>
<td>-</td>
</tr>
<tr>
<td>Hasting and Hamberger (1988)</td>
<td>11.9</td>
<td>8.4</td>
</tr>
<tr>
<td>Hanson et al. (1997)</td>
<td>13.0</td>
<td>-</td>
</tr>
<tr>
<td>Cadsky and Crawford (1988)</td>
<td>13.0</td>
<td>-</td>
</tr>
<tr>
<td>Current study</td>
<td>17.47</td>
<td>9.60</td>
</tr>
</tbody>
</table>

The study sample has a much higher mean score on Multidimensional Anger Inventory (Siegal, 1986), as shown in Table 14.
Table 14

*Multidimensional Anger Inventory, (N = 91)*

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tweed and Dutton (1998)</td>
<td>82.3</td>
<td>-</td>
</tr>
<tr>
<td>Dutton et al. (1996)</td>
<td>82.6</td>
<td>-</td>
</tr>
<tr>
<td>Dutton et al. (1997a)</td>
<td>83.0</td>
<td>16.2</td>
</tr>
<tr>
<td>Dutton and Starzomski (1994)</td>
<td>84.2</td>
<td>-</td>
</tr>
<tr>
<td>Current study</td>
<td>117.46</td>
<td>21.04</td>
</tr>
</tbody>
</table>

The study sample has a similar mean score on the Marlowe Crowne Social Desirability Scale (Crowne & Marlowe, 1960), as shown in Table 15.

Table 15

*Marlowe Crowne Social Desirability Scale, (N = 91)*

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamberger et al. (1996)</td>
<td>10.8</td>
<td>-</td>
</tr>
<tr>
<td>Dutton and Starzomski (1994)</td>
<td>12.8</td>
<td>-</td>
</tr>
<tr>
<td>Tweed and Dutton (1998)</td>
<td>13.0</td>
<td>-</td>
</tr>
<tr>
<td>Dutton et al. (1997a)</td>
<td>13.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Current study</td>
<td>13.58</td>
<td>4.91</td>
</tr>
</tbody>
</table>
In sum, compared to previous studies, the study sample has similar average scores of physical violence, psychological abuse, criminal history, and social desirability. However, the study sample has higher average scores on alcohol abuse, drug abuse, depression, and anger.

Although not used to develop or validate the cluster analysis, other researchers have emphasized the need to compare the population of spousal assaulters to the general population on marital satisfaction (e.g., Gortner et al., 1997) as marital satisfaction may be related to other psychological variables such as depression and anger. However, marital satisfaction is not regularly measured in studies of spousal assaulters (e.g., LaTina et al., 1993). Marital satisfaction has often been measured with the Dyadic Adjustment Scale (Spanier, 1976). Table 16 shows that the mean score in the current study is within the range of previous studies of spousal assaulters.

Table 16

*Dyadic Adjustment Scale, (N = 91)*

<table>
<thead>
<tr>
<th>Study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanson et al. (1997)</td>
<td>43.4</td>
<td></td>
</tr>
<tr>
<td>Chase et al. (2001)</td>
<td>82.3</td>
<td>16.2</td>
</tr>
<tr>
<td>Dutton et al. (1997a)</td>
<td>88.4</td>
<td>20.6</td>
</tr>
<tr>
<td>Dutton and Starzomski (1994)</td>
<td>88.5</td>
<td></td>
</tr>
<tr>
<td>Current study</td>
<td>88.66</td>
<td>19.65</td>
</tr>
<tr>
<td>Gottman et al. (1995)</td>
<td>92.3</td>
<td>17.1</td>
</tr>
<tr>
<td>Waltz et al. (2000)</td>
<td>99.5</td>
<td>18.3</td>
</tr>
</tbody>
</table>
Hanson et al.’s (1997) sample was a general forensic sample, and the Gottman et al. (1995) and Waltz et al. (2000) samples were community militarily distressed and violent samples. Compared to previous treatment samples, the current sample is similar to others on a measure of martial satisfaction.

**Personality Disorder Variables**

Table 17 shows the frequencies and proportions of personality disorders found in the study sample, and the mean number of personality disorders for the study participants.
Table 17

Frequencies and percentages of personality disorders present, absent, and average number of personality disorders, \( (N = 91) \)

<table>
<thead>
<tr>
<th>Personality disorder</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histrionic</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not Otherwise Specified</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dependent</td>
<td>1</td>
<td>1.10</td>
</tr>
<tr>
<td>Schizoid</td>
<td>3</td>
<td>3.30</td>
</tr>
<tr>
<td>Schizotypal</td>
<td>5</td>
<td>5.50</td>
</tr>
<tr>
<td>Paranoid</td>
<td>5</td>
<td>5.50</td>
</tr>
<tr>
<td>Avoidant</td>
<td>10</td>
<td>10.99</td>
</tr>
<tr>
<td>Passive-Aggressive</td>
<td>10</td>
<td>10.99</td>
</tr>
<tr>
<td>Depressive</td>
<td>11</td>
<td>12.09</td>
</tr>
<tr>
<td>Obsessive-Compulsive</td>
<td>17</td>
<td>18.68</td>
</tr>
<tr>
<td>Narcissistic</td>
<td>17</td>
<td>18.68</td>
</tr>
<tr>
<td>Borderline</td>
<td>30</td>
<td>32.97</td>
</tr>
<tr>
<td>Antisocial</td>
<td>56</td>
<td>61.54</td>
</tr>
<tr>
<td>Personality Disorder absent</td>
<td>18</td>
<td>19.78</td>
</tr>
</tbody>
</table>

Mean # of PD's               \( 1.81 (SD = 1.73) \)
Comparisons to two previous studies (i.e., Hart et al., 1993; Bartel, 1995) using non-MCMI measures of personality disorders in spousal assaulters were made, as the MCMI-II appears to overestimate personality disorders in general (Choca & Van Denberg, 1997), and in this population (Hart et al., 1993), and was developed for a psychiatric population.

Hart et al. (1993) found that the following percentages met criteria for DSM-III-R personality disorders using the Personality Disorder Examination (Loranger, 1988): 29.4% antisocial, 26.5% sadistic, 23.5% borderline, 8.8% histrionic, 5.9% narcissistic, 5.9% avoidant, 5.9% passive-aggressive, 2.9% obsessive compulsive, and 2.9% self-defeating. (No individuals met criteria for dependent, schizotypal, schizoid, and paranoid personality disorders.) Also, 50.0% met criteria for any personality disorder, and the average number of personality disorders per participant was 1.12. The authors note that these may be conservative estimates.

Bartel’s (1995) study did not assess all possible personality disorders. Of the four that were assessed (antisocial, sadistic, borderline, and dependent) using the Personality Disorder Examination (Loranger, 1988), he found that 21.3% met criteria for antisocial personality disorder, 19.5% met criteria for borderline personality disorder, 6.1% met criteria for sadistic personality disorder, and 2.4% met criteria for dependent personality disorder.

A few other studies assessed the presence of antisocial personality disorder in spousal assault populations. Hanson et al. (1997), using questionnaire items from DSM-III-R, found that 58.0% met criteria for Antisocial Personality Disorder for a very large ($N = 813$) sample. Cadsky and Crawford (1988) found that 16.3% of their forensic sample met DSM-III criteria for antisocial personality disorder.

Compared to the Hart et al. (1993) study population, the current study appears to have a greater degree of personality pathology, as the current sample has an average of 1.81 personality
disorders compared to 1.12 in the Hart et al. (1993) study. However, direct comparisons are cautiously made due to the difference between DSM-III-R and DSM-IV.

In the current study, 61.3% met criteria for antisocial personality disorder; similar to the rate found by Hanson et al. (1997) sample, yet much higher than Hart et al. (1993) and Bartel (1995) samples. In the current study, a greater percentage (32.3) met criteria for borderline personality disorder, higher than the 23.5% and 19.5% seen in the Hart et al. (1993) and Bartel (1995) studies respectively. (Comparisons on sadistic personality disorder are not possible as this diagnosis was removed from DSM-IV.)

Low levels of dependent personality disorder are observed across the three studies. What is similar across the studies is that antisocial and borderline personality disorders are the two most prevalent categories (if sadistic personality disorder is excluded). Other notable differences between the present study and the Hart et al. (1993) study are the higher proportion of narcissistic personality disorder in the present study, 18.3% compared to 5.9%, and obsessive-compulsive personality disorders, 18.3% compared to 2.9%.

**Validity Checks of Men's Self-Reported Abuse**

As mentioned in the Method, an attempt was made to contact the female partner of every fifth study participant to provide some information on men’s possible under-reporting of the physical and psychological abuse they have used towards their female partners. If the man did not have a partner, a successive man’s partner was contacted. These women were asked to complete measures of physical abuse (SVAWS) and psychological abuse (PMWI) that they may have received. For the 91 men, contact with 19 partners was attempted. Eleven (57.89%) were contacted and agreed to complete the measures over the telephone. Female partner’s reports of physical abuse were significantly correlated ($r = .92$, $p < .001$) with men’s self-reported use of
physical abuse towards their female partners. Female partner's reports of psychological abuse were significantly correlated ($r = .77$, $p < .01$) with men's self-reported use of psychological abuse towards their female partners. These data suggest that the men were being reasonably honest in their self-reports of the amounts of physical and psychological abuse they had perpetrated against their female partners.

