Male and Female Perpetrated Partner Abuse:

Testing a Diathesis-Stress Model

Reena Sommer

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MALE AND FEMALE PERPETRATED PARTNER ABUSE:

TESTING A DIATHESIS-STRESS MODEL

BY

REENA SOMMER

A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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ABSTRACT

Since the mid 1970's, the literature has seen a proliferation of research conducted in the area of family violence. The publication of the results of Straus, Gelles and Steinmetz's (1980) national U.S. survey on family violence, has largely been responsible for raising our awareness concerning the pervasiveness of this social problem. In spite of this abundance of recent research, there is still a lack of longitudinal research on this topic in general population samples. In addition, previous studies conducted in the general population have primarily focused on the environmental influences on partner abuse. Studies investigating individual differences as potential partner abuse risk factors have been for the most part restricted to research on clinical samples.

As part of the Winnipeg Health and Drinking Survey (a longitudinal survey of adult Winnipeg residents) (Barnes & Murray, 1989), data were gathered on spouse abuse. This thesis examines the pattern of male and female perpetrated partner abuse and its associated risk factors. The data of married, cohabiting and remarried males and females between the ages of 18 and 65 years collected at two points in time over two years, provided the basis for this study's analyses. In both phases of the research, respondents participated in a 90 minute session involving a structured interview and a self administered questionnaire.

In addition to the socio-demographic data and multiple indices of alcohol and personality measures collected during Wave 1 of the data collection, Wave 2 data included measures of stress, violence in the family of origin and contextual issues surrounding the perpetration of partner abuse (i.e., drinking at the time of an abuse episode, injuries inflicted on a partner, and

abuse perpetrated in self defence). The dependent measure investigated in both waves of this study was based on six items drawn from the Conflict Tactics Scale (Straus, 1979).

This research was guided by a diathesis-stress model of partner abuse. In this model, the importance of underlying variables such as personality characteristics and violence in the family of origin, and situational variables such as stress and alcohol in predicting partner abuse were examined. In the logistic regression analyses predicting the incidence of partner abuse in the year prior to the follow-up interview, the following significant predictors emerged for males: (1) being young in age, (2) non-Catholic, (3) perpetrating past partner abuse, (4) observing father hitting mother, (5) experiencing high stress, (6) the interaction between stress and past perpetrated partner abuse and (7) the interaction between stress and age. For females, the significant predictors were: (1) having a high score on the EPQP, (2) having a high score on the Neuroticism Index , (3) observing mother hitting father, (4) not observing parents' mutual violence, (5) the interaction between alcohol and neuroticism, (6) the interaction between alcohol and observing mother hitting father, and (7) the interaction between alcohol and past perpetrated partner abuse.

The major contribution of this research to the literature on family violence rests in its demonstration that the experience of perpetrated partner abuse at a given point in time as well as across time, is different for males and females. This and other findings challenge researchers to find ways of preventing partner abuse before it begins. Early identification of individuals at risk for partner abuse may be critical to providing effective intervention. Once accomplished, the means to break the cycle of violence could be at hand.

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The completion of this dissertation represents more than just a demonstration of competence as a researcher. Rather, the process involved in its formulation and writing has provided me with an opportunity for both personal growth and development. Beyond acquiring the skills needed to conduct research independently, I have also gained much insight into my potential as a person. For me, the key to success has been twofold; the desire to accomplish something, and the belief that it can be done. The latter however, could not have been possible without the support of those who have been close to me. For that reason, there are a number of persons to whom I would like to express my gratitude.

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CHAPTER ONE

INTRODUCTION

Prior to 1970, studies focusing on family violence were virtually nonexistent. The lack of research in this area seemed to imply that violence within the family was "either rare, dysfunctional or a pathology traceable to mental illness or psychopathology" (Gelles, 1979, p.169). Yet, during the past two decades, abuse between intimate partners has become recognized by social scientists as a serious social problem; impacting on all levels of society.

A national U.S. survey on family violence was first conducted in 1975 by Straus, Gelles and Steinmetz (1980). This large scale investigation marked an initial attempt at estimating the prevalence of family violence in American families. In doing so, it has been responsible for raising our awareness about the problem of family violence. Since the publication of its findings, a plethora of literature including empirical and review works in this area has followed, drawing the attention of policy makers, legislators and service providers.

The approach to studying the problems associated with family violence has changed throughout the course of this literature's development. Early research into family violence assumed that such behaviour could only be the result of a deranged mind. Support for this notion was advanced by society's belief that the family as an institution, is committed to nonviolence among its members through the maintenance of benevolent and loving relationships. Since that time, sociologically based research has focused on establishing the prevalence, correlates, and social patterns of family violence (Straus et al., 1980). As a result of these studies, we have come to know that abuse within the family is anything but rare.

Distinguishing Between Male and Female Perpetrated Abuse

For the past two decades, while family violence literature has focused on the abuse of children, dating partners, spouses, siblings, and the elderly, the study of spousal violence has become synonymous with the term "wife abuse" (Sommer, Barnes & Murray, 1992). The reason for this misnomer is due to almost exclusive focus of research on husband-to-wife abuse because of the high visibility of females as victims of family violence (Shupe & Stacey, 1987). The shelter movement has also made it possible for researchers to have a ready made sampling base comprised of women who were willing to provide testimonies of the abuse they endured (Ptachek, 1988). The politics surrounding the investigation of female perpetrated violence (Steinmetz, 1977) attests to the controversial nature of this research problem. In a review article on relationship violence by women, Flynn (1990) elaborated on the politics of family violence research by stating "feminists....fear that drawing attention to battered husbands will impede attempts to battle the more serious problem of wife abuse" (p.194). In the report of their findings on family violence rates over two surveys, Straus and Gelles (1986) stated,

> "Violence by wives has not been an object of public concern. There has been no publicity, and no funds have been invested in ameliorating this problem because it has not been defined as a problem. In fact, our 1975 study was criticized for presenting statistics on violence by wives" (p.472).

The conclusion that males are more prone to violence may in fact be erroneous (Straus, 1988) because of the existing bias in research to investigate male perpetrated violence and the factors associated with it. Straus's (1988) conclusion can neither be supported nor disputed till such time

as a gender neutral approach to investigations into partner abuse are conducted. Only then can the rates, predictors, and outcomes of male and female perpetrated partner abuse be appropriately assessed and compared.

A consequence of the prevailing bias against research directed at the investigation of violence perpetrated by females is an absence of intervention programs for female abusers and male abuse victims. The reasons behind the system's failure to identify female perpetrators of partner abuse have not been clearly established by empirical studies. It may be that men are too embarrassed to report being abused, or they fear they will not be believed if they do. Currently, studies have not investigated the factors associated with men's reluctance to come forward. The reasons cited are, for the most part speculative, and are based on testimonials of small numbers men willing to relate accounts of abuse.

Due to the reliance upon data derived from crime surveys, police reports, and medical, civil, and criminal court records, researchers and those involved in providing social services have rationalized men's greater proneness to violence by asserting that women are more likely to be seriously injured in domestic disputes (Wilson, 1990). However, this assertion, as well, has not been empirically tested in non-clinical samples of male and female victims of abuse. As a result, the abuse and injuries sustained by men go either unreported or accounted for by other circumstances.

Recent studies examining violence perpetrated by women against men in courtship, marital or common-law relationships have nevertheless, suggested that the rate of female perpetrated partner abuse parallels that of males (Malone, Tyree & O'Leary, 1989; Marshall & Rose, 1990; Straus & Gelles, 1986; Thompson, 1991). In spite of this, the inherent bias favouring research

directed at male perpetrated partner abuse is most evident in policies and intervention programs concerning family violence (Sommer, Barnes & Murray, 1991).

Defining Partner Abuse

An ongoing methodological concern common to social science research has been measurement problems associated with inadequate operational definitions of the variable in question. In order to provide a precise definition of partner abuse in this research, it has been limited to the occurrence and factors associated with "physical" partner abuse. Throughout this paper, the terms "abuse" and "violence" have been used interchangeably. Unless prefixed by the term "severe", these have been considered synonymous. Both have been intended to refer to "an act (or acts) carried out with intention, or perceived intention of causing physical pain or injury to another person" (Straus & Gelles, 1988, p.15).

Kaplan (1988) noted that a problem in defining and measuring abusive behaviours within intimate relationships has been that many of these behaviours in their benign forms are considered normal within the context of family interactions. The Conflict Tactics Scale (CTS) was developed by Murray Straus (1979) as an objective measure of the class of behaviours deemed to go beyond what may be considered "normal". In its entirety, the CTS measures three factorially separate variables: reasoning, verbal aggression and violence or physical aggression (Straus, 1979). The scale's brevity and ability to be administered in both interview and self-report format has made the CTS the most widely used measure of intrafamilial violence. Nevertheless, the CTS has been criticized by feminists. According to Straus and Gelles (1990), they have charged that this quantitative methodological tool is "inherently male oriented and

distorts the reality of women's lives" (p. 11). In spite of objections with the CTS, it has demonstrated both construct and content validity as well as provided adequate reliability (Straus, 1979).

The CTS may be scored in a number of ways in order to provide a maximal description of violent conduct. According to Straus and Gelles (1988), estimates of violent acts can be derived through the analysis of individual scale items. Individual scale items can then be combined in a number of ways to form different indices. For example, when all items are included together, an overall index of violence is achieved. This overall index can be further divided into two other indices to measure "minor" and "severe" violence.

Statement of the Problem

In spite of the progress made in the field of family violence, this area is fraught by several serious methodological weaknesses and limitations. Generally speaking, design and statistical strategies employed thus far, have been primarily aimed at determining the prevalence and correlates of abuse. A brief discussion of the methodological issues facing family violence researchers that are relevant to this study follows.

To date, general population based research examining changes in the rates of family violence have compared the findings of similar, but unrelated studies conducted at two points in time (Straus & Gelles, 1986). Although Straus and Gelles (1986) argued that the methodologies and sampling strategies employed in these studies support the trends demonstrated by the data, it has also been asserted that changes in rates of family violence are a reflection of a cohort effect rather than an actual change in behaviour (Egley, 1991).

Currently, researchers have demonstrated a number of associations linking partner abuse to situational and individual factors. For example, studies that examine alcohol consumption and personality variables as possible risk factors in domestic violence are evident in family violence literature but have been limited to small, clinical samples (Beckman, 1978; Fitch & Papantonio, 1983; Frieze & Schafer, 1984). The initiation and consequences of violent episodes also remain unclear.

Past research has alerted us to the seriousness and the pervasiveness of this problem. In spite of this, determining what makes some individuals vulnerable to victimization and places others at risk for perpetration still remains to be established. Researchers have also been unsuccessful in finding ways of preventing battering from occurring or stopping it once it has begun. The lack of general population based research investigating predictors of partner abuse has also limited policy makers' ability to effectively address the problems of partner abusers found outside clinical populations.

There is a need for researchers to go beyond present research strategies through the use of longitudinal data and statistical techniques that can make causal inferences possible. This investigation was designed to overcome these limitations by analyzing follow-up data, making comparisons with our earlier research, and examining the predictive factors related to male and female perpetrated violence.

CHAPTER TWO

LITERATURE REVIEW

This section is a review of the partner abuse literature and focuses on the issues examined in the research. Included is a discussion of the prevalence of male and female perpetrated violence. As well, an overview of theoretical perspectives that have been applied in previous research, the risk factors included in this research, and a detailed discussion of the model employed in this study are provided.

Partner Abuse Methodology

Family violence research is relatively new. The focus of much of the family violence research from the 1970's onward has been on determining the prevalence and incidence of violence within intimate relationships. Later investigations have been on the correlates of domestic violence. Family violence, like many other new research areas, is challenged by the need to develop effective methodologies.

In a review of literature on wife assault, Dutton (1988) pointed to the difficulties associated with gathering data on its occurrence. The challenge associated with breaking through the wall of privacy surrounding events within the family has been a major impediment to accurate data collection. According to Hotaling and Straus (1980), the normative kinship and household structures appear to insulate the family from social controls and social assistance in coping with intrafamilial conflict.

Dutton (1988) cited two widely used methods of estimating wife assault. The first involves an actual estimate of the frequency and incidence of abuse within the general population drawn from a representative sample. Examples of such surveys are the National Crime Survey (U.S. Department of Justice, 1980), the National Survey on Family Violence (Straus et al., 1980; Straus & Gelles, 1986) and the Canadian Urban Victimization Survey (Solicitor General of Canada, 1985). Whereas the above studies have focused on the occurrence of abuse nationally, other family violence studies have had a more limited focus targeting cities and regions (Brinkerhoff & Lupri, 1988; Schulman, 1981; Smith, 1987).

The second method of estimating partner abuse has been through the examination of the clinically based data (Dutton, 1988) to determine what proportion of this population engages in domestic assault. Studies of this nature target the clientele of social services, hospitals, and the criminal justice system. Although one would expect that the occurrence of abuse is higher among respondents in these groups, the medical community in particular has been criticized for failing to recognize the role of domestic abuse in patients presenting physical injuries (Johnson, 1988).

The use of convenience samples in gathering of data on partner abuse represents, yet, a third popular method of estimating the occurrence of violence within intimate relationships. The use of convenience samples has been useful in targeting certain groups such as students (Makepeace, 1981), and provides a basis for comparison with other populations (Johnson, 1988). Added benefits of this method are time and cost effectiveness.

For the purposes of the discussion that follows, the above typology of data collection methods will serve as a useful framework to aid in the understanding of the occurrence of violent

behaviour between intimate partners. To facilitate appropriate comparisons, only studies utilizing the CTS (Straus, 1979) to investigate the perpetration of abuse will be presented in the following section. Finally, an attempt will be made to differentiate between prevalence (i.e., abuse which has "ever" occurred) and incidence (i.e., abuse which has occurred within a specific time-frame) rates of partner abuse.

Prevalence of Partner Abuse

General Population Based Surveys

Probably the most cited research estimating the occurrence of several forms of family violence have been the surveys conducted by Straus et al. (1980) and Straus and Gelles (1986). The former found that nearly half (49.5%) of all married or cohabiting couples surveyed had experienced some form of violence during the course of their relationship. In the 1975 survey (Straus et al., 1980), the overall annual rate of husband-to-wife abuse was found to be 12.1 percent, while the 1985 resurvey demonstrated a nonsignificant decline in the rate of the same form of abuse (11.3%). Severe abuse perpetrated annually by males was 3.8 percent in the 1975 survey and 3.0 percent in the 1985 resurvey.

The annual rates for wife-to-husband abuse were similar to those of males, although their patterns of occurrence were in the opposite direction. However, no tests of significance were performed to establish sex differences in the occurrence of partner abuse. For overall abuse, the 1975 findings (Straus et al., 1980) indicated that 11.6 percent of females abused their male partners, followed by a slight, but nonsignificant increase (12.1%) reported in the 1985 resurvey. Rates of severe annual abuse perpetrated by females were somewhat higher than for males in

both surveys (4.6% and 4.4%, respectively). Finally, estimates of the occurrence of couple violence were also found to be similar during the two sampling periods; showing a nonsignificant decline in both the annual rates of overall (16.0% and 15.8%, respectively) and severe abuse (6.1% and 5.8%, respectively).

Several regional and urban surveys have also been conducted in both the U.S. and Canada. Brinkerhoff and Lupri (1988) conducted face-to-face interviews with 562 randomly selected couples in Calgary, Alberta during 1981. Their findings indicated that 37.8 percent of the couples reported that they engaged in some form of abuse tactics during the course of their relationship. For husband-to-wife abuse, overall abuse during the past year was reported to occur among 10.3 percent of the couples and severe abuse occurring during the past year was reported to occur among 4.8 percent of the couples. Alternatively, for wife-to-husband abuse, overall and severe abuse during the past year was reported to occur among 13.2 percent and 10.7 percent of the couples, respectively. Finally, overall and severe mutual abuse occurring during the past year was reported by 14.3 percent and 6.0 percent of couples, respectively.

The rates of both male and female perpetrated severe violence reported by Brinkerhoff and Lupri (1988) are twice as high as those reported by Straus et al. (1980) and Straus and Gelles (1986). Furthermore, while the higher rates of female perpetrated violence are consistent with the results of the National Survey on Family Violence, the rates of overall and severe abuse reported in Brinkerhoff and Lupri (1988) are again higher. The authors attributed this disparity in the reporting of abuse to the fact that both partners were interviewed; lessening the likelihood of under-reporting. The authors cited the higher crude divorce rates of Calgary residents (i.e., twice

as high as the national Canadian average), as well as the city's experience of an economic boom that was followed by its crash, as factors possibly related to the rates of abuse reported.

In 1987, Kennedy and Dutton (1989) investigated the occurrence of wife assault in a random sampling of two Canadian cities (Calgary and Edmonton, Alberta) and rural residents in the Province of Alberta. Weighting procedures were applied to ensure the proportionate reporting of results. The final weighted male and female sample was as follows: Edmonton (n=254), Calgary (n=281) and rest of the province (n=510).

Unfortunately, the authors did not report a breakdown of abuse by region. When the annual rates for abuse for overall (11.2%) and severe (2.3%) wife assault are considered, it is noted that the former is almost identical to the rate reported by Straus and Gelles (1986), whereas the latter is somewhat lower (i.e., 11.3% and 3.0%, respectively). Rates for overall (15.5%) and severe (5.5%) couple violence were also found to be similar to those of Straus and Gelles' (1986) survey (i.e., 15.8% and 5.8%, respectively).

It is possible that the high rates of abuse reported in Brinkerhoff and Lupri's (1988) study of Calgary residents were influenced by the reports of abuse within the rural Alberta sub-sample. Another possibility may be that the dynamics associated with the slump in that city's economy during 1981 were no longer relevant during the time of data collection for this study seven years later. However, because the authors failed to report the incidence of abuse by region, the above assertions are strictly speculative.

In summary, the data from general population based studies investigating the incidence of partner abuse seem to indicate that approximately one in nine married or cohabiting men and women abuse their intimate partners annually each year. The studies reviewed also indicate that

mutual or couple violence is reported to occur more frequently than either male or female perpetrated violence alone.

Clinically Based Data

Most of the partner abuse investigations have focused almost exclusively on wife abuse and have been based upon data drawn from the reports of victims of wife assault (Gondolf, 1988), women's shelter workers (Ontario Association of Professional Social Workers, 1987), police and court records (Caputo, 1988) reports of hospital staff (Stark, Flitcraft & Frazier, 1979) and data gathered from individuals in treatment programs (Telch & Lindquist, 1984).

Gondolf, Mulvey and Lidz (1990) investigated the prevalence of wife assault among 389 males who visited the emergency room in a psychiatric training and research hospital. Results indicated that 36 percent of the cases reviewed were identified as perpetrators of various forms of assault occurring across time. Of those, 35 percent were identified as perpetrators of family assault only, 12 percent as perpetrators of family and non-family assault, and the remaining 53 percent as perpetrators of non-family assault only.

Jaffe, Wolfe, Telford and Austin's (1986) study reviewed 2003 assault occurrences causing bodily harm during a one year period. Of those, 443 (22.1%) were identified as assaultive incidents where there was an established male-female relationship (married,/cohabiting) and the female was the victim of a physical attack or was threatened with violence by a male (as determined by the CTS). Reports of assaults perpetrated against males by females were not provided by their investigation.

While the first study reviewed demonstrates that types of abuse other than wife assault are evident within clinical samples, the focus of research has been primarily on wife abuse.

Data Gathered from Convenience Samples

The use of convenience samples enables the investigation of abusive behaviour within a segment of a "normal" population (i.e., non-clinical) without the need for rigorous sampling techniques. Group designs utilizing comparative analyses provide researchers with an opportunity to determine the extent to which the characteristics of a clinical group (i.e., abusers in treatment) resemble those of a "normal" group derived from convenience sampling.

Convenience sampling methodology in family violence research has been variously applied. For example, convenience samples have been utilized in studies that focus on courtship violence (eg., Barnes, Greenwood & Sommer, 1991; Makepeace, 1986), as well as those that investigate methodological techniques (e.g., Szinovasz, 1983) such as longitudinal designs (eg., Malone et al., 1989) or group comparisons (eg., Jouriles & O'Leary, 1985; Lloyd, 1990).

Research by Jouriles and O'Leary (1985) attests to the versatility of convenience sampling because it allows researchers to compare the effects of a particular dependent measure within two populations. They investigated the interspousal reliability of retrospective reports of marital violence in a community sample (n=37 couples) and a sample of couples involved in marital therapy (n=65 couples). The results demonstrated that 27 percent of males and 6 percent of females within their community sample reported having perpetrated abuse against their partners, while their clinical sample reported abuse by 37 percent of males and 23 percent of females. Yet, when the reports of perpetrated and sustained abuse by males and females were further examined, correlations derived were only low to moderate. The authors concluded that clinic husbands tended to under-report their own perpetration of abuse while the clinic wives tended to over-report their own victimization.

This latter finding brings to mind another important function of convenience sampling; the validity of self reports of marital violence. Arias and Beach's (1987) study investigated this issue in a sample of 82 married men and 90 married women recruited through advertisements placed in local fliers. Descriptive analyses conducted on the demographic data indicated that the sample could be characterized as typically middle class (i.e., three years post secondary education, two children and a median individual income for males of $25,000 per year and $7,000 per year for females).