Data Analytic Steps and Results

Prior to following Hair et al.'s (1998) cluster analysis steps, it is standard data analytic procedure to examine the descriptive statistics and the variable distributions (e.g., Saunders, 1992). The entered data was also checked for errors. Descriptive statistics did not show any errors in the data entry or scoring.

The distribution of the avoidant, dependent, histrionic, passive-aggressive, paranoid, schizoid, and schizotypal personality scores were positively skewed. The shape of these personality distributions also reflected the low frequencies of the corresponding personality disorders as seen in Table 17. The distributions of the borderline, narcissistic, and obsessive-compulsive scores were bimodal. The distribution of the antisocial score was trimodal.

For the psychological and behaviour variables, the distribution of criminal convictions was positively skewed. The distributions of depression, drug abuse, alcohol abuse, and extrafamilial violence variables were bimodal. The distributions of psychological abuse and anger were trimodal. As explained in Saunders (1992), skewed and multimodal distributions provided further evidence to warrant the application of cluster analyses.

The next data analytic steps were steps 2 through 5 of Hair et al.'s (1998) cluster analytic algorithm. (Step 1, the selection of a research design in cluster analysis, and cluster variables has already occurred.)
2. Select a research design in cluster analysis, detect and consider removing outliers, and standardize the data.

3. Assess the assumptions being used in cluster analysis, i.e., the representativeness of the sample, and the impact of multicollinearity.

4. Derive the clusters and assess the overall fit.

5. Interpret the clusters.

Step 2

Regarding Step 2, two outliers were removed (as described on page 109). These outliers were considered likely to be an undersampling of actual groups in the population, and also fell into the range of possible psychopathy (Hart et al., 1995) with scores of 20 and 21. The population of spousal assailters would also not exclude psychopaths (Hart et al., 1993), yet they may be difficult to sample or may comprise a low proportion in the spousal assailter population.

The personality disorder, and psychological and behavioural scores were standardized to control for bias introduced by the different scales used to measure these variables. Standardized scores were used in all data analytic procedures.

Step 3

For Step 3, two assumptions of cluster analysis are sample representativeness and absence of multicollinearity. The representativeness of the sample has been discussed in the previous section; it appears that the sample is similar to previous studies (e.g., from community sampling to court-ordered treatment). However, there are differences between the current study sample and previous studies on socio-demographic and psychological variables. Since no previous studies have collected data on all typology relevant variables, assessing the impact of
differences on these variables is difficult. Perhaps this study provides a profile of these variables for comparisons in future studies. The potential impacts of these differences are described in the discussion.

Multicollinearity is the intercorrelation among variables used in clustering, “where variables too highly correlated with one another distort the cluster solution by overweighting” (Hair & Black, 2000, p.189). However, it was expected that there were some intercorrelations among the personality disorder variables as, on average, the study sample had a mean of 1.81 personality disorders and some personality disorders scores (e.g., depressive and borderline) were expected to be correlated. The decision to correct for intercorrelations must be based upon both theoretical and data analytic reasons. Therefore, for the theoretical reasons mentioned above, and to compare to other studies, intercorrelations among cluster variables were not corrected for.

Step 4

For Step 4, the derivation of clusters was done by non-hierarchical methods to permit a test of the Holtzworth-Munroe and Stuart (1994) theoretical model. A rigorous test of the Holtzworth-Munroe and Stuart (1994) theoretical typology is (a) a confirmatory cluster analysis using non-hierarchical methods, (b) using discriminant function analyses to explore differences between the groups on the cluster variables, and (c) performing group comparisons on the behavioural and psychological variables that the Holtzworth-Munroe and Stuart (1994) theoretical typology groups are predicted to vary upon.

The confirmatory cluster analysis using non-hierarchical methods was conducted using a K means procedure. In this procedure, the number of groups to be derived is selected (which was three). The K means procedure uses the squared Euclidean distance in the derivation of groups.
The analysis produced a three-group solution with 60 participants in group 1, 19 in group 2, and 12 in group 3.

In assessing the overall fit of the cluster solution, discriminant function analysis was used. This analysis showed a high degree of overall fit in the cluster solution, with 95.6% of the variance accounted for in making participant assignment to the three groups using these predictors, highest of other exploratory analyses. See Appendix F for supplementary exploratory solutions for a three-group solution including the psychological and behavioural variables in the derivation of clusters, and four group solutions with and without the psychological and behavioural variables in the derivation of clusters.

Table 18 shows the means of the personality disorder cluster variables, and the ANOVA comparisons across the groups. The finding of significant differences with these ANOVA comparisons is expected as the procedure attempts to form groups that differ (SPSS, 1999). However, the relative size of the statistics gives information about each variable's contribution to the separation of the groups (SPSS, 1999).

---

2 This percentage was the highest for other exploratory solutions: a three group solution including the psychological and behavioural variables in the derivation of clusters, and four group solutions with and without the psychological and behavioural variables.
Table 18

*Mean group differences on SCID-II personality disorder variables, (N = 91)*

<table>
<thead>
<tr>
<th>SCID-II variable</th>
<th>Cluster Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>n = 60</td>
</tr>
<tr>
<td>Avoidant</td>
<td>1.10</td>
</tr>
<tr>
<td>Dependent</td>
<td>0.45</td>
</tr>
<tr>
<td>Obsessive Compulsive</td>
<td>1.50</td>
</tr>
<tr>
<td>Passive-aggressive</td>
<td>1.25</td>
</tr>
<tr>
<td>Depressive</td>
<td>1.55</td>
</tr>
<tr>
<td>Paranoid</td>
<td>0.85</td>
</tr>
<tr>
<td>Schizotypal</td>
<td>0.43</td>
</tr>
<tr>
<td>Schizoid</td>
<td>0.35</td>
</tr>
<tr>
<td>Narcissistic</td>
<td>1.87</td>
</tr>
<tr>
<td>Borderline</td>
<td>2.42</td>
</tr>
<tr>
<td>Antisocial</td>
<td>2.83</td>
</tr>
</tbody>
</table>

**p < .01, ***p < .001

These results show that all personality disorder variables except avoidant made a contribution to the separations of the three groups. Also, one large and two small groups were formed. Prior to an examination of the frequencies of personality disorders which meet or exceed the SCID-II criteria and differences between the groups on hypothesized psychological and
behavioural characteristics, discriminant function analyses was used to provide more information on the three group cluster solution.

Stepwise discriminant function analysis was used to determine which variables contributed to the group differences and in what amount. The Wilk’s lambda was significant ($\lambda = 0.161, X^2 = 151.51, df = 22, p < .001$).

Table 19 presents the structure matrix for the standardized discriminant function coefficients of the personality cluster variables. These coefficients are analogous to beta weights, but cannot be interpreted as absolute contributions due to intercorrelations of the variables.
Table 19

*Standardized discriminant function coefficients of clustering variables, (*N* = 91)*

<table>
<thead>
<tr>
<th></th>
<th>Function 1</th>
<th>Function 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borderline</td>
<td>0.58</td>
<td>0.20</td>
</tr>
<tr>
<td>Dependent</td>
<td>0.50</td>
<td>-0.16</td>
</tr>
<tr>
<td>Paranoid</td>
<td>0.45</td>
<td>0.01</td>
</tr>
<tr>
<td>Passive-aggressive</td>
<td>0.45</td>
<td>0.12</td>
</tr>
<tr>
<td>Obsessive Compulsive</td>
<td>0.42</td>
<td>0.16</td>
</tr>
<tr>
<td>Depressive</td>
<td>0.41</td>
<td>0.23</td>
</tr>
<tr>
<td>Schizoid</td>
<td>0.29</td>
<td>0.19</td>
</tr>
<tr>
<td>Antisocial</td>
<td>0.26</td>
<td>0.18</td>
</tr>
<tr>
<td>Avoidant</td>
<td>0.13</td>
<td>0.01</td>
</tr>
<tr>
<td>Schizotypal</td>
<td>0.46</td>
<td>-0.65</td>
</tr>
<tr>
<td>Narcissistic</td>
<td>0.25</td>
<td>0.46</td>
</tr>
</tbody>
</table>

This table shows that for the first function, borderline personality scores contributed most to the differentiation between the groups, whereas in the second function, schizotypal personality scores contributed most the differentiation between groups. An examination of the discriminant function plots showed that function 1 differentiated the first group (*n* = 60) from the other two, with group 1 characterized with lower frequency antisocial personality disorder in comparison to groups 2 and 3. The personality disorder variables of borderline, dependent, schizotypal,
paranoid, passive-aggressive and obsessive-compulsive had the largest correlations with the
differentiation for the first function. For function 2, the personality disorder variables of
schizotypal and narcissistic had the largest correlations with the differentiation between groups 2
and 3, with group 2 characterized as moderate frequency of general psychopathology. These
findings are best interpreted when included in a comparison of the personality disorder
proportions in each of the three groups in Table 20, and in comparison to the Holtzworth-Munroe
and Stuart (1994) model.