Further analyses indicated that 32 percent of males and 39 percent of females reported perpetrating violence against their partner while 34 percent of both males and females reported sustaining the same. Like the previous study, this research also provides evidence for the differential reporting of husbands' and wives' reports of enacted and sustained abuse. In explaining their findings, Arias and Beach (1987) implicated the role of social desirability as a factor affecting the accuracy with which the prevalence of abuse is estimated. Responses given may be guided by the notion that the perpetration of abuse against women is less acceptable than abuse directed toward men. The authors suggested the use of corroborative sources (i.e., police blotters and eye witness reports) would be useful in achieving more precise estimates of abuse reports.

Summary

The discussion to this point has focused on the different sampling strategies employed to estimate the prevalence and incidence of domestic violence. Regardless of the approach employed, it is clear that the experience of abuse between intimate partners is not a "rare

occurrence". This review also indicates that being a victim of violence within an intimate relationship is not limited to women alone. Women and men across relationship types engage in comparable rates of domestic violence. This review provides support for Steinmetz's (1978) paper describing the "battered husband syndrome" and challenges the remarks of her critics (Pleck, Pleck, Grossman & Bart, 1978).

There also appears to be some indication that the abuse reported is likely to be bidirectional; that both partners participate actively in its occurrence. Finally, this review indicates a need for methods that address issues such as the context of abuse, its initiation and its resolution could also be addressed and be better understood.

Risk Factors in Partner Abuse

Socio-demographic Risk Factors

Sociologically based family violence research investigates the occurrence of relationship violence within the context of our social fabric. In an effort to develop a socio-demographic profile of the abuser, researchers have therefore focused on the interrelationship between age, marital status, education, employment status, religion, race, and abuse within an intimate relationship. Sociologists have extended their study of socio-demographics to include the investigation of life stressors and violence within the family of origin as possible risk factors in partner abuse.

Much of the research attempting to develop a socio-demographic profile of the partner abuser has also focused on husband-to-wife abuse and has been derived from data gathered from

clinical and abuse samples. Furthermore, research of this kind has relied upon the reports of victims of wife assault, the police, or women's shelter workers.

Socio-economic status. Whereas Finkelhor (1983) argued that all forms of family violence are more common in the lower socioeconomic strata (in families who were experiencing unemployment and economic deprivation), this contention has not received universal support from all family violence researchers. Sommer (1990) suggested that the link between low socio-economic status (SES) and partner abuse may be more related to this group's inability to avoid being caught than their actual involvement in acts of violence against family members. This follows Martin's (1985) and Weidman's (1986) suggestion that when compared to middle and upper class persons, individuals coming from low SES backgrounds are more visible to the criminal justice system, hospital emergency rooms, and social programs where abuse is less likely to be hidden and more likely to be documented. High SES persons on the other hand, have the opportunity to turn to private clinicians for assistance where identification and documentation are less likely to occur.

The nature of the sampling base also plays an important role in determining the relationship between low SES and partner abuse. When clinical samples have been targeted, one finds support for the association between partner abuse and SES. For example, Gondolf et al. (1990) found that of persons (n=221) who had visited an emergency ward in a psychiatric research and training hospital, 64 percent of the 139 perpetrators of recent assault (including family and non-family) were unemployed and only 29 percent had achieved greater than a high school education. On the other hand, research conducted by Stets and Straus (1989) examining abuse among dating, cohabiting and married couples, drawn from a sample of college students

and a national probability sample, found no significant main effects for occupational status or education. In this latter case, the association between low SES and abuse was not demonstrated.

When data from a sample of married or cohabiting Calgary residents (derived from a systematic random telephone sampling technique) were analyzed, violence was found to occur in couples from all socio-economic groups (Brinkerhoff & Lupri, 1988). Similarly, Lisonoff and Bitman's (1978) study also failed to find a relationship between low SES and spouse abuse. These findings challenge those of Kantor and Straus (1987) in which abuse rates were found to be lower among white collar workers when compared to blue collar workers.

Research conducted by Stewart, Senger, Kallen and Scheurger (1987) may provide the basis for yet another explanation for what appears to be an over representation of abuse among the lower class. In a study of middle class college students (n=570), they found that only six percent of students' fathers and three percent of mothers physically beat each other. However, it was also found that 18 percent of parents neglected each others' emotional needs. This study's findings support the existence of differences in the types of abuse across socio-economic groups. The authors suggested that while members of the lower class have been socialized to express anger and frustration through physical means, those belonging to the middle class have been socialized to inhibit displays of violence.

The dichotomy in the expression of abuse illustrated above attests to the lack of clarity in the relationship between SES and the perpetration of partner abuse. In order to resolve the ambiguity surrounding the linkage between these variables, general population based research using an objective partner abuse measure such as the CTS that can assess both psychological and physical dimensions is needed. As well, the manner in which SES is defined may also have

some bearing on the associations drawn. Like partner abuse, the manner in which SES is assessed must also be clearly delineated so that comparisons with other studies can be appropriately done.

Age. Unlike the research aimed at clarifying the link between partner abuse and SES, studies investigating the relationship between age and the occurrence of partner abuse provide a more consistent pattern of findings. In general, a negative association between age and abuse has emerged in these studies. Thus, according to the literature, perpetrators of domestic violence are most likely to be young in age.

Relying upon the information gathered in interviews of 542 women seeking assistance at two women's shelters in Dallas, Texas between 1980 and 1982, Stacey and Shupe (1983) reported that the mean age of the assaulting partner was 33 years. Results of a follow-up study comparing data gathered from male batterers attending three rehabilitative programs in Texas (Shupe & Stacey, 1987) with those of the earlier study, revealed the age of the subjects to be somewhat lower (29 years).

As noted previously, much of the data on spousal violence has been drawn from the reports of battered women. Information gained from reports of this kind has also been useful in providing insight into the nature of the abuser. If one is to operate under the assumption that couples' ages are concordant, then Schulman's (1981) finding that the highest rates of abuse occurred among women between the ages of 18 and 29 suggests that male perpetrators of violence are likely to fall into the same age range. Likewise, Macleod (1987) reported that 70 percent of the women staying in transition homes were under the age of 34 years perhaps also suggesting that their partners might be of a similar age group.

For the most part, data gathered from large general population surveys support the negative association between age and domestic abuse. Straus et al. (1980) and Kennedy and Dutton (1989) noted a decline in relationship violence with age. Brinkerhoff and Lupri (1988) however, provided somewhat different results. Whereas mutual violence was most common among the under 30 years of age group, male perpetrated violence was most common among individuals between the ages of 30 to 45 years of age. In earlier research (Sommer, 1990), it was suggested that this finding may be explained in terms of this middle age group's vulnerability being associated with the collapse of the Calgary economy at the time of that study's data collection. As such, the ensuing stress may have manifested itself in men's maladaptive manner of conflict resolution within their intimate relationships.

In spite of the limited research targeting females as potential perpetrators of violence, there is some indication that being young in age is also relevant to their involvement in abusive episodes. For example, O'Leary, Barling, Arias and Rosenbaum (1989) measured violence in couples at three separate time periods (i.e., one month prior to marriage and 18 and 30 months thereafter). At the time of the first data collection, the mean age of the females was 23.6 years (mean age for males was 25.3 years). The results of their analyses indicated that across all abuse tactics (and when compared to males), the prevalence of abuse was highest for females in the premarriage data collection period.

We need to consider whether the relationship between age and abuse is due to constitutional factors associated with young age (i.e., impulse control, heightened aggression), or is associated with a young person's lack of experience or with cohort differences (Egley, 1991). As yet, the nature of this relationship has not been clearly discerned.

Marital status. The high rates of violence reported by dating couples and divorced people have prompted researchers to examine variations in abuse reporting across marital status categories. It has been suggested that marital status and abuse may be associated spuriously because age exerts an influence on both these variables (Stets & Straus, 1989). In other words, dating partners may be more vulnerable for perpetrating abuse, not so much because of their marital status, but instead due to their young age. Such a position calls into question an earlier claim that "the marriage license is a hitting license" (Stets & Straus, 1989).

Shield, McCall and Hanneke's (1988) study examining violence within both criminal and familial contexts found that violence in general was most common among men who were married for a short period of time. Furthermore, Stets (1990) suggested that verbal aggression experienced early in an intimate relationship carries the seed of physical aggression later in a marriage. While these studies support the contention that abuse is most common among married couples, the effects of age as a covariate were not addressed by any of these authors.

One study that did attempt to discern the effects of marital status on abuse while controlling for a number of demographic variables found a nonsignificant interaction effect for marital status and age (Stets & Straus, 1989). Across age groups cohabiting couples had higher rates of partner abuse compared to either dating or married couples. Severe abuse was also found to be more common among this group.

Research by Kalmuss and Seltzer (1986) examined differences in the incidence of spouse abuse reporting between first and second marriages. Their findings indicated that spouse abuse is more likely when one or both spouses have been divorced than in never-divorced families. This finding remained even after controlling for exposure to family violence during one's

childhood. This study supports the notion that divorced adults transfer maladaptive conflict resolution strategies from one relationship to another. Rather than age being an important covariate in the relationship between marital status and partner abuse, perhaps the influence of a long history of inappropriate communication and conflict resolving strategies should instead be considered.

Similarly, Nisonhoff and Bitman (1978) found that divorced and separated persons were more likely to report being hit and to have hit their spouses when compared to respondents from other marital status categories. Moreover, it was also found that divorced and separated persons were significantly more likely to know at least one other couple that had engaged in spouse abuse. The findings of both these studies suggest, that divorced or separated are particularly vulnerable to the experience of abuse not necessarily by virtue of their marital status, but through the persistence of dysfunctional modes of conflict resolution that transcend relationships.

For those couples committed to notion of "marriage till death do we part", there may be a reluctance to report abuse in their relationship. It may be that these individuals fear that reporting their abuse may threaten their relationship. Because of this, many ongoing cases of abuse remain undisclosed. Reaching these couples is another challenge facing researchers.

The previous discussion has highlighted some of the difficulties faced by family violence researchers concerned with the relationship between marital status and the occurrence of partner abuse. Research indicating that partner abuse seems to be an ongoing event first evidencing itself during courtship, and in many cases continuing onto marriage (Flynn, 1987; Roscoe & Benaske, 1985), raises questions about Stets and Straus's (1979) assertion that being involved in a married relationship poses the most danger for individuals at risk for abuse.

Religion. Research investigating the association between religion and the occurrence of violence within intimate relationships has been both limited and problematic. First, very few studies have focused on the relationship between these variables, and when attempts have been made, researchers have been faced with problems associated with the manner in which religion should be measured. Separating the effects of religious affiliation from those of religiosity seem to be a central importance in studies investigating the link between partner abuse and religion.

In light of these difficulties, Straus et al. (1980) explored the question of whether or not the lack of religious preference influenced the level of violence in families. According to their findings, the relationship between religion and family violence varied for men and women when rates of perpetration and victimization were compared. Women without a religious preference were found to be more at risk for both the perpetration and victimization of abuse while men without a religious preference were only at an increased risk for its perpetration.

Goldsmith (1984) reported the findings of a 1980 study conducted in the Los Angeles Jewish community. Her findings suggested, that while rates of violence among Jews were similar to those found in the general population, sixty-one percent of those surveyed believed family violence was not a problem in the Jewish community. This perception is better understood by considering Scarf's (1983) suggestion, that within the context of Jewish socialization it is believed that Jewish men do not beat their wives. In light of this idealized concept of Jewish family life, women who are abused are prevented from seeking or accepting help. Moreover, family-centred socialization characteristic of Jewish families encourages denial among abused Jewish women while making them feel guilty and responsible for their husbands' actions (Gibson & Wyden, 1969). In spite of the focus on Jewish women's vulnerability toward abuse, Straus

et al. (1980) found that the rate of abuse by perpetrated by Jewish women was higher than that reported by Jewish men, and was highest among all the other religious groups compared.

Straus et al. (1980) suggested that members of fundamentalist religious groups would be most likely to advocate and support certain types of family violence. Research examining the conflict resolution strategies employed by Quaker families provides an interesting test of this hypothesis (Brutz & Ingoldsby, 1984). In general, findings indicated no significant differences in the rates of male and female perpetrated violence when compared to Straus et al.'s (1980) national survey data. However, differences were found in the pattern of violence (as indicated by the CTS) when comparing the Quaker sample with the national sample. An examination of individual CTS items and subscales suggested that Quakers are less violent than families nationally. In other words, Quakers engage in similar rates of violence when compared to the general population, but limit themselves to its milder forms.

Straus et al.'s (1980) earlier claim regarding the greater risk of violence among fundamentalist religious groups, should be considered at the very least tentative and subject to variations associated with other features of religious groups. In the case of Quakers and other groups with similar philosophies, the commitment to pacifism may have the greater influence on the occurrence of violence than simply a membership in a fundamentalist religion.

Race. The literature examining the relationship between race and the occurrence of relationship violence is also limited. Data collected in the U.S. have focused primarily on comparing the rates of family violence among white, black, and Hispanic people (Schulman, 1981; Straus et al., 1980). Research by Schulman (1981) indicates that rates of male perpetrated partner abuse were

higher among nonwhites. To date, Canadian based research has failed to provide reliable data testing the relationship between race and abuse.

Research conducted in the U.S. has attempted to gain a better understanding of the relationship between violence and race by exploring the trends in abuse over time and by testing the contributions of other variables such as SES. In a re-analysis of the National Family Violence Survey data, Hampton, Gelles and Harrop (1989) found, while rates of abuse in general were higher among blacks when compared to whites, further analyses revealed a different pattern of partner abuse for blacks than those reported by Straus and Gelles (1986) for their entire national sample. Whereas Straus and Gelles (1986) reported a stabilization and/or a decrease in male, female and couple violence within their national sample, Hampton et al.(1989) found an increase in female and couple violence, but a decrease in male perpetrated violence within the black subsample of the same national sample with the latter reaching a level of significance.

In an effort to explain this finding, the authors concurred with Straus and Gelles's (1986) conclusion, that in general, the changes in the rates of violence are reflective of an actual change in behaviour such as changes in family structure and economics. For example, Hampton et al. (1989) found that between 1975 and 1985, black families experienced a $16,500 increase in median family income compared to a $10,000 increase in median family income among white families. Based upon the advances in black families' lifestyles together with lower inflation, Hampton et al. (1989) speculated that the resulting greater economic prosperity may be responsible for reducing the risk of domestic violence for this group of people. This would explain the decline in violence found among black males. They explained the substantive

increase in the rate of wife to husband abuse among black women on the other hand as occurring as a result of the increased status of black women.

These findings suggest that research investigating a link between race and partner abuse should consider the effects of social class. Lockart's (1987) study comparing abuse among whites (n=152) and blacks (n=155) found that while there was no significant difference in the proportion of black women (35.48%) and white women (35.5%) who reported being victims of wife abuse during the previous year, a larger proportion of middle class black women than middle class white women reported victimization by a male partner.

Based on these findings, the authors agreed with Staple's (1976) conclusion that blacks are not inherently more violent in their intimate relationships than whites. Rather, higher levels of domestic violence found among blacks are thought to be the result of the particular social predicament in which blacks find themselves in American society. Lockart (1987) suggested, that the higher incidence of violence found among black middle class couples compared to white middle class couples, may be explained in terms of an adaptation process associated with blacks' newly acquired middle class status.

In a reanalysis of these data, Lockart and White (1989) focused on a subsample of black women to examine the effects of SES. This time, they found that women from lower class households were most likely to experience more conflicts and more conflicts leading to violence when compared to middle and upper class women. The authors stated that this finding is consistent with social exchange theory that proposes regardless of race, lower class individuals who seek to control a relationship, but lack legitimate resources, may tend to use violence to enforce dominance.

Women from middle class black families were most at risk for being perpetrators of violence. Consistent with the explanation provided by Hampton et al. (1989) and Lockhart (1987), Lockhart and White (1989) suggested that the vulnerability of black women to perpetrate abuse may be related to women's movement toward economic equality. Due to the lack of an appropriate model for black women's economic equality, violence was therefore explained as a form of adjustment to the relatively new male/female power structure.

The studies reviewed suggest the need for more research investigating the relationship between race and domestic violence that includes the influences of other variables. These studies also support the important role of social class in determining the nature of this relationship. Another area of inquiry involves investigating the possibility that the race/class and domestic violence relationship may be further affected by regional and cultural differences.

Family of Origin. Of the many socio-demographic risk factors investigated by family violence researchers, that which focuses on examining the influence of an individual's early exposure to violence within one's family of origin has been shown to be a salient factor in its occurrence. A review of case comparison studies drawn from 400 empirical reports (Hotaling & Sugarman, 1986) on husband to wife abuse attests to the relevance of this variable. Their results indicated that of the 42 risk markers analyzed for female victims of violence, witnessing violence between parents/caregivers while growing up was the only consistent risk. When risk factors for male perpetrators of violence were examined, witnessing violence as a child or adolescent was one of nine consistent risk markers among a total of 38 analyzed.

In a review of 16 studies implicating the relationship between the occurrence of spousal violence and violence in the family of origin, Tolman and Bennett (1990) determined that the

incidence figures ranged from 24 percent to 81.1 percent. They provided evidence that violence within the family of origin discriminates among many types of relationship violence (i.e., severe v. minor forms of violence) and violence prone relationships (alcoholic v. nonalcoholic, wife abusers v. generally assaultive men, and recidivate v. nonrecidivate batterers).

A major concern raised by researchers centres on the issue of, whether it is the child's experience of abuse at the hands of one's parents, or his or her observation of parents' violence that is most important in predicting later violence within an intimate relationship. In general, when spouse abusers are compared to nonabusers, violence within intimate relationships seems to be related to both direct (i.e., parent to child abuse) and indirect (observation of parental abuse) forms of violence within the family of origin. Barnett, Fagan and Booker (1991) argued that, "violent individuals have experienced types and levels of childhood abuse by their parents, and have observed forms and levels of parental violence, which are in sharp contrast with the experiences of nonviolent individuals" (p. 235).

Based on data gathered by the 1976 National Survey of Family Violence (Straus & Gelles, 1986), Kalmuss (1984) and Seltzer and Kalmuss (1988) examined the effects of both direct and indirect forms of violence within the family as reported by adults (n=2143 and n=1436, respectively). The results indicated that, while both forms of violence in the family of origin were found to be predictive of abuse, the perpetration of spouse abuse was more strongly related to observing parental violence than by parent-child hitting. Separate analyses were not conducted for male and female respondents, and only the perpetration of male to female abuse was examined.

Gaining an understanding the link between violence in the family of origin and current partner abuse implicates the influence of gender (O'Leary & Curley, 1986). O'Leary and Curley's (1986) findings demonstrated that men's accounts of spousal violence were related to both observing marital violence and being abused as a child. Analyses of female data focused on being a victim of spouse abuse and failed to link it to either form of exposure to violence within the family of origin.

The sex difference reported by O'Leary and Curley (1986) contradict earlier findings by Kalmuss (1984) suggesting that the transmission of family violence across generations, while not sex specific (i.e., observing father hit mother increases the likelihood that both sons and daughters will be victims as well as perpetrators of marital aggression), tends to be role specific (i.e., the observation of violence between parents teaches children the appropriateness of such behaviour). The idea that children model specific violent behaviours of parents in their own intimate relationships was supported in research by Bernard and Bernard (1983) indicating that individuals "indulge in the same forms of abuse as they experienced or observed in their families of origin" (p. 286).

Cappell and Heiner (1990) added further insight by examining how levels of violence in the respondent's current family were associated with the presence or absence of violence in the respondent's family of origin. According to the authors, a vulnerability toward interpersonal family violence (through the observation of parents' marital violence) for both males and females may instead be transmitted rather than a transference of specific roles in networks of aggressive relations.

Finally, the influence of personality on the partner abuse/violence in the family of origin linkage has also been noted. In examining differences in personality and family of origin among alcoholic and nonalcoholic agency identified batterers, community identified batterers and a nonviolent comparison group, Hamberger and Hastings (1991) found that alcoholic batterers were most likely to report having witnessed parental violence and having been abused as a child. This finding is consistent with that of Jaffe, Babour and Fishbein (1988) who found that early experiences of aggression were the best predictor of drinking related aggression (including spouse abuse) later in life.

The studies reviewed in this section highlight some of the general trends in research concerned with violence in the family of origin and its effects on later interpersonal violence. There is little dispute as to whether a relationship exists between these variables. However as noted, researchers remain unclear about the nature of the linkage of these variables. For example, Seltzer and Kalmuss (1988) pointed out that many adults who perpetrate abuse against their partners come from homes that have not experienced violence while others exposed to violent behaviour in their childhood families fail to carry this mode of conflict resolution into later relationships. According to the authors, these discrepancies in the transmission of marital violence do not negate the effects of social learning theory, but simply implicate the influence of other important modelling agents outside the family such as peers and the media (Check & Malamuth, 1985; Gwartney-Gibbs, Stockard & Bohmer, 1987; Williams, 1990).

Stress. Stress has been variously defined by family violence writers (Farrington, 1986; Porter, 1985; Schinke, Schilling, Barth, Gilchrist & Maxwell, 1986). Yet in spite of minor differences

in interpretation, these definitions have shared in common the idea that, when environmental demands exceed the capabilities of people, the resulting response can be described as stressful.

Stressors or life stress events have been identified as both positive and negative events such as unemployment, mobility, marriage, birth of children, divorce, aging, and death (Makepeace, 1983). There is general agreement among writers and practitioners in the area that a relationship exists between the occurrence of violence between intimate partners and the experience of life stress events. However, as with the other risk factors addressed, the relationship of stress and violence between intimates is complex and as a result, not completely understood.

The experience of stress has been measured in a number of ways. Researchers have often relied upon validated scales appropriate for their sample or have developed their own measures. Because of this, variability in the measurement of stress has been common throughout the partner abuse literature.