To further test the Holtzworth-Munroe and Stuart (1994) theoretical typology, group
comparisons were performed on the behavioural and psychological variables that the groups are
predicted to vary upon. Table 20 shows the means and univariate ANOVA comparisons of the
behavioural and personality variables. Table 20 also shows the results of post-hoc tests (where
significant univariate ANOVA differences were found) comparing means between groups on the
theoretically predicted psychological and behavioural variables. The mean number of personality
disorders and the total score on the Psychopathy Check List - Screening Version are included to
help interpret the cluster solutions.
Table 20

Mean group differences, psychological and behavioural variables, (N = 91)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 60</td>
<td>n = 19</td>
<td>n = 12</td>
<td></td>
</tr>
<tr>
<td>Physical violence</td>
<td>24.55</td>
<td>32.53</td>
<td>26.08</td>
<td>1.29</td>
</tr>
<tr>
<td>Psychological abuse</td>
<td>113.33</td>
<td>128.32</td>
<td>135.08</td>
<td>3.62*</td>
</tr>
<tr>
<td>Extrafamilial violence</td>
<td>14.90</td>
<td>18.68</td>
<td>23.33</td>
<td>2.31</td>
</tr>
<tr>
<td>Criminal convictions</td>
<td>7.51</td>
<td>7.56</td>
<td>7.67</td>
<td>0.00</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>11.15&lt;sub&gt;a&lt;/sub&gt;</td>
<td>15.26</td>
<td>19.92&lt;sub&gt;b&lt;/sub&gt;</td>
<td>6.66**</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>11.13</td>
<td>16.74</td>
<td>16.92</td>
<td>4.90*</td>
</tr>
<tr>
<td>Depression</td>
<td>15.10&lt;sub&gt;a&lt;/sub&gt;</td>
<td>21.68&lt;sub&gt;b&lt;/sub&gt;</td>
<td>22.67&lt;sub&gt;b&lt;/sub&gt;</td>
<td>6.03**</td>
</tr>
<tr>
<td>Anger</td>
<td>113.38&lt;sub&gt;a&lt;/sub&gt;</td>
<td>121.68</td>
<td>131.17&lt;sub&gt;b&lt;/sub&gt;</td>
<td>4.36*</td>
</tr>
<tr>
<td>Mean Personality Disorders</td>
<td>0.97&lt;sub&gt;a&lt;/sub&gt;</td>
<td>2.74&lt;sub&gt;b&lt;/sub&gt;</td>
<td>4.58&lt;sub&gt;c&lt;/sub&gt;</td>
<td>57.12***</td>
</tr>
<tr>
<td>PCL: SV</td>
<td>9.15&lt;sub&gt;a&lt;/sub&gt;</td>
<td>11.74</td>
<td>13.50&lt;sub&gt;b&lt;/sub&gt;</td>
<td>3.95*</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$, *** $p < .001$, Groups with different subscripts are significantly different from each other using Tukey’s HSD.

Five of eight theoretically relevant psychological and behavioural variables were significantly different across the three groups. There were differences in psychological abuse, alcohol abuse, drug abuse, depression and anger. There were no differences on levels of physical violence, extrafamilial violence, and criminal convictions.
However, post-hoc tests did not show significant group differences for all individual variables/predictors where main effects were found across groups. For psychological abuse and drug abuse, the differences between group one and three approached significance \( (p = .07) \). Prior to contrasting these findings with the Holtzworth-Munroe and Stuart (1994) theoretical typology, a comparison of the personality disorder frequencies is necessary to interpret the clusters. It is important to note that Holtzworth-Munroe and Stuart (1994) did not specify that there would be significant differences between the groups on theoretically predicted variables; they did hypothesize that there would be categorical level (low, medium, and high) differences between them.

**Step 5**

Regarding Step 5 of cluster interpretation, general labels were developed to compare the current solution and results to previous studies. Group 1 is best described as a low-level antisocial (LLA) group, comprising 65.93% of the sample. Although just over half of group 1 participants (51.67%) met criteria for DSM-IV antisocial personality disorder, they should not be labelled as an antisocial personality disorder group. They should be described as an antisocial group as they also have a criminal history (with an average of 7.54 convictions), and they have engagement in physical violence outside the home with non-familial members in the last year.

Group 3, based on its high mean number of personality disorders, types of personality disorders, highest levels of anger, depression, and substance abuse is best described as Severe Pathological. In the Severe Pathological Group the most frequent personality disorders were borderline/antisocial/obsessive/narcissistic (SP-BAON). This group comprised 13.19% of the sample.
Group 2 appears to fall between group one and three on psychopathology and theoretically predicted variables. Group 2 is best described as Moderate Pathological, with the most frequent personality disorders being antisocial/borderline/obsessive (MP-ABO). This group comprised 20.88% of the sample.
Table 21

Count and Percentage Meeting Personality Disorder Criterion For Each Group, \( (N = 91) \)

<table>
<thead>
<tr>
<th>Personality Disorder</th>
<th>Low-Level</th>
<th></th>
<th>Moderate</th>
<th></th>
<th>Severe</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
<td>Count</td>
<td>Percent</td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Antisocial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant</td>
<td>6</td>
<td>10.00</td>
<td>1</td>
<td>5.23</td>
<td>3</td>
<td>25.00</td>
</tr>
<tr>
<td>Dependent</td>
<td></td>
<td></td>
<td>1</td>
<td>5.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obsessive-Compulsive</td>
<td>2</td>
<td>3.33</td>
<td>7</td>
<td>36.84</td>
<td>8</td>
<td>66.67</td>
</tr>
<tr>
<td>Passive-Aggressive</td>
<td>2</td>
<td>3.33</td>
<td>4</td>
<td>21.05</td>
<td>4</td>
<td>33.00</td>
</tr>
<tr>
<td>Depressive</td>
<td>3</td>
<td>5.00</td>
<td>3</td>
<td>15.79</td>
<td>5</td>
<td>41.67</td>
</tr>
<tr>
<td>Paranoid</td>
<td></td>
<td></td>
<td>2</td>
<td>10.52</td>
<td>3</td>
<td>25.00</td>
</tr>
<tr>
<td>Schizotypal</td>
<td></td>
<td></td>
<td>5</td>
<td>26.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizoid</td>
<td></td>
<td></td>
<td>1</td>
<td>5.23</td>
<td>2</td>
<td>16.67</td>
</tr>
<tr>
<td>Histrionic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narcissistic</td>
<td>6</td>
<td>10.00</td>
<td>4</td>
<td>21.05</td>
<td>7</td>
<td>58.33</td>
</tr>
<tr>
<td>Borderline</td>
<td>8</td>
<td>13.33</td>
<td>10</td>
<td>52.63</td>
<td>12</td>
<td>100.00</td>
</tr>
<tr>
<td>Antisocial</td>
<td>31</td>
<td>51.67</td>
<td>14</td>
<td>73.68</td>
<td>11</td>
<td>91.67</td>
</tr>
<tr>
<td>Psychopathy likely*</td>
<td>4</td>
<td>6.67</td>
<td>2</td>
<td>10.52</td>
<td>2</td>
<td>16.67</td>
</tr>
</tbody>
</table>

* - scores of 18 to 24 on the Psychopathy Checklist: Screening Version
Comparison to the Holtzworth-Munroe and Stuart (1994) Typology

In the consideration of the personality disorders (Table 21) and theoretically predicted psychological and behavioural variables (Table 20), the Low Level Antisocial group had the lowest levels of physical violence, psychological abuse, extrafamilial violence, criminal convictions, drug and alcohol use, and average number of personality disorders. Thus, there appears to be a relationship between the type of personality pathology, psychological abuse to female partners, and the variables that Holtzworth-Munroe and Stuart (1994) groups would differ upon.

The Moderate Pathological group had the widest range of personality disorders, and was in-between the Low Level Antisocial and Severe Pathological groups on the average number of personality disorders and proportion of “psychopathy likely” cases. This group had mean scores on the theoretically relevant variables of psychological abuse, extrafamilial violence, alcohol use, and anger in between the Low Level Antisocial and Severe Pathological groups, yet it had the highest levels of physical violence and criminal convictions. Its amount of drug abuse and depression was similar to the Severe Pathological group.

What is apparent in this study is that the family-only batterer does not clearly exist in this study sample when comparing the current findings to Holtzworth-Munroe and Stuart (1994) hypothesized typology. It is important to note that the three groups of spousal assaulters were derived based on scores on the personality disorder variables, and not on those that met criteria for personality disorders (Table 21 shows the frequency and proportion of those that met criteria for personality disorders in each group). This method has been used in the majority of previous typology derivation research (e.g., Hamberger et al., 1996; Holtzworth-Munroe et al., 2000).

Secondly, the level of personality pathology, as indicated by the average number of personality disorders, increases from group one to three, with the exception of avoidant
personality disorder. In parallel, the average number of personality disorders increases from
group one to three. As seen in Table 20, the average number of personality disorders increases
significantly from group one to three.

Third, Table 20 shows increases from groups one to three on five (of eight) theoretically
predicted psychological and behavioural variables with univariate ANOVAs were significant
across the groups. These five theoretically predicted variables were psychological abuse, alcohol
abuse, drug abuse, depression, and anger. (The variables that were not significantly different
across groups were physical violence, criminal convictions, and extrafamilial violence.) This
general increase in most theoretically predicted variables parallels the increases in the level of
personality pathology across the groups (as shown by the mean number of personality disorders).
Furthermore, the increases in the theoretically predicted psychological and behavioural variables
roughly parallels hypothesized increases across the groups in the Holtzworth-Munroe and Stuart
(1994) model. For example, Holtzworth-Munroe and Stuart (1994) predicted that the family-only
group would have a "low" level of substance abuse, whereas the generally violent-antisocial
group would have a "high" level of substance abuse.