Neidig, Friedman and Collins (1985) examined the relationship between male perpetrated spouse abuse and stress using the Social Readjustment Rating Scale developed by Holmes and Rahe (1967). Their findings indicated that this measure differentiated batterers from nonbatterers with the former scoring higher. Seltzer and Kalmuss's (1988) analysis of Straus and Gelles' national survey data extended these findings. Using a subset of eleven items taken from the same scale, they reported that the joint effects of early exposure to family violence and recent stressful experiences on spouse abuse were additive rather than interactive. In other words, adults who had been exposed to violence in their families of origin as well as to recent stressful experiences

and chronic economic strain were more likely to exhibit violence against their partners than individuals exposed to fewer factors.

The research described above supports peoples' experiences of stress as being idiosyncratic in nature. Consistent with the comments of Seltzer and Kalmuss (1988), it appears that an individual's subjective perception of events may in part determine his/her experience of stress. Just as the degree of violence perpetrated and experienced varies in terms of frequency and severity across subjects, so does the experience of stress. The development of measures for use with particular populations (Makepeace, 1983; Marshall and Rose, 1990) indicates an initial attempt by researchers in acknowledging the uniqueness of peoples' experiences. However, in order to establish a clear relationship between stress and the perpetration of violence, researchers need to:

1) consider both positive and negative life stressors as possible predictors of partner abuse, and

2) distinguish between the effects of using different instruments and the actual correlates of stress and partner abuse.

Summary. This review of research investigating the relationship between socio-demographic variables and the experience of violence within intimate relationships confirms that individuals caught in abusive relationships can be defined in terms of their place in society and the environmental agents impacting upon their lives. Researchers committed to studying sociologically based variables have contributed to the understanding of the family violence issues. However, notwithstanding Gelles and Straus's (1988) claim that more than 90 percent of family violence could be accounted for by socio-demographic variables, there is a body of literature which also suggests that factors such as alcohol consumption and dependence and personality

play a large role in its occurrence. The focus of the next two sections will be a review of relevant research in those areas.

Alcohol Consumption

It has been suggested that the consumption of alcohol is not limited to incidents of family violence but is associated with other forms of violent conduct ranging from common assault (Gerson, 1978) to homicide (Chimbos, 1978). Although Hauser's (1982) review of the literature estimated the presence of alcohol in domestic assaults as ranging between 40 and 90 percent, Roberts (1988) pointed out that most of the research indicated a 60 to 70 percent rate of alcohol abuse among batterers. In spite of the strong association between acts of domestic violence and the consumption of alcohol just presented, considerable variation in reported rates is still evident.

In an effort to account for this variability, the following explanations have been put forth: 1) The amount a person drinks, the degree of his or her alcohol dependence and the extent of the violence experienced in a relationship can vary greatly according to the sample in question (i.e., a clinical sample of batterers and/or alcoholics v. a community sample). 2) The method of data collection (i.e., reports of victims and assailants v. objective physiological measures such as obtaining blood alcohol levels following an abuse incident) will have an impact on the degree of association between these variables. 3) The strength of the relationship between alcohol consumption and partner abuse will be influenced by whether or not researchers make distinctions among the independent and combined effects of drug and alcohol abuse. Quite understandably, it is also these factors that have also contributed to the confusion surrounding the link between alcohol and domestic violence.

Theoretical basis of alcohol-related violence. While researchers generally agree on the magnitude of the problem of alcohol related violence, there is less consensus concerning a theoretical basis for this phenomenon. Two schools of thought predominate the literature on alcohol abuse and dependence; one adheres to a medical model, while the other provides a psychosocial paradigm of alcohol and violence.

Proponents of the former believe that the pharmacological effects of alcohol produce physiological and cognitive responses in some individuals that are manifested in aggressive behaviour (Frieze & Schafer, 1984; Shapiro, 1982). Examples of such responses include: increased heart rate, skin flushing, decreased ability to experience pain, impaired memory and reduced reaction time. Furthermore, the application of the medical model to alcohol related violence views alcoholism as a disease and because of this, absolves the alcoholic of the responsibilities for his or her conduct while under its influence.

The psychosocial interpretation of alcohol induced violence also releases the alcoholic perpetrator of violence from the responsibility for his or her actions. However, whereas the former interpretation relies upon a disease process as the basis for excusing violent conduct, this interpretation posits that the ingestion of alcohol provides individuals with a socially acceptable excuse for engaging in socially unacceptable behaviours.

Kantor and Straus's (1990) description of an integrated model based on this perspective strongly supports the influence of factors such as the symbolic meaning attached to alcohol use and associated expectancies about its effects. It is thought that situational factors present in the interactional process of individuals and perceptual and cognitive changes stemming from the effects of alcohol combine to produce alcohol related violent outcomes. Shapiro (1982)

emphasized the role of the family as a force that maintains the drinking behaviour in order to preserve what it perceives as family stability.

Variables derived from the psychosocial model combine to create an environment that provides the opportunity for alcohol related violence to occur and be sustained. Because individuals are not held accountable for their conduct while under the influence of alcohol, it is thought that many get drunk so that they can behave violently. In this way, the consumption of alcohol is viewed as providing "time out" for violence (Frieze & Schafer, 1984; Livingston, 1986; Richardson & Campbell, 1980: Russell, 1982).

As noted, the theoretical perspectives just described, share in common the notion of absolved responsibility for the alcoholic perpetrator of violence. However, these viewpoints differ in the mechanisms that exempt persons from being held accountable for their own conduct. The medical model explains alcohol induced violence by way of internal factors (i.e., physiological effects) whereas the psychosocial model utilizes both internal and external factors (i.e., attributions of blame, social attitudes toward alcohol and violence and cognitive effects) in its interpretation.

Variables linking alcohol consumption to partner abuse. In spite of the extensive literature on alcohol consumption as it relates to various forms of family violence, there remains much confusion about the nature of its linkage. Some of the issues in need of clarification relate to the timing of drinking relative to violence, the relationship between the amount of alcohol consumed and violence, and the relationship between alcohol consumption and violence perpetrated by women.

A neglected aspect of this research area concerns the limited number of investigations exploring the possible relationship between the occurrence of a violent episode and the timing of alcohol ingestion. Most of the research examining the relationship between alcohol consumption and the occurrence of domestic violence has been correlational in nature, and has failed to consider alcohol as an immediate antecedent of a violent episode.

Kantor and Straus's (1987) study on a nationally representative sample of 5,159 couples addressed this issue. They found that, while a linear relationship was found between alcohol consumption and wife abuse, alcohol was not used immediately prior to a conflict in 76 percent of the cases. Findings of this kind provide the opportunity to make additional inferences concerning the role of alcohol in the occurrence of domestic violence based on objective measures of alcohol consumption and abuse (i.e., quantity-frequency), drinking at the time of violence and wife abuse (CTS). Kantor and Straus (1990) concluded that alcohol use at the time of violence was neither a necessary nor a sufficient cause of wife abuse.

Leonard, Bromet, Parkinson, Day and Ryan (1985) arrived at a similar conclusion. In a sample of community based blue collar workers (n=484 males), the authors concluded that the amount of alcohol consumed most recently is less relevant to marital assault than is a diagnosis of alcoholism based on pathological alcohol consumption patterns and indices of long term drinking. It appears that the lifestyle associated with a well established pattern of drinking may be a more important determinant of violent outcomes than a drinking episode prior to an incident of partner abuse.

An earlier study by Gerson (1978) provided contradictory findings. Incidents of marital assaults drawn from police data all were preceded by the consumption of alcohol by the offender

(43.7%), victim (13.6%), or both offender and victim (42.8%). It is possible that these conflicting findings are largely due to the nature of this sample since it likely that alcohol related violence incidents come to the attention of law enforcement agencies.

The research reviewed suggests that the long term effects of alcohol consumption and dependence are important in understanding the mechanisms of violence between intimates. According to Hamilton and Collins (1981), chronic drinking has the potential to change its consumer. The physiological and cognitive effects of alcohol alter the behaviour of the individual and shape personal interactions through its influences. The cognitive distortions caused by the consumption of alcohol lead to a redefinition of situational norms and increases the likelihood for violence to occur.

The amount of alcohol consumed prior to episodes of partner abuse is another variable in need of clarification. Kantor and Straus's (1987) demonstration of a linear relationship between the amount of alcohol consumed and reports of wife abuse suggests that the more alcohol consumed, the greater the likelihood for abuse to occur due to the disinhibiting effects of alcohol on peoples' behaviour. However, Russell (1982) suggested that alcohol produces paradoxical effects depending upon the biochemistry of its consumer, as well as upon the amount of alcohol consumed.

Consistent with the notion that alcohol's effect on violence may be dependent upon individual differences and the amount of alcohol consumed, Frieze and Schafer (1984) indicated that the highest rates of violence have been reported among moderate drinkers. Hamilton and Collins's (1981) review noted a curvilinear association existed between these variables. The lowest rates of violence were found among men who drank the least, followed by heavy drinkers

and then finally by moderate drinkers. Support for this relationship was also provided by Coleman and Straus (1983) who found almost no violence for the most alcoholic group. Hamilton and Collins (1981) suggested that for some men, high alcohol consumption appears to undermine the capacity for violence. There may be a point at which the disinhibiting effects of alcohol diminish and its depressive effects increase. However, it has not been determined whether this relationship is a function of dosage level, individual differences (i.e., biochemistry and personality) or the chronicity of a drinking problem.

The alcohol literature has tended to focus on females as abused coalcoholics and males as alcoholic perpetrators of violence. Although studies have implicated women's drinking in the occurrence of partner abuse, it has nevertheless, been limited to the examination of their own victimization. To date, there have been no empirical works investigating males as coalcoholics in households where females are perpetrators of alcohol-related violence.

The research on female alcoholic perpetrators of partner abuse is limited. Bland and Orn (1986) found that for those with a DSM-III diagnosis for alcoholism, only 3.8 percent of women were violent against their partners compared to 22.3 percent of men. This study appears to suggest that the mechanism underlying the association between alcohol consumption and partner abuse is quite different for men and women. Coleman and Straus (1990) reported that although men get drunk more often than women, "women who are drunk rarely or occasionally are much more likely to be violent than males at the same frequency of alcohol use (2.6 times more likely for severe violence and 1.2 times for all violence)" p. 116.

Frieze and Schafer (1984) proposed a cognitive model of male and female reactions to alcohol. According to this model, "a drinker's reaction will depend on the social context in

which drinking occurs and the prior expectations of the person about how alcohol will affect him or her" (p. 277). Because women may interpret the sensation of warmth associated with vasodilation as emotional warmth and men may interpret the same as power, given one's prior socialization together with the right circumstances, men are more likely to react aggressively following the consumption of alcohol.

Summary. The research reviewed has demonstrated that in spite of the strong evidence linking alcohol consumption and partner abuse, there is still much confusion when it comes to fully understanding the nature of this association. This review has delineated the sources of such confusion.

The notion of causation with respect to the relationship between alcohol and partner abuse is one issue that deserves comment. Writers have cautioned that the presence of an association between alcohol and domestic violence must not be interpreted as implying causation (Shapiro, 1982; Van Hasselt, Morrison & Bellack, 1985; Kantor & Straus, 1990). The use of experimental and longitudinal designs will be important in establishing a model of causality.

Finally, there is a need to consider alcohol's interaction effects with other variables in determining its link to violent outcomes. For example, research by Gustafson (1985) found that the interaction between frustration and alcohol was associated with an increase in aggression such that in a frustrative condition, alcohol increased both the probability and strength of an aggressive response. While studies have investigated the interaction effects of alcohol and personality in the occurrence of partner abuse (Barnes et al., 1991; Van Hasselt et al., 1985), there is the likelihood that other variables will interact with alcohol in its prediction (i.e., expectancy of effects, attitudes toward partner, attitudes toward violence). The challenge remaining is to

determine whether alcohol is symptomatic of deeper problems such as violence (Everett, 1985), or linked to dysfunctional interactions involving personality, genetics and environmental influences.

Personality

The abandonment of an earlier conceptualization that the perpetration of incidents of family violence was the result of psychopathology has resulted in a limited number of epidemiological studies examining psychological risk factors. For the most part, sociologically based research has discounted the role of psychological variables in the occurrence of violence in the family (Gelles & Straus, 1988). Elliot (1982), on the other hand, defended biological determinants of intrafamilial violence by stating "... for many years most sociological studies of the subject have paid little more than lip service to biological factors such as genetics, hormonal disorders, developmental defects and acquired damage..." (p. 37).

The role of individual differences as predictors of partner abuse has been researched. Studies examining factors such as personality (Barnes et al., 1991; Gondolf et al., 1990; Hamberger & Hastings, 1991), motivation (Rouse, 1990) and attribution (Shields and Hanneke, 1983; Williams, 1990) are now evident in the literature. The research conducted has primarily employed male clinical samples and as a result limits the generalizability of results. Nevertheless, according to Sommer (1990), it is these clinical studies that form the only knowledge base upon which profiles of the spouse abusers have been built. In spite of this serious limitation, some insight has been provided into the psychological factors differentiating abusers from nonabusers. Moreover, their findings have also provided direction for general population based research and the development of psychologically based theories.

Hamberger and Hasting's (1988) founded their definition of the batterer on the following DSM-III description of personality disorder:

> "personality traits that are inflexible and maladaptive and cause either significant impairment in social or occupational functioning or subjective distress p. 764."

Expanding upon this characterization, the authors noted that many personality disordered individuals experience mood disturbances such as anxiety and depression, and do not view these behavioral manifestations as either "desirable or ego-syntonic".

The aim of researchers interested in describing the partner abuser has been to separate perpetrators of partner abuse from the general population based on the evidence of psychopathology. Gondolf et al.'s (1989; 1990) investigations involving a sample of violent psychiatric admissions (n=389) found that forty-one percent of the sample was involved in incidents of violence with a family member. Nineteen percent of them represented incidents of spousal abuse of which 67 percent were perpetrated by males.

In a replication study involving a sample of 99 men attending a domestic violence abatement program, Hamberger and Hastings (1986) found that 88 percent of them demonstrated some indication of psychopathology. Although multiple personality measures (eg., Millon Clinical Multiraxial Inventory, Novaco Anger Scale, Beck Depression Inventory) were employed, no single profile of the abuser emerged.

A factor analysis conducted by Hamberger and Hastings (1986) confirmed the existence of three major personality categories observed in their first study. According to the authors, these categories are consistent with the diagnoses of schizoidal/borderline, narcissistic/antisocial and passive dependent/compulsive personality disorders. Using a different set of assessments (16

Personality Factor, Psychological Screening Inventory, Michigan Alcoholism Screening Test), Schuerger and Reigle (1988) found that higher levels of violence were associated with greater pathology in the form of anxiety, depression, schizoid tendencies, social nonconformity, as well as signs of alcoholism among 250 men in treatment for wife abuse. These findings suggest that the spouse abuser is someone who presents with psychopathology along a number of dimensions rather than by a distinct set of personality features.

Hale, Duckworth, Zimostrad and Nicholas (1988) investigated the MMPI scores of 67 men participating in a batterers' treatment programs. Their findings confirmed previous clinical ones suggesting the existence of an antisocial personality characterized by the following characteristics: impulsiveness, lack of respect for social standards, frequent difficulties with the law and with their families, situational depression, feelings of inadequacy or low self-esteem or both, and a tendency toward substance abuse.

Gondolf (1988) performed a cluster analysis of battered women's self reports (n=525). While the results raise questions about the validity of women's assessments of their partners personalities, the following three types of batterer personalities emerged from the analyses: antisocial, sociopathic, and typical. The latter type is characteristic of the individual who regrets his behaviour and asks for forgiveness (Walker, 1979). The other profiles are indicative of more serious abuse in which there is no caring or remorse. Moreover, sociopathic abuse is also characterized by a wide range of arrests related to crimes against property, violence of a non-family nature, and alcohol-related crimes.

Kalichman (1988) examined male and female perpetrated domestic homicides. As in Hale et al.'s (1988) study, MMPI scores were used to assess the personality profiles of these offenders.

Analysis of scale scores provided two separate (although somewhat similar) profiles. For males convicted of domestic homicide (n=19), the most distinguishing characteristic was a single elevation on the Pd scale. High scores on this dimension are indicative of sociopathy depicted by pathological lying and chronic difficulty with the law. Whereas both male and female murderers (n=16) shared this personality characteristic in common, females scored significantly higher than males on the Pa scale, a measure of paranoia. Moreover, female murderers were also found to score low on the Mf scale signifying higher masculinity. Based on this MMPI profile, Kalichman (1988) described these women as "presenting difficulties in social relations while experiencing high levels of dependency in their relationships" (p. 852).

Summary. The research presented supports the inclusion of personality measures in inquiries into family violence. Although the findings discussed in this review have been predominantly based upon clinical samples made up of male batterers, sufficient evidence has been provided to support the contention that abusers demonstrate levels of pathology higher than those found in the general population (Hamberger & Hastings, 1991). Nevertheless, while researchers have begun to recognize the need for investigations directed at the influence of individual differences in the occurrence of intimate relationships, current research is limited in a number of ways. A discussion of some of those issues follows.

Prevailing sampling procedures provide the most obvious example of a methodological restriction. Kalichman (1988) cautioned that differences can even be found across what are thought to be comparable clinical samples. For example, he noted that the subjects participating in his study may be more representative of better adjusted inmates because of their willingness to co-operate. Likewise, Hamberger and Hastings (1986) acknowledged that their sample of men

arrested and ordered to assessment was exemplary of those abusers who had been caught. Until comparisons can be made across abusers groups, as well as with those found in the general population, it is unlikely that results of studies can be extended beyond the sample in question.

The research reviewed suggests that as a group, "batterers are heterogenous and fail to conform to a unified batterer profile" (p. 143, Hamberger & Hastings, 1991). This view has received support from Gondolf (1988), Hale et al. (1988), Straus et al. (1980), and Tolman and Bennett (1990). The following represents a list of personality characteristics derived from research presented: schizoid/borderline, narcissistic/antisocial, passive dependent/compulsive, antisocial, sociopathic, anxiety prone, depressive, socially nonconforming, neurotic as well as those describing individuals prone to substance abuse, low self-esteem and high masculinity. The extensiveness of this list attests to broad range of pathology associated with relationship violence and supports Hamberger and Hasting's (1986) bid for a broad-based approach that will allow for the "determination that abusers....exhibit not only a preponderance of personality disorders, but several discrete 'types' " (p. 340).

The implications of personality factors in determining violent outcomes are numerous. Personality disordered abusers present researchers, law enforcement agencies, and service providers with a particularly difficult challenge. The range of pathology within the abuser population tests the viability of programs aimed at altering maladaptive family interactions.

Theories of Partner Abuse

As the number of empirical articles published in the area of domestic violence have increased, the story of abuse between intimate partners has begun to unfold. In an attempt to explain how and why abuse between intimates develops, occurs and is sustained, researchers have relied upon theoretical frameworks to guide their research.

Knight and Hatty (1987) noted that theories advanced by various researchers could be dichotomized into those reflecting the orientations of sociologists on one hand, and psychologists on the other hand. According to these writers, sociological perspectives place the phenomenon of domestic violence within a macro model of society, while psychologically oriented researchers account for violence within a micro level of analysis.

Differences in the philosophical orientations of these disciplines have resulted in an ongoing controversy with regard to which one provides the most comprehensive accounting of abuse. From a sociological perspective, violence is seen as an outgrowth of social factors as contrasted to psychological perspectives that attribute violence to such intra-individual factors as aggressiveness, impulsiveness, and paranoia (Straus, 1980). When assigning weight to the role of individual risk factors, Straus (1980) suggested that psychological factors on the other hand,

> ".... account for only a minuscule proportion of the violence which occurs in families ... at the outside ten percent. At least 90% of the violence which takes place in American families grows out of the very nature of the family and of the larger society, rather than out of individual aberrations" (p. 8, Straus, 1980).

The following discussion will review conceptual frameworks reflecting the dichotomy in research orientations described above. In addition, current theories that integrate the philosophies of both will also be presented. However, the reader is cautioned that in light of the existing research bias that focuses on males as perpetrators of intimate violence and females as their

victims, the available theories of domestic violence have been primarily advanced with this belief in mind.

Sociological Perspectives

Resource Theory. Goode's (1971) Resource Theory as well as others that have emanated from it (i.e., the exchange/ resource theory (Makepeace, 1987), social exchange theory (Goode, 1971) and interpersonal resource-exchange theory (Teichman & Teichman, 1989), provide an influential explanation of spouse abuse. According to this perspective, the family is viewed as a power system in which its members rely upon some degree of force to ensure that others serve their ends (Goode, 1971). Force is viewed as one of several resources that forms the basis of all stratification systems.

Another important principle of this theory addresses the notion of exchange. Within the family structure, people are bound to each other through ongoing transactions or exchanges (Goode, 1971). Violence is seen as an outcome of the inequity of exchange. Goode (1971), Makepeace (1987) and Peterson (1991) suggested that families from the lower social strata are particularly vulnerable to abuse because they have fewer alternative resources. For example, they have less prestige, money, and power. As a result, they experience greater frustration and bitterness. In addition to these, Peterson (1991) also found that women seeking divorces (some of whom cited partner abuse as grounds) described their husbands as having meagre psychological resources. For many, having limited social and psychological resources also translate into violent behaviour.

When addressing the issues of power status and frustration as they relate to violence, Teichman and Teichman (1989) developed a classification system of interpersonal resources that

enabled them to offer several predictions with regard to the probability of abusive episodes. Among their findings, they reported an increased likelihood for women to encounter violence when the resource-exchanges between the spouses were unbalanced in their favour. This was due to prevailing societal norms and beliefs regarding the placement of women within the structure of society. This research suggests that imbalances in resource-exchanges exist in both macro and micro levels of the social environment.