Fourth, discriminant function analysis showed a high overall fit in the cluster solution,
yet the variables (i.e., borderline, dependent, schizotypal, and narcissistic) that were most highly
correlated with the differentiation between the groups (LLA vs. MP vs. SP, MP vs. SP) were not
easily interpreted. This interpretive difficulty exists because previous research has (a) not used all
personality disorder variables in testing the Holtzworth-Munroe and Stuart (1994) model (e.g.,
Waltz et al., 2000), and (b) not reported the personality disorder variables most related to
differentiation of subgroups (e.g., Saunders, 1992).

Fifth, Table 21 also shows the frequencies and percentages for each group whose score on
the Psychopathy Checklist Screening Version was 18 or higher, indicating likely psychopathy
(Hart et al., 1995). Psychopathy is likely to be present in the population of spousal assailers (Hart et al., 1993), yet the base rate or prevalence in subgroups has yet to be established. The data available in this study only hint at the possible prevalence rate of psychopathy in the population of spousal assailers.

In summary, the sociodemographic comparisons showed some differences between the current sample and previous samples. The impact of each difference is reviewed in the discussion. The current findings do not support the Holtzworth-Munroe and Stuart (1994) groups, yet the findings are supportive of differences between groups on variables hypothesized (e.g., substance abuse) by the Holtzworth-Munroe and Stuart (1994) model. In the subsequent chapter the ways in which the findings are consistent with their theoretical typology is presented. A comparison of the study findings to previous research further clarifies the interpretation of the study findings.
Chapter 5

Discussion

The purpose of this study was to empirically test the Holtzworth-Munroe and Stuart (1994) typology of men who assault their female partners. The current study tested this typology using quantitative assessment of the personality disorders and the behavioural and psychological characteristics that men who assault their female partners are known to vary upon. Statistical procedures were used to test the existence of the theoretical typology. Holtzworth-Munroe and Stuart (1994) proposed that the population of spousal assaulters is comprised of three subgroups: 50% family-only, 25% dysphoric-borderline, and 25% generally violent-antisocial.

This study used a more conservative measure of personality disorders, the Structured Clinical Interview for DSM-IV Personality Disorders than compared to previous research, which has heavily relied upon the Millon Clinical Multiaxial Inventories (MCMI, MCMI-II, and MCMI-III) (e.g., Hamberger et al., 1996b; Rothschild et al., 1997; Waltz et al., 2000). This study included quantitative assessment of all psychological and behavioural variables (i.e., physical violence towards female partners, psychological abuse towards female partners, generalized violence, criminal convictions and legal problems, substance abuse, depression and anger) proposed by Holtzworth-Munroe and Stuart (1994). This group of variables has not been measured in exploring subgroups of spousal assaulters except for one previous study (i.e., Holtzworth-Munroe et al., 2000). A further strength of this study is that data were collected from different geographic locations within a large metropolitan area in attempt to improve the generalizability of the study findings. Since 38.46% of the current sample was currently in spousal assault treatment (See Table 6) and 62.2% were referred for spousal assault treatment, the current study sample is characterized as both a combined spousal assault treatment and general forensic sample. Since previous research has relied usually on one sample type, e.g.,
spousal assault treatment, the current study may clarify some differences in typology findings from different sample types.

The study advanced one hypothesis:

Hypothesis: The three primary psychological and behavioural types of men who assault their female partners proposed by Holtzworth-Munroe and Stuart (1994) exist in a sample of the population of men who assault their female partners.

Overall, the results of the present study did not confirm the study hypothesis. The Holtzworth-Munroe and Stuart (1994) typology type was not revealed in the study sample. The reasons why the study hypothesis was not supported are discussed below.

*Failure to Support the Holtzworth-Munroe and Stuart (1994) Typology*

Three groups, characterized as Low Level Antisocial (65.93%), Moderate Pathological (20.88%), and Severe Pathological (13.19%) were found in the current study. Testing of the cluster solution (with discriminant function analysis) showed that the personality disorder predictors accounted for a high degree (95.6%) of the variance in personality disorder variables. Therefore, there is strong evidence for the role of differences in personality disorder variables in deriving the clusters in the current study.

The reasons for failing to support the Holtzworth-Munroe and Stuart (1994) typology are differences between the Holtzworth-Munroe and Stuart (1994) and the current study groups in (a) personality disorder types, (b) hypothesized psychological and behavioural variables, and (c) psychopathology. A review of these differences suggests that subgroups of spousal assaulters may be more heterogeneous than previously considered.
Differences in Personality Disorder Types

The three study groups were not characterized by the presence (or absence) of the personality disorder types hypothesized by Holtzworth-Munroe and Stuart (1994). The most common personality disorder in the Low Level Antisocial (LLA) group was antisocial (51.67%), and the group had an average of 0.97 personality disorders. The Holtzworth-Munroe and Stuart (1994) family-only group is hypothesized to have no personality disorder or a passive-dependent personality disorder, and these personality disorders were essentially absent in the LLA group.

In both the Moderate and Severe Pathological groups, borderline, antisocial, obsessive-compulsive and narcissistic groups were frequent. The groups had an average of 2.74 and 4.58 personality disorders, respectively. In the Moderate Pathological (MP) group, the most common personality disorders were antisocial (73.68%), borderline (52.63%), and obsessive-compulsive (36.84%). In the Severe Pathological (SP) group, the most common personality disorders were borderline (100%), antisocial (91.67%), obsessive-compulsive (66.67%), and narcissistic (58.33%).

In the Holtzworth-Munroe and Stuart (1994) typology, borderline or schizoidal personality disorders were hypothesized to be distinct in the dysphoric/borderline group, and antisocial personality disorder or psychopathy were hypothesized to be distinct in the generally violent/antisocial groups. Borderline, and antisocial personality disorders were not separate in the current study MP or SP groups. Holtzworth-Munroe and Stuart (1994) did not hypothesize that the dysphoric/borderline and generally violent/antisocial groups would have high frequencies of obsessive-compulsive and narcissistic personality disorders. The personality disorder types in the current study are neither distinct nor similar to the Holtzworth-Munroe and Stuart (1994) model.
Differences in Hypothesized Psychological and Behavioural Variables

The differences found between the current study groups and Holtzworth-Munroe and Stuart (1994) groups on psychological and behavioural variables provides further evidence for refuting the existence of the Holtzworth-Munroe and Stuart typology in the study sample. These differences are compared to the descriptors of low, moderate and high hypothesized by Holtzworth-Munroe and Stuart (1994). In the current study groups, significant differences were found between groups on five of eight variables Holtzworth-Munroe and Stuart (1994) hypothesized they would vary upon. The LLA, MP and SP groups varied significantly in their levels of psychological abuse, alcohol abuse, drug abuse, depression and anger. They did not differ significantly on amounts of physical violence to their partners, extra-familial violence and previous criminal convictions.

Men's self-reported physical abuse towards female partners was not different across groups in the current study. The high and significant correlation between some men's and their female partner's reports of physical abuse ($r = .92, p < .001$) supports the finding of a lack of differences in physical abuse across the current study groups.

In the Holtzworth-Munroe and Stuart (1994) model, the family-only group was hypothesized to have low levels of physical violence towards female partners and the dysphoric-borderline and generally violent-antisocial groups were hypothesized to have moderate to high levels of physical violence towards female partners. The family-only to the dysphoric-borderline to generally-violent antisocial group are hypothesized to have low, low to moderate, and high levels of both extra-familial violence and previous criminal convictions in the Holtzworth-Munroe and Stuart (1994) model. The lack of differences between the current study groups on extra-familial violence and criminal convictions does not support hypothesized differences on these variables in the Holtzworth-Munroe and Stuart (1994) model.
The differences between the current study groups on psychological abuse, alcohol abuse, drug abuse, depression and anger do not suggest the similarity of the family-only and LLA, dysphoric-borderline and MP, and generally violent-antisocial and SP groups. The differences in psychological abuse across groups are similar in the current study and Holtzworth-Munroe and Stuart (1994) model. In the Holtzworth-Munroe and Stuart (1994) model, the dysphoric-borderline and generally violent-antisocial groups are hypothesized to have a moderate and high levels of alcohol and drug abuse. The differences in alcohol abuse across are similar in the current study and Holtzworth-Munroe and Stuart (1994) groups. However, the MP and SP groups had the same amount of drug abuse. In the Holtzworth-Munroe and Stuart (1994) model, high levels of substance abuse are related to an antisocial lifestyle. The substance abuse similarities of the MP and SP groups cannot be interpreted the same way.

In the Holtzworth-Munroe and Stuart (1994) model, the dysphoric-borderline and generally violent-antisocial groups are hypothesized to have high and low levels of depression, respectively. In the Holtzworth-Munroe and Stuart (1994) dysphoric-borderline group, high levels of depression are related to borderline personality characteristics. Yet in the current study, the MP and SP groups had similar amounts of depression. Thus in the current study, the MP group cannot be characterized as including borderline personality disorder and depression.

Differences in anger across study groups were not consistent with the Holtzworth-Munroe and Stuart (1994) model. The MP group had anger scores in-between the LLA and SP groups, whereas the borderline-dysphoric group in the Holtzworth-Munroe and Stuart (1994) model was hypothesized to have the highest level of anger. The SP group had the highest level of anger, yet the generally violent-antisocial group is hypothesized to have a moderate level of anger.
In sum, the differences between the groups identified in the current study and by Holtzworth-Munroe and Stuart (1994) on psychological and behavioural variables are not the same. Only psychological abuse and alcohol abuse paralleled the differences between the current study and the Holtzworth-Munroe and Stuart (1994) groups. Differences between drug abuse, anger, depression in the current study groups were not consistent with the Holtzworth-Munroe and Stuart (1994) groups. Furthermore, no differences were found between physical abuse, extra-familial violence and criminal convictions.

*Differences in Psychopathology*

The LLA, MP and SP groups had an average of 0.97, 2.74, and 4.58 personality disorders. The Holtzworth-Munroe and Stuart (1994) groups are hypothesized to have no personality disorder (family-only), or be characterized by either borderline-schizoidal (borderline-dysphoric) or antisocial (generally violent-antisocial) personality disorder. The Holtzworth-Munroe and Stuart (1994) model does not predict increases in the average number of personality disorders across groups. None of their groups were hypothesized to have the average number of personality disorders found in the current study.

In sum, the differences in personality disorder types, psychological and behavioural variables, and overall psychopathology provide adequate evidence to state that the Holtzworth-Munroe and Stuart typology did not exist in the study sample. To provide further support and help interpret study findings, specific sampling differences and issues are reviewed. It is important to first specify the sampling differences and issues prior to interpretation of the current study findings in general and in the context of previous typology research.
Sampling Issues

Sampling issues specific to the current study and previous studies are relevant for two reasons. First, some differences in the current study sample may have an effect on the study findings. For example, the current study sample had higher levels of depression and substance abuse than previous research. Second, reviewers of previous research on typologies of spousal assaulters have noted the possibility that differences in research findings may be reflective of differences in the study samples (Gortner et al., 1997). Thus, the differences in study samples also limits their generalizability (Waltz et al., 2000). For example, it may be that the findings are different for spousal assault treatment samples (e.g., Tweed & Dutton, 1998) and community-recruited samples (e.g., Waltz et al., 2000). As mentioned previously, the current study sample is a combined treatment and general forensic sample, as 38.46% were currently in spousal assault treatment and the others were recruited from probation offices. Differences between the current study findings and studies using community recruited samples may be related more to the sample differences than reflecting inconsistencies in study findings.

Differences in the Current Study Sample

Compared to previous research, there are differences in the sociodemographic, psychological and behavioural characteristics of the current study sample. The two types of differences are reviewed separately.

Sociodemographic.

Compared to previous research, the current study sample had a higher proportion of research participants who were unemployed, a smaller proportion in a relationship, and a higher proportion with a First Nations ethnic heritage. Both unemployment and relationship difficulties
are considered risk factors for spousal assault (Kropp et al., 1995). However, these demographic differences have not been specifically suggested to be related to differences in groups of spousal assaulters (e.g., Hamberger et al., 1996b; Saunders, 1992). However, this rationale may not hold for a higher percentage of research participants with a First Nations ethnic heritage. The possibility of a relationship between First Nations ethnicity and groups of spousal assaulters has not been explored in previous research. This is because previous research samples have not included such a large proportion of First Nations participants.

In the current sample, 24.18% of the men were of First Nations ethnicity. First Nations men appear to have greater rates of abusive behaviour towards female partners (Ellis, 1989; Whipp, 1985) and have been perceived to have greater rates of alcohol and drug abuse, mental health problems, and more previous criminal convictions. A potential methodological limitation is the potential bias and decreased validity with the use of standardized psychological instruments with minority cultures. This possibility remains, and has yet to be addressed in the research with First Nations men who assault their female partners. If these measurement problems exist, it may affect the current study findings.

Whipp (1985) found that 80% of aboriginal women had been both physically and psychologically abused in married and common-law relationships, and these higher rates have been found in other research (Ellis, 1989). However, higher rates of physical violence and psychological abuse were not found when comparing the First Nations men to the other men in this sample. The First Nations men did not have higher substance abuse difficulties, depression, anger, or extrafamilial violence compared to the rest of the sample. They did have higher rates of previous criminal convictions (10.36 vs. 6.58), and this finding appears consistent with the finding of racial bias in the reporting of crime (Stanton et al., 1997). The First Nations subgroup
did not have significantly more mental health difficulties, as measured by personality disorders, than the other men in the current study.

Regarding the validity of the instruments used in the current study with First Nations research participants, none of the manuals on their use or articles on their validity highlight problems with their use with minority populations. Since these instruments have not been widely used with this population, the potential for compromised validity exists.

*Psychological and behavioural differences.*

Compared to previous research, the current study sample had higher levels of anger, substance abuse, depression, and a higher number of average personality disorders. Only the higher average number of personality disorders may affect the results of the cluster analysis. Anger, substance abuse and depression were not used to develop the study groups. It is possible that the differences in anger, substance abuse and depression are related to the spousal assault treatment sample used in the current study. However, when considering these differences with respect to previous research, it is possible that these differences may have an impact in comparing the study findings to previous research.

It is important to note that there is not enough previous research to draw conclusions about the possible influence of anger, substance abuse and depression on personality disorder typologies. The reason why such a possible influence cannot be determined is that previous research has not comprehensively measured all psychological and behavioural variables spousal assaulters vary upon (i.e., those identified by Holtzworth-Munroe & Stuart, 1994). At present, there is no evidence to suggest the typology research findings vary due to differences in anger, substance abuse, depression, and a higher average number of personality disorders.
Study Findings and Comparisons to Previous Typology Research

In this section, the findings of the current study are compared to previous typology research. As noted by more recent reviewers and research (Gortner et al., 1997; Waltz et al., 2000), differences in previous study findings may be related to the study sample type (i.e., community-recruited, general forensic, and spousal assault treatment). Therefore, the comparison of the current study findings to previous research includes the consideration of the study sample type. A general comment is that the Holtzworth-Munroe and Stuart (1994) theoretical typology was developed using research findings from (a) court- or self-referred for treatment for spousal assault samples (e.g., Elbow, 1977), (b) spousal assault treatment samples (e.g., Saunders, 1992), and (c) samples of data collected from men’s female partners (e.g., Gondolf, 1988). The Holtzworth-Munroe and Stuart (1994) typology was not based upon any community-recruited samples.

Current Study Findings

In brief, three groups of spousal assaulters were found in the current study: Low Level Antisocial (65.93%), Moderate Pathological (20.88%), and Severe Pathological (13.19%). These three groups showed consistent increases in the average number and percentages of personality disorders from the Low Level Antisocial (LLA) to the Moderate Pathological (MP) and Severe Pathological (SP) groups. The most common personality disorders in the LLA group was antisocial (51.67%), and other personality disorders were relatively infrequent. The most common personality disorders in the MP group were antisocial (73.68%), borderline (52.63%), obsessive-compulsive (36.84%), and schizotypal (26.32%). The most common personality disorders in the SP group were borderline (100%), antisocial (91.67%), obsessive-compulsive (66.67%), and narcissistic (58.33%).
The increases in the average number and percentages of personality disorders was paralleled by significant increases from the LLA to the MP and SP group in five of the eight psychological and behavioural variables that Holtzworth-Munroe and Stuart (1994) hypothesized spousal assailters vary upon. The five variables that showed significant increases across groups were psychological abuse, alcohol abuse, drug abuse, depression and anger. The three variables that did not show significant increases across groups were physical violence, extrafamilial violence, and criminal convictions. The current study sample can be characterized as a spousal assault treatment and general forensic sample.

Comparison to Previous Typology Research

Compared to the current study, previous typology research has not used combined sample types. Instead, single sample types such as spousal assault treatment and community recruited have been used. Thus, it is possible that the current study findings reflect some combination of results of previous typology research findings. The similarities and differences between the current study and previous typology research are reviewed below. The focus of this comparison was on typology research that used personality disorders in deriving subgroups.

Diversity of personality disorders.

A first conclusion is that a review of previous typology research findings provides adequate evidence that personality disorders other than borderline and antisocial have distinguished some groups of spousal assailters. In considering the validity of the Holtzworth-Munroe and Stuart (1994) model, it should be noted that some of the typology research considered here was published after 1994.
Some previous typology research showed a combination of personality disorders characterized subgroups of men in spousal assault treatment samples. Hamberger and Hastings (1986) found the factors of MCMI schizoidal/borderline and narcissistic/antisocial scales were useful in logical assignment of individuals to eight subgroups. In the current study, narcissistic and antisocial personality disorder were very frequent in two (MP and SP) of the three groups. Other research has resulted in separation of subclinical narcissistic, narcissistic personality disorder, and “high general psychopathology/substance dependence” subgroups (Rothschild et al., 1997). Interestingly, the Rothschild et al. (1997) study did not find a primarily antisocial personality disorder subgroup.