Social Learning Theory. Social learning theory is a conceptual framework that has its origins in the work of psychologist, Albert Bandura (1965). According to Bandura (1986), children's acquisition of many complex behaviours are due to their exposure to competent models that display appropriate behaviour in solving problems and coping with their world. Inasmuch as positive behaviours can be acquired through positive role models, conversely, negative behaviours can also be acquired through the modelling of negative behaviours. With this in mind, Bandura (1979) applied social learning principles to the acquisition and maintenance of aggressive habits.

It is the latter set of circumstances that has been of interest to those in the area of family violence. Researchers have applied social learning theory to explain the following aspects of the development and transmission of family violence: the patterning of violence among adult children observing violence in their families of origin (Kalmuss, 1984), the intergenerational transmission of family aggression (Cappell & Heiner, 1990), the generalization of aggression from one relationship to another across time (Malone et al., 1989), and the continuation of marital violence in remarriage (Kalmuss & Seltzer, 1986).

The above examples of research provide support for the modelling effects of early exposure to violence within one's family of origin. According to Burgess and Youngblade

(1988), families are the primary socializing agent of children and have an enduring effect on an individual's social development. Furthermore, they suggested that abusive parent's reliance upon coercive patterns of family interaction will likely to also be emulated by children in later relationships. For children, being a victim of abuse does not turn them against violence, but instead teaches it as a value (Straus, 1980). Finally, Burgess and Youngblade (1988) suggested that a child's peer relations may function either as a deterrent or a causal pathway in carrying out those behaviours observed at home. It therefore appears that the influence of other significant role models may have a mediating or an indirect effect on the development of family violence.

Conflict Theory. Murray Straus (1979) introduced the application of conflict theory to the study of family violence when he suggested that conflict within a relationship is a necessary condition to ensure its continued functioning. Hotaling and Straus (1980) suggested that attempts to suppress conflict may result in the collapse of a family or any social unit either through its failure to adapt to changing conditions or because hostility accumulates, eroding group solidarity. Moreover, an avoidance of conflict situations ironically tends to increase hostility as the possibility of violence (Foss, 1980).

Hotaling and Straus (1980) also suggested that the likelihood of conflict is greatest within the family because unlike other special purpose groups (i.e., academic departments, businesses or corporations), the activities and interests of a family are all encompassing, thus leaving more opportunity for arguments to develop. These authors cited the high frequency of interactions between spouses as having a major impact on the experience of conflict within a relationship. Finally, these authors suggested that if particular conditions exist (i.e., unemployment, stress,

history of violence in the family of origin), family members are more likely to engage in violent behaviour, which in turn also increases the likelihood for injuries to occur.

In presenting the rationale underlying the CTS, Straus (1979) distinguished among methods or "tactics" of conflict resolution. He noted that a critical issue in gaining an understanding of conflict theory is not the existence or amount of conflict, but the methods in which they are resolved. Studies examining the presence of conflict within marital relationships have found that conflict resulting in violence is affected by a number of variables. Coleman and Straus (1986) found rates of conflict were lowest among equalitarian couples and highest among male-dominant and female-dominant couples. Moreover, when conflict did occur in dominant family types, it was associated with a higher risk of violence compared to similar levels of conflict in equalitarian couples.

Another study conducted by Lloyd (1990) compared violent and nonviolent marriages. She found that the relationship between conflict and violence was mediated by level of distress. Her results indicated that distressed-violent couples were characterized by lower levels of squabbles, problem solving, negotiations, and apology, and by higher levels of verbal attack, withdrawal, and stable heated arguments. Nondistressed-violent couples on the other hand, reported a more mixed picture of conflict strategies such as problem solving, negotiation, and compromise, combined with anger and verbal attack.

The research just presented illustrates the important role that conflict plays in family relationships. As shown, the link between conflict and violence is affected by structural factors in addition to those related to the manner in which conflict is managed and resolved.

Stress Theory. According to Straus (1980) and Hotaling and Straus (1980), the level of stress experienced in the family is related to the ongoing structural changes that it experiences. Examples of these structural changes include marriage, the birth of children, divorce, retirement, aging, and death. Moreover, the experience of stress is thought to be individualized. According to Farrington (1986), stressful stimuli need not be catastrophic events, but instead, can take the form of routine and mundane circumstances.

The family is also vulnerable because of the effects of stress. "Together with the huge emotional investment typical of family relationships, it means that the family is likely to be the locus of more and more serious stresses than other groups" (p. 17, Hotaling & Straus, 1980). Farrington (1986) outlined two additional characteristics of the modern American family that place it at risk for the occurrence of violence. First, he argued that in spite of a family's reservoir of skills, attributes, and resources, it is not ideally suited to satisfactorily cope with a variety of stressor stimuli to which members come into contact. The ability to cope is particularly impeded when families are faced with an overload of stressors such as unemployment, illness, and financial problems.

The other characteristic relates to the acceptance of violence as a reasonable response to stress and frustration in American society (Farrington, 1986). Farrington (1986) suggested that the existence of powerful social norms both encourage and reinforce the relationships between stress, frustration and violent behaviour. Although the rates of violent crimes are lower in Canada than in the U.S. (Browne, 1987; Statistics Canada, 1988), the dynamics underlying violence are thought to be similar. The high prevalence and incidence rates of abuse reported

previously seem to suggest that the legitimization of these norms are especially evident within the context of the family.

Summary. The theories reviewed above are reflective of a perspective concerned with gaining an understanding of the social underpinnings of intimate relationships experiencing violent interactions. Straus et al. (1980) and other proponents of sociological conceptual frameworks have been responsible for alerting the public to the seriousness surrounding the problem of family violence. As a result of their efforts, violence between family members is no longer considered a private matter, but one that is a concern of society, in general.

Sociologists' explanations of partner abuse are nevertheless incomplete. First, in a review article on family violence, Emery (1989) noted that the application of social learning theory to the study of family violence ignores the role of emotion in mediating some forms of family violence. Moreover, whereas social learning models explain how family members are socialized into becoming abusive, they do little to explain how people learn to inhibit violence. In as much as violent behaviour can be learned, those principles involved in its learning should also be operative in its repression.

Finally, Emery (1989) noted that much of the related data has been retrospective. Reliance on this type of data is subject to the effects of respondents' changing recall over time, as well as limited opportunities to verify their accounts. Research aimed at assessing both couples' and parents' past and current conflict resolution strategies may shed some light the validity of the relationship between adult relationship violence and violence in the family of origin. Research employing this type of methodology has yet to be tested.

Psychological Perspectives

Researchers conducting psychologically based investigations have studied constitutional factors such as temperament or emotionality, aggression, and personality, as well as situational factors such as alcohol or drug abuse as explanatory agents in family violence. However, there is considerable controversy over the role of psychopathology in the occurrence of violence. For example, the effects of psychological variables in violent modes of conflict resolution have been minimized by Gelles and Straus (1988). Nevertheless, some researchers have recently begun to emulate the general population survey methodologies popular among sociologists through the investigation of psychological risk factors (Sommer et al., 1992; Bland & Orn, 1986).

Psychoanalytic Theory. Studies that employ a psychoanalytic theory of spouse abuse focus on the intrapsychic forces within the individual. Violence against women is seen as an attempt on the part of the abuser to seek confirmation of a masculine identity (Gondolf, 1985). By hating women, it is thought that the abuser is able to contain and control the feminine aspects of his upbringing. To date, psychoanalytic theory has been applied only to the explanation of male perpetrated violence. Explanations of violence by women have not been attempted. Although the psychoanalytic theory possesses intuitive appeal, hypotheses derived from it are difficult to test. At best, this theory's value lies in post hoc explanations of a phenomenon. As a result, this theoretical perspective is limited in its application to empirical research.

Disinhibition Theory. The application of the disinhibition theory is evident in research conducted by both sociologists and psychologists. While the former are interested in the effects of alcohol consumption as a social force (Kantor & Straus, 1987), the latter focus on the biochemical effects alcohol has on the behaviour of individuals (Gustafson, 1985).

According to this theoretical perspective, alcohol consumption is linked to violent behaviour through its physiological effects releasing an individual's violent impulses, tendencies, and inhibitions (Hamilton & Collins, 1981; Spielberger, 1970). Kantor and Straus (1987) explained that "alcohol's effects on the central nervous system release inhibitions by depressing brain function or suppressing super-ego function thereby allowing the expression of rage" (p. 214). Walker (1979) proposed that there may be similarities between the specific blood chemistry changes evident under a generalized stress reaction such as battering and those found in alcoholics.

There is also evidence that in addition to the physiological and cognitive effects of alcohol on the individual, personal vulnerability (Barnes et al., 1991) and the context in which the interaction occurs (Shapiro, 1982) play a role in determining the likelihood of violent behaviour. The high rates of alcohol consumption associated with family violence suggests that the disinhibition theory is an appropriate conceptual framework for the study of partner abuse.

Personality Theory. Research based on personality theory is well documented in clinical data, and more recently, in general population survey data. Generally speaking, researchers have tended to agree that male abusers can be distinguished from the rest of the population based on a number of personality characteristics. For example, while some researchers agree that male abusers can be characterized as having low self esteem and exhibiting high levels of anxiety (Barnes et al., 1991; Goldstein & Rosenbaum, 1985; Walker, 1979), other investigators have found female perpetrators of violence to have higher levels of sociopathy (Bland & Orn, 1986; Scheurger & Reigle, 1988).

Proponents of personality theory believe that individuals are born with an inherent predisposition to develop certain personality traits (Buss & Plomin, 1984). According to Buss and Plomin (1984), this is evidenced in variations in temperament found among infants. Eysenck (1965) developed a genetic theory of personality that proposed that the nature of an individual's biology is a determinant of his or her personality make-up. He suggested that some of the variability in human behaviour could be accounted for by the finding that criminals consistently score higher than the general population along extraversion, neuroticism, and psychoticism personality dimensions (Eysenck & Eysenck, 1985; Wilson, 1981). Research by Malamuth (1988) demonstrated that high scores on psychoticism among males were also associated with sexual aggression and predicted aggression against females in a laboratory setting.

The existence of a continuum of antisocial behaviour (Eysenck & Eysenck, 1985) ranging from minor infractions (i.e., drinking alcohol at a bar while below the legal age) to major criminal offenses (i.e., armed robbery) is indicative of an individual's predisposition toward criminality. It is along this continuum that the perpetration of partner abuse is thought to lie. Based on Eysenckian theory, an individual most likely to abuse his/her partner would be one who is: 1) impulsive and disinhibited, therefore failing to acquire social rules (extravert), 2) anxious and whose anxiety acts as a trigger to learned deviant responses such as violence (neurotic), and 3) uncaring and unlikely to feel guilt, empathy or sensitivity, therefore having little difficulty behaving anti-socially (psychotic) (Eysenck & Eysenck, 1985). While heredity is though to be "a strong predisposing factor, ...the actual way in which a crime is carried out... is subject to the vicissitudes of everyday life" (p. 79, Eysenck, 1977). This delineation suggests that the interface

between a person's inborn characteristics and those found in his/her social environment is extremely important in determining the likelihood that a deviant mode of conduct will emerge.