Hamberger et al. (1996b) also found MCMI narcissistic and antisocial-aggressive scores distinguished one subgroup of spousal assaulters in a very large sample treatment sample \( (N = 800) \). Although the differences in MCMI and MCMI-II subscales make direct comparison less clear, it is important to note that narcissistic and antisocial personality scores jointly characterized and separated a subgroup of spousal assaulters. Even with a treatment sub-sample selected to comprise Holtzworth-Munroe and Stuart's (1994) dysphoric-borderline and generally violent-antisocial groups, Tweed and Dutton (1998) found that the highest scores on personality disorder scales were antisocial. Furthermore, differences in scores on the antisocial scale were not significant between the Tweed and Dutton's (1998) two (impulsive and instrumental) groups. In their study, antisocial personality disorder was not distinct within one group; it was also the most prominent personality disorder within the group designed to comprise the Holtzworth-Munroe and Stuart's (1994) dysphoric-borderline group. Waltz et al. (2000) also found that both narcissistic and aggressive-sadistic personality were the two highest scores in a subgroup of spousal assaulters.
In comparing the current study findings to the above research, which used treatment samples, there is similarity with some findings of (a) narcissistic personality disorders in more than one group, and (b) both narcissistic and antisocial personality scores comprised a group of spousal assailters in typology research. The current research suggests that even with a combined treatment and general forensic sample, narcissistic personality disorder comprises or is included in groups, and its co-occurrence with antisocial personality disorder is robust.

General psychopathology.

A second important conclusion that can be drawn is that previous research findings provide some support for the contention that subgroups of spousal assailters are distinguished by general psychopathology. With a treatment sample, Rothschild et al. (1997) found a "high general psychopathology/substance dependence" subgroup. In the current study, it was clear that levels of general psychopathology, with the prominence of antisocial, borderline, obsessive-compulsive, and narcissistic personality disorders, characterized two of three groups. A recent study of community-recruited spousal assailters found three groups, one termed "pathological" (Waltz et al., 2000), despite deriving groups with only the MCMI-II scales of antisocial, borderline, and dependent. Related to the first conclusion made above, the two highest scores in the pathological group were narcissistic and aggressive-sadistic (which is considered a more severe variant of antisocial personality). Waltz et al. (2000) termed this group pathological, based on their high scores on MCMI-II Axis I and Axis II disorder scales. Axis I disorder scales include alcohol and drug dependence, which were also high in the MP and SP groups.

One of Hamberger et al.'s (1996b) study groups had high MCMI scores of histrionic-gregariousness, narcissistic, and antisocial aggressive, and another had high MCMI scores of dependent-submissive and passive aggressive-negativistic. Hamberger et al.'s (1996b) results
were not described as general psychopathology, yet the types of personality scales best describing them are diverse.

The studies reviewed in this section (e.g., Rothschild et al. 1997; Waltz et al. 2000) provide support for the existence of groups characterized by two or more personality disorders, and generalized psychopathology groups. In addition, the reviewed studies support the combination of single personality disorder and generalized psychopathology groups within a group solution. In the current study, generalized psychopathology characterized the MP and SP groups, and a group characterized by a single personality disorder (LLA group). Therefore, the current study groups are more consistent with than contradictory to previous research.

Low level antisocial group.

A third important observation is the possible existence of a group whose personality disorders and psychological and behavioural characteristics appear in-between the Holtzworth-Munroe and Stuart (1994) family-only and generally-violent antisocial groups. This in-between group, termed low-level antisocial, was found in a community-recruited sample, and not spousal assault treatment (Holtzworth-Munroe et al., 2000). Also, another recent community-recruited sample did not find such a group (Waltz et al., 2000). In the Holtzworth-Munroe et al. (2000) study, the low-level antisocial group had high scores on the MCMI-II antisocial scale, intermediate scores (between the family-only and generally violent-antisocial groups) on psychological and behavioural variables and less generalized violence. In the current study, the LLA group was comprised of just over half (51.67%) with antisocial personality disorder and the lowest scores on psychological abuse, substance abuse, depression and anger. In the current study there were (a) no differences on physical violence towards female partner, extrafamilial violence and criminal convictions between groups, and (b) a lack of a diverse range or common
personality disorders in the LLA group. Therefore, it was determined that this group was best described as low level antisocial and not a low-level general psychopathology group.

It is somewhat unclear how a combined spousal assault treatment and general forensic sample (the current study sample) may result in a subgroup found in a community recruited sample. It may be that some of the community recruited participants in the Holtzworth-Munroe et al. (2000) are similar to some participants in a general forensic sample.

Sample diversity in future typology research.

In consideration of the above results of the comparisons with previous research and the current study findings, further typology research with different samples may help clarify some of the differences between the current study findings and previous research findings. Also, a large study including a spousal assault treatment, community recruited and general forensic sample may present the opportunity for the range of personality disorder subgroups to emerge, and clarify the differences in previous research and the current study findings. For example, this research may clarify (a) the relationships between narcissism and antisocial personality disorder in certain groups, and (b) whether there are yet more unique subgroups of personality disorder groups or whether there are general levels of personality disorder subgroups. Future research intended to clarify the previous mixed study findings needs to include the measurement of the range of personality disorders, as some of the comparisons of the previous research are limited by the derivation of subgroups using only some personality disorders (e.g., Waltz et al., 2000).

Utility of spousal assault typologies.

Spousal assault typologies are useful for (a) theory development and (b) intervention refinement. In terms of theory development, spousal assault typologies have shown utility in
showing that this population is not heterogeneous (e.g., Saunders, 1992; Tweed & Dutton, 1998; Chase et al., 2001). Theoretical subgroups of this population have also lead to the advancement of models of distinct distal (e.g., witnessing family violence as a child) and proximal (e.g., substance abuse, antisocial personality disorder) correlates for different groups of spousal assaulters (Holtzworth-Munroe & Stuart, 1994). However, theoretical subgroups of spousal assaulters require further validation and refinement, and models of possible factors in the development of spousal assault are unproven hypotheses at this time.

There is mixed and very limited support for the utility of spousal assault subgroups and treatment interventions. It is not possible to conclude that there is an established relationship between spousal assault treatment subgroups and treatment interventions. Only one study (Saunders, 1996) has been conducted that is directed at this research question. Saunders (1996) found a relationship between antisocial and dependent personality diagnoses and treatment outcome. White and Gondolf (2000) found that narcissistic or avoidant traits were (a) both common to different groups of spousal assaulters and (b) that the cognitive-behavioural orientation of existing treatment programs accommodate the narcissistic or avoidant traits of spousal assaulter groups. Therefore, the approach of attempting to refine treatments for different spousal assault groups may not be necessary. Further research is required to determine the utility of spousal assault typologies and treatment interventions.

Limitations and Future Research

The limitations of the current study are primarily in the comparison to previous research. One clear need for future research, as made in the previous section, is the use of a combined and large research sample to clarify the similarities and differences in previous research and the current study.
The first limitation of the current study is its use of a combined sample (treatment and general forensic) in order to test the Holtzworth-Munroe and Stuart (1994) typology. Since previous research has relied on singular sample types (e.g., spousal assault treatment), some of the current study results may be related to the combined nature of the sample. As Gortner et al. (1997) have speculated, some of the differences in previous research may be related to different samples. Indeed, a review of some typology research findings indicates the prevalence of narcissistic personality disorder with spousal assault treatment samples, and likely a low-level antisocial group in community recruited samples.

The second limitation is also comparative. The current study used a different and more conservative measure of personality disorders. Previous studies have not used the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First et al., 1994). As presented earlier in the discussion, the current study findings on the personality disorders and subgroups of the current study were similar to some earlier research, and different than others. The current study found a higher average number of personality disorders (1.81 vs. 1.12) compared to a previous study (i.e., Hart et al., 1993) that used an interview- and DSM-based method. The differences between the current study and Hart et al. (1993) may suggest that the current study sample is composed of more individuals with personality pathology than in previous studies. Further research on the comparability of the MCMI scales and SCID-II scales is needed before firm conclusions can be drawn about the higher average personality disorders in the current study.

The third limitation of the study is the need for more normative data on the psychological (e.g., drug abuse) and behavioural variables (extrafamilial violence) that Holtzworth-Munroe and Stuart (1994) have established that spousal assaulters vary upon. This normative data would help assess whether study sample levels of violence or depression were either low, moderate, or high.
as hypothesized by Holtzworth-Munroe and Stuart (1994). The lack of normative data could be addressed in future research. Also, collection of this data would permit comparison of all relevant psychological and behavioural variables between subgroups of spousal assailters.

A fourth limitation is also comparative, and likely due to the focus on typology testing in previous research. Recent research (i.e., Holtzworth-Munroe et al. 2000; Waltz et al. 2000) has tested the Holtzworth-Munroe and Stuart (1994) typology, and used selected personality disorders (e.g., borderline, antisocial, and dependent). This recent research did not assess whether other personality disorders characterize and distinguish subgroups of spousal assailters. For example, adequate evidence from previous research exists that narcissistic personality disorder is present in this population, and should therefore be of theoretical and empirical importance.

Since previous research has not used all personality disorders in testing typologies, there is a lack of data on what personality disorders are most related to the differentiation of subgroups. In the current study for example, the personality disorders of borderline, dependent, schizotypal and narcissistic contributed to the differentiation of subgroups. The current study may help further the understanding of what personality disorder variables reliably differentiate subgroups.

A fifth limitation is that differences in sociological trends from the 1970s until the present may contribute to research sample differences. Arrest, prosecution and probation rates for spousal assault have increased, and treatment programs have proliferated. For example, it is possible that the Holtzworth-Munroe and Stuart (1994) family-only spousal assaulter avoided criminal justice system sanction in the early 1980s. Also, perhaps only assaults that caused serious bodily harm received criminal justice system sanctions in the early 1980s.

A sixth limitation is that the current study did not use a non-violent comparison group. Differences between partner assaultive men and non non-partner assaultive recruited as the same
sites would strengthen the conclusion that differences between the study groups were due to
differences in their assaultive behaviour, and not due to differences in the sample characteristics
such as unemployment or depression.

Other Future Research

In addition to the future research suggested above, future research is needed to determine
the prevalence of psychopathy in spousal assaulters. Psychopathy is a comprised of two factors,
the first being "selfish, callous, and remorseless use of others"... and the second factor being a
"chronically unstable or antisocial lifestyle" (Hart et al., 1995, p.3). In the current study, eight
participants (9.0%) scored in the range of "likely psychopathy" and would require a full
assessment using the full Psychopathy Checklist - Revised (Hart et al., 1995). Since psychopaths
are particularly likely to engage in criminal behaviour, psychopathy (a) may contribute to some
of the higher prevalence of antisocial personality and narcissistic personality disorder in the
current study, and obscure potential differences between subgroups.

Second, differences in study findings and possible relationships between study findings
and study sample types (e.g., community recruited) need to be further explored in the
interpretation of future research. The possibility of such a relationship has been suggested (e.g.,
Waltz et al. 2000) but has not been refuted or confirmed.

Third, as identified by Holtzworth-Munroe et al. (2000), little is known about the
temporal stability of subgroups of spousal assaulters. Personality disorders are considered not to
change (American Psychiatric Association, 1994), but other variables such as anger, depression,
and rates of violence towards partners and others may change over time. Perhaps subgroups are
best considered to exist when physical violence has been occurring for some period of time.
Fourth, DSM-IV Axis I disorders have yet to be systematically investigated in this population. It is possible that the higher rates of substance abuse and depression in the current study, as compared to previous studies, are related to Axis I disorders. It is possible that spousal assaulters have increased levels of substance abuse disorders, major depression, and other major mental illnesses (e.g., bipolar disorder). Base rates of Axis I disorders may further help in clarifying subgroups of spousal assaulters.

Conclusions

The results of the study failed to support the Holtzworth-Munroe and Stuart (1994) typology. The current study found three groups of spousal assaulters in a combined spousal assault treatment and general forensic sample: Low Level Antisocial (65.93%), Moderate Pathological (20.88%), and Severe Pathological (13.19%). These three groups showed consistent increases in the average number and percentages of personality disorders from the Low Level Antisocial (LLA) to the Moderate Pathological (MP) and Severe Pathological (SP) groups.

The most common personality disorders in the Low Level Antisocial (LLA) group was antisocial (51.67%). The MP group the most common personality disorders were antisocial (73.68%), borderline (52.63%), and obsessive-compulsive (36.84%). In the Severe Pathological (SP) group, the most common personality disorders were borderline (100%), antisocial (91.67%), obsessive-compulsive (66.67%), and narcissistic (58.33%). The current study findings did not appear to be a result of demographic or sampling differences.

The increases in the average number and percentages of personality disorders was paralleled by significant increases from the LLA to the MP and SP group in five of the eight variables Holtzworth-Munroe and Stuart (1994) hypothesized spousal assaulters vary upon. The Holtzworth-Munroe and Stuart (1994) model was useful in comparing the current study groups
on psychological and behavioural variables and in comparing the current study groups to previous research.

The current study found a high prevalence of narcissistic and obsessive-compulsive personality disorders in its sample. Previous research has found elevated narcissistic personality disorder scores, personality disorders, and specific narcissistic subgroups of spousal assailters (e.g., Rothschild et al., 1997). Also, narcissistic and antisocial personality disorders have distinguished groups of spousal assailters (e.g., Hamberger et al., 1996b). It appears that the research focus on attempting to validate the Holtzworth-Munroe and Stuart (1994) typology (e.g., Hamberger et al., 1996b) had led the focus away from investigating different possible typologies.

The finding of the high prevalence of obsessive-compulsive personality disorder in the current study are not similar to previous research, and may result from the fact that it has not received the research attention in typology validation studies as other personality disorders (e.g., antisocial and borderline) have. It is difficult to speculate the other reasons why this personality was prevalent in the current study. This high prevalence may be related to the frequent behavioural observation that many female partner assaultive men use power and control tactics in their relationships with women (Walker, 1999). The current study sample may have used more power and control tactics compared to other samples. This variable was not measured in the current or previous typology research.

The finding of a dimension of general psychopathology in the current study is not unique. A general pathological group that could not be distinguished by one or two personality disorders has been found in one previous study (Rothschild et al., 1997). Furthermore, other studies have not easily characterized subgroups, and this result could be considered to be more suggestive of general psychopathology (e.g., Hamberger & Hastings, 1986).
The findings of a low-level antisocial group in the current study are also not unique. The fact that this group has been found in only one other study cannot be considered adequate evidence of the existence of this group in the population of spousal assailters. However, this group was found in the current study, which used a combined treatment and general forensic sample.

Although the ethnic composition of the current study sample was different compared to previous research, this difference does not appear to affect study findings. Compared to previous research, the current study sample had the highest proportion of men with a First Nations ethnic heritage. Compared to other men in the study, the First Nations men did not have higher rates of physical violence or psychological abuse towards female partners, substance abuse difficulties, depression, anger, extrafamilial violence, or personality disorders. However, they had a higher rate of previous criminal convictions. It is possible that this higher rate may be related to racial biases in reporting of crime (Stanton et al., 1997).

One unanswered question is why a family-only subgroup was not found in the current study. There is adequate previous research to support its existence, and it has been found in community-referred (e.g., Waltz et al., 2000) and spousal assault treatment samples (Hamberger et al., 1996b). Perhaps this group may have been captured and emerged from the data if more community referred research participants had been recruited. It is clear from many of the observations made herein that a large and varied sample would likely clarify some of the current differences in the typology research. It is intended that the recommendations for future research are of great assistance to others conducting research in this area. Furthermore, the current study provides a great deal of information for comparison in future research, and will perhaps further understanding and improve the interventions in this area.
Although the current study failed to support the Holtzworth-Munroe and Stuart (1994) typology, it is of considerable value. Their typology has (a) made major contributions in furthering understanding the heterogeneity in spousal assaulters, (b) conceptualized groups as varying upon both personality disorders, psychological and behavioural characteristics, (c) guided research in the selection of variables in typology validation and development, (d) and suggested developmental pathways for different groups of this population. It has also had an impact in conceptualizing clinical interventions (Langhinrichsen-Rohling, Huss, & Ramsey, 2000).

In terms of clinical implications, the current study suggests that other personality disorders (i.e., narcissism and obsessive-compulsive) exist in spousal assaulters, and that moderate to high levels of psychopathology characterize some groups. Therefore, treatment providers and those involved in the supervision and management of spousal assaulters are cautioned against attempts to only classify these men using Holtzworth-Munroe and Stuart (1994) typology. Clearly, those with higher levels of psychopathology may be poorer treatment candidates, and may remain relatively high risk to their current and former female partners, and perhaps others. Also, the identification of pathological individuals may require more than the usual group treatment, such as supplemental psychotherapy, inpatient care, or intensive outpatient supervision (White & Gondolf, 2000).

In sum, the current study provides more data to support the claim that spousal assaulters are a heterogeneous population; information that is not only theoretically beneficial, but also useful in the treatment and management of this population.
References


I have received a copy of this consent form for my own records.

I consent to participate in this study.

Subject Signature   Date

Signature of a Witness   Date
**Sensitive Subject Matter:** The following statements will be read when administering the Marshall Severity of Violence Against Women Scales.

At item 32: the next nine items are about serious physical violence. Some people find these questions uncomfortable, but they would not be asked if they were not important.

At item 40: the following six questions are about possible sexual abuse. Some people find these questions uncomfortable, but they would not be asked if they were not important.
Appendix C
Female Partner Interview

Notes to interviewer/interviewee: We are interested in his behaviour in the past year. If you have recently split up with him, we are interested in you completing this interview if you have been in a relationship with him in at least 6 of the last 12 months. If she was in a relationship for less than six of the last 12 months, ask the woman to complete the measures using the year prior to the end of their relationship.

Instructions: Please answer all questions honestly and take your time. There are no right or wrong answers.

1. Name and Corresponding ID#: ____________________________

2. What is your present relationship status?
   _ married
   _ common-law
   _ in a relationship (not living together)
   _ separated
   _ divorced
   _ single

3. Are you presently with the partner (husband or boyfriend) that has assaulted you in the past?
   _Yes    _No

   If not, what date did the relationship end?

4. How long is/was your relationship? __________

5. What is your employment status? __full-time    __part-time
   __homemaker    __unemployed

6. What kind of work do you do? __________________________

7. What level of education have you completed?
   _elementary school _some college    _technical school
   _some high school _college    _some university
   _high school _some technical school _university

8. Do you have children? _Yes _No  If yes, how many children do you have?

9. What is your ethnic/cultural background? __________________________

10. What is your citizenship status?
    _Landed immigrant
    _First generation Canadian
    _Second generation Canadian
    _Third generation (or more) Canadian
Appendix D
Men’s Sociodemographic and Background Information Form

1. Name: ____________________________
   Phone #: ____________________________
   Date of birth? _____ year _____ month _____ day

2. What level of education have you completed?
   ___ elementary school  ___ some college  ___ technical school  ___ some grad. school
   ___ some high school  ___ college  ___ some university  ___ graduate school
   ___ high school  ___ some technical school  ___ university

3. What is your employment status?  ___ full-time  ___ part-time  ___ unemployed

4. What kind of work do you do? ____________________________

5. What is your gross annual income? ____________________________

6. Do you have children?  ___ Yes  ___ No  If please write down the age and sex of each child.

7. What is your ethnic/cultural background? ____________________________

8. What is your citizenship status?
   ___ Landed immigrant
   ___ First generation Canadian
   ___ Second generation Canadian
   ___ Third generation (or more) Canadian

9. What is your present relationship status?
   ___ married  ___ separated  ___ widowed
   ___ common-law  ___ divorced  ___ single
   ___ in a relationship (not living together)

10. Are you presently involved with the criminal justice system as a result of domestic violence?
    ___ Yes  ___ No  If yes, explain ____________________________

11. If court-mandated,
    (a). Are you presently with the partner you’ve been convicted of assaulting?  ___ Yes  ___ No
    If not, when did that relationship end? _____ month(s) after the assault,
    or _____ month(s) before the assault.
If self-referred,
(b) Are you presently with the partner you have abused?  _Yes _No
   If not, when did that relationship end? _month(s) after the abuse,
   or _months before the assault.

(c) How long is/was your relationship? _year(s) and _month(s)

(d) Do you have a new partner?  _Yes _No
   If yes, how long have you been together? _months

12. Have you ever received counseling or psychotherapy?  _Yes _No
   If yes explain:

13. Are you currently seeing another counsellor? _Yes _No
   If yes explain:

14. Have you ever been hospitalized for mental health reasons?  _Yes _No
   If yes explain:

15. Have you ever had any serious accidents, illnesses, or head injuries in the past?  _Yes _No
   If yes explain:

16. Have you ever used violence under the influence of alcohol or drugs?  _Yes _No

17. Have you ever used violence _not_ under the influence of alcohol or drugs?  _Yes _No

18. Have you ever been convicted of a crime since age 18? _Yes _No
   If yes, please list what crimes you have been convicted of since age 18.

19. Have you ever been involved with legal proceedings since age 18? _Yes _No
   If yes, please list what legal involvement you have had since age 18.

20. How long have you lived in British Columbia?
21. Parent's marital status: ___ Married ___ Divorced ___ Separated

22. Were you ever physically punished as a child? ___ Yes ___ No.
   If yes, explain ____________________________

23. Did you consider yourself physically, sexually, or emotionally abused as a child? ___ Yes ___ No.
   If yes, explain ____________________________

24. Did you ever know of or observe your father physically, sexually, or psychologically abuse your mother or destroy property in a fit of anger? ___ Yes ___ No.
   If yes, explain ____________________________
Appendix E
Extrafamilial Violence Scale

Please indicate how often you have done these things to a person not in your nuclear family (i.e., brother, sister, parents) in the past 12 months by ticking (✓) the appropriate circle beside it. Tick **Never** if you did not behave that way in the past year; tick **Once** if you did it only one time; tick **A Few Times** if you did it two or three times; and tick **Many Times** if you did it more than three times. If you can't remember exactly how many times you did it, make your best guess.

*In the past 12 months, I did the following:*

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once</th>
<th>A Few Times</th>
<th>Many Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td>Threw an object at someone</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td>Made threatening gestures or faces at someone</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened to harm or damage things someone cares about</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened to destroy someone’s property</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened to hurt someone someone cares about</td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened to hurt someone</td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened to kill someone</td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened someone with a weapon</td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened someone with a club-like object</td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
<td></td>
<td>Acted like I wanted to kill someone</td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
<td></td>
<td>Threatened someone with a knife or gun</td>
</tr>
<tr>
<td>12.</td>
<td></td>
<td></td>
<td></td>
<td>Held someone down, pinning him or her in place</td>
</tr>
<tr>
<td>13.</td>
<td></td>
<td></td>
<td></td>
<td>Pushed or shoved someone</td>
</tr>
<tr>
<td>14.</td>
<td></td>
<td></td>
<td></td>
<td>Bit someone</td>
</tr>
<tr>
<td>15.</td>
<td></td>
<td></td>
<td></td>
<td>Hit someone with an object</td>
</tr>
<tr>
<td>16.</td>
<td></td>
<td></td>
<td></td>
<td>Punched someone</td>
</tr>
<tr>
<td>17.</td>
<td></td>
<td></td>
<td></td>
<td>Kicked someone</td>
</tr>
<tr>
<td>18.</td>
<td></td>
<td></td>
<td></td>
<td>Stomped on someone</td>
</tr>
<tr>
<td>19.</td>
<td></td>
<td></td>
<td></td>
<td>Choked someone</td>
</tr>
<tr>
<td>20.</td>
<td></td>
<td></td>
<td></td>
<td>Burned someone with something</td>
</tr>
</tbody>
</table>
- Used a club-like object on someone
- Beat someone up
- Used a knife or gun on someone
Supplementary cluster analyses were performed for (a) a three-group personality disorder and psychological and behavioural variables solution, (b) a four-group personality disorder variables solution, and (c) a four-group personality disorder and psychological and behavioural variables solution. The mean scores on the psychological and behavioural variables, the count and proportion meeting personality disorder criterion, and the overall fit of the cluster solution are presented for each exploratory analyses.

These three sets of exploratory analyses did not result in increases in the amounts of variance accounted for in subject assignment to groups. The trend in increasing amounts of personality disorders across groups was observed, without clear separation of borderline and antisocial groups as in the Holtzworth-Munroe and Stuart (1994) typology. The trend of significant differences in some of the Holtzworth-Munroe and Stuart (1994) hypothesized psychological and behavioural variables was also observed, indicating that the variables identified by Holtzworth-Munroe and Stuart (1994) were useful and often statistically significant in identifying subgroups. Note that the N's for each of the solutions is different due to missing criminal conviction data for some men.
Three Group Solution, Personality Disorder and Psychological and Behavioural Variables

*Mean group differences, psychological and behavioural variables, (N = 87)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical violence</td>
<td>27.94</td>
<td>20.58</td>
<td>21.60</td>
<td>2.27</td>
</tr>
<tr>
<td>Psychological abuse</td>
<td>118.53</td>
<td>113.39</td>
<td>133.60</td>
<td>1.04</td>
</tr>
<tr>
<td>Extrafamilial violence</td>
<td>17.53</td>
<td>13.42</td>
<td>15.40</td>
<td>1.07</td>
</tr>
<tr>
<td>Criminal convictions</td>
<td>5.96</td>
<td>10.87</td>
<td>3.00</td>
<td>6.62**</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>10.43</td>
<td>16.06</td>
<td>16.40</td>
<td>5.05**</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>10.24</td>
<td>16.13</td>
<td>14.60</td>
<td>5.38**</td>
</tr>
<tr>
<td>Depression</td>
<td>15.00</td>
<td>18.68</td>
<td>26.40</td>
<td>4.50*</td>
</tr>
<tr>
<td>Anger</td>
<td>119.37</td>
<td>110.00</td>
<td>129.80</td>
<td>3.12*</td>
</tr>
<tr>
<td>Mean Personality Disorders</td>
<td>1.18</td>
<td>2.06</td>
<td>5.40</td>
<td>23.81***</td>
</tr>
<tr>
<td>PCL: SV</td>
<td>7.73</td>
<td>13.06</td>
<td>13.60</td>
<td>12.35***</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001, Groups with different subscripts are significantly different from each other using Tukey's HSD.
Count and Percentage Meeting Personality Disorder Criterion For Each Group, \((N = 87)\)

<table>
<thead>
<tr>
<th>Personality Disorder</th>
<th>Group 1</th>
<th></th>
<th>Group 2</th>
<th></th>
<th>Group 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
<td>Count</td>
<td>Percent</td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Avoidant</td>
<td>6</td>
<td>11.76</td>
<td>3</td>
<td>9.68</td>
<td>1</td>
<td>20.00</td>
</tr>
<tr>
<td>Dependent</td>
<td>-</td>
<td>-</td>
<td>-</td>
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* - scores of 18 to 24 on the PCL: SV

Discriminant function analysis showed a high degree of overall fit, with 94.3% of the variance accounted for in making participant assignment to the three groups using these predictors.
Four Group Solution, Personality Disorder Variables

*Mean group differences, psychological and behavioural variables, (N = 91)*

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* $p < .05$, ** $p < .01$, *** $p < .001$, Groups with different subscripts are significantly different from each other using Tukey's HSD.
Count and Percentage Meeting Personality Disorder Criterion For Each Group, (N = 91)

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* - scores of 18 to 24 on the PCL: SV

Discriminant function analysis showed a high degree of overall fit, with 93.4% of the variance accounted for in making participant assignment to the three groups using these predictors.
Four Group Solution, Personality Disorder and Psychological and Behavioural Variables

*Mean group differences, psychological and behavioural variables, N = (89)*

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* * p < .05, ** p < .01, *** p < .001, Groups with different subscripts are significantly different from each other using Tukey's HSD.
### Count and Percentage Meeting Personality Disorder Criterion For Each Group, (N = 87)

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* - scores of 18 to 24 on the PCL: SV

Discriminant function analysis showed a high degree of overall fit, with 90.8% of the variance accounted for in making participant assignment to the three groups using these predictors.