Summary. Research employing the psychological theories described above have contributed to our understanding of violence between intimate partners. Their findings confirm the wide range of effects contributed by individual differences in the occurrence of family violence. In spite of the limitations associated with methodological precision and the omission of variables measuring the social origins of abuse (i.e., unemployment), research based upon psychologically based frameworks have provided support for the inclusion of related factors in family violence research.

Family Systems Perspective

The application of family systems theory to family violence research was initially concerned with the investigation of child abuse (Emery, 1989). Since that time, researchers and family therapists have found family systems theory to be a useful tool in explaining the development and maintenance of other forms of abuse within the family. This theoretical framework has also provided the means to develop strategies for the treatment of abuse (Gelles & Maynard, 1987). Much of the appeal of this approach has been in its ability to be jointly implemented with other theoretical perspectives such as the feminist (Bograd, 1984) and social learning (Emery, 1989) approaches.

According to systems theory, domestic violence is viewed as a phenomenon affecting all members of the family; not just those individuals identified as either perpetrators or victims of abuse. Straus (1974) described the family as an adaptive goal seeking system with the resulting violence as a "system product" or output. His systems model specified positive feedback loops

thought to be responsible for the escalation of violence as well as negative feedback loops that were conversely thought to either maintain or lessen the present level of violence.

Much of the strength of this perspective lies in its ability to focus on the entire family system without losing sight of the influences and effects of individual family members. However, family systems perspective has been criticized by feminists because of its apparent subtle biases against women (Bograd, 1984). These biases are thought to be found in the language of family systems theory, in the formulations of how domestic violence develops and in types of interventions recommended. Ironically however, inasmuch as Bograd (1984) attempts to make a case for proponents of the feminist perspective, his critique is also inherently biased because it is based on the assumption that only women are victims of abuse.

Feminist Perspectives

The women's movement has been responsible for bringing the issue of "wife battering" to the forefront. Dobash and Dobash (1979) were the first to suggest that the fundamental causes of violence against wives is "a patriarchal society". According to feminist ideology, wife abuse is viewed as being the result of an imbalance of power between men and women. Feminists have asserted that throughout time, women have been subjugated by the greater patriarchal society that has placed limits on their opportunities and leaving them vulnerable to a number of abuses.

Two theories explaining why women stay in abusive relationships have emerged from this ideological perspective. The first is the "Cycle of Violence" theory which describes the dynamics of an abusive relationship, and the second is the "Learned Helplessness" Theory which explains the victimization process. While both theories integrate structural features of sociological

frameworks and psychodynamic features of psychological frameworks, only the first will be discussed because of its relevance to the perpetration of violence.

Cycle of Violence. The Cycle of Violence Theory was borne out of the research conducted by Lenore Walker (1979) on battered wives. This theory is based on the premise that women are not constantly being abused, and their willingness to remain in an abusive relationship is related to cyclical fluctuations between periods of abuse and relative peaceful coexistence. The theory also explains how women become victimized, how they fall into "learned helplessness" behaviour, and why they do not attempt to escape (Walker, 1979).

The cycle of violence is made up of three separate and distinct phases. The first stage is called the "tension building" phase where upon the abusing spouse exhibits moodiness, is short tempered, and is critical of his spouse. It is during this stage that the other spouse may feel as if she "were walking on egg shells", and attempts to avert any further escalation of the tension. The second stage is called the "explosion" phase. This is a relatively short lived period in which the tensions of the previous stage reach crisis proportions and a physical assault ensues. The third, and final stage, has been called the "honeymoon" phase because it is during this stage that the abusing spouse shows great remorse for his actions and promises never to repeat the episode. According to Walker (1979), it is not uncommon that the abused spouse and her perpetrator will engage in lovemaking soon after the assault.

It is thought that the interchange between caring and abuse keeps the abused wife from leaving the relationship and the abuser from changing his behaviour. In spite of its cyclical nature, it is, nevertheless, difficult to predict the timing of each phase or the repetition of the cycle due to the influence of situational factors (Walker, 1979).

Summary. The cycle of abuse provides an explanation of partner abuse that is consistent with the large number of women who refuse to press charges against their partners, and those that welcome them back into their homes following an arrest or imprisonment. At the same time, it should also be kept in mind that the development of the cycle of violence theory and the application of learned helplessness theory by Walker (1979) were based on a self selected sample of abused women. Thus, while these theoretical frameworks may exemplify abuse within this specific population, their generalizeability to abuse occurring within the general population needs to be considered cautiously.

Feminist scholars subscribe to the belief that "women subjected to domestic abuse need to be portrayed realistically as oppressed and victimised" (Knight & Hatty, 1987, p. 460). This statement implies that within the context of an intimate relationship, only women can be viewed as victims, and conversely, only men can be viewed as perpetrators. As demonstrated previously, this is inconsistent with the much of the data on spousal violence. This view is also incompatible with other research that women are over-represented as perpetrators in incidents of physical child abuse (Coleman & Charles, 1990; Star, 1983; Straus et al., 1980). Finally, the empirical evidence demonstrating the occurrence of violence within lesbian relationships (Marie, 1984) challenges the argument that violence against women is the result of men's overt attempts to dominate women.

Summary of Theoretical Perspectives

Regardless of the conceptual framework employed, each serves the purpose of providing an explanation of a particular phenomenon and in so doing, guide the research investigating it. The above review has highlighted several theories commonly applied to the study of partner

abuse. This review has demonstrated that each theory has uniquely contributed to the explanation of abuse between partners. However, in spite of this, none are complete in their account of domestic violence, nor void of limitations.

CHAPTER 3

THE WINNIPEG HEALTH AND DRINKING SURVEY - WAVE 1

The research conducted in this study was based on data derived from the Winnipeg Health and Drinking Survey (WHADS) (Barnes & Murray, 1989). This survey was designed to examine the prevalence of alcohol consumption in a general population sample of Winnipeg, Manitoba by exploring the socio-demographic and personality variables associated with its occurrence. The survey followed a longitudinal panel design and includes two waves of data. The survey attempted to capture a wide range of information on people's drinking and lifestyle practices across three age groups over a two year time period.

Partner abuse data have been previously analyzed for Wave 1 of the WHADS. A brief description of the overall sampling strategy involved the WHADS, the response rate for Wave 1 data, the format for the Wave 1 partner abuse data analyses as well as summaries of its major findings follows. This chapter concludes with:

1) a discussion of the results and limitations of Wave 1 partner abuse data,

2) a presentation of an alternative theoretical model used in this research that attempts to overcome the methodological weaknesses of Wave 1,

3) a list of the objectives and assumptions of Wave 2, and

4) a list of the research hypotheses tested in this research.

A discussion of the measures included in both waves of this research is provided in the chapter on methodology.

Sample Selection and Description

A random sample of adult residents of Winnipeg, Manitoba between the ages of 18 and 65 years who were not institutionalized was provided for use by the Manitoba Health Services Commission, the provincial medicare agency. The initial sample was stratified by age and sex into the following categories for males: (a) 18-34 years, (b) 35-49 years, and (c) 50-65 years; and females: (a) 18-34 years, (b) 35-49 years, and (c) 50-65 years. For each sex/age cell, there were 667 randomly selected names of Winnipeg residents. From this initial sample, a total of 2761 introductory letters were mailed (See Appendix A). Data collection for Wave 1 began during the summer of 1989 and was completed by the fall of 1990.

Procedure for Data Collection

In both phases of the project, respondents participated in a 90 minute face-to-face interview which involved completing a structured interview schedule as well as a self-administered questionnaire. The interviews were conducted by graduate students from the departments of Psychology, Sociology, and Family Studies at the University of Manitoba who received training during a full day workshop.

Each personal interview was preceded by approximately one week by a letter describing the purpose of the project. Respondents were invited to call the project office should they have any questions or concerns. A telephone appointment was made prior to the interview. Interviews were schedules to take place at the subject's home (unless otherwise arranged). The interviews were conducted at a time most convenient to the subject. At least five attempts were made to contact each individual to arrange for a suitable interview time.

Response Rate

The response rates to be described are based on the entire sample. Of the initial sampling base, 366 persons were deemed ineligible, 722 refused to be interviewed and 336 could not be contacted. The number of completed interviews was 1257 (615 males and 642 females) and provided an overall response rate of 63.5%. Data analyzed in this research were drawn from a subsample of 447 males and 452 females who were married or remarried. Table 1 provides a summary of the demographic characteristics for this subsample.

Table 1. Demographic characteristics of the married and cohabiting sample based on Wave 1 data (Barnes et al., 1992).

Category	Males N	Males %	Females N	Females %
Mean Age	46.1 Years		43.5 Years	
Age Groups				
18-34 years	104	23.3	145	32.1
35-49 years	155	34.7	150	33.2
50 years +	188	42.1	157	34.7
Total	**447**	**100.0**	**452**	**100.0**
Marital Status				
Married	429	96.0	443	98.0
Married, but previously divorced	18	4.0	9	2.0
Total	**447**	**100.0**	**452**	**100.0**
Educational Status				
Grade school	27	6.0	128	26.1
Some high school	93	20.0	110	24.1
High school completed	88	19.7	115	25.4
Some college or technical diploma	110	24.6	79	17.5
University graduate	88	19.7	17	3.8
Post university education	41	9.2	13	2.9
Total	**447**	**100.0**	**452**	**100.0**

Table 1. cont'd.

Table 1 (continued)

Category	Males N	Males %	Females N	Females %
Current Employment Status				
Working full time	365	81.7	172	38.1
Working part time	12	2.7	108	23.9
Unemployed	11	2.5	10	2.2
Student	2	.4	10	2.2
Housewife			116	25.7
Retired	43	10.1	31	6.9
Other	14	2.6	10	2.2
Total*	**447**	**100.0**	**457**	**101.5**
Income				
< $10,000/yr.	5	1.1	4	.9
$10,000 - $20,000/yr.	16	3.6	34	7.5
$20,000 - $35,000/yr.	88	19.7	88	19.5
$35,000 - $50,000/yr.	127	28.4	117	25.9
> $50,000/yr	196	43.8	161	35.6
Total*	**432**	**96.6**	**404**	**89.4**
Religious Preference				
Catholic	117	26.7	143	31.6
Protestant	197	44.1	205	45.4
Jewish	14	3.1	11	2.4
Other	51	11.4	47	10.4
No religious preference	67	15.0	46	10.2
Total*	**446**	**99.3**	**452**	**100.0**
Race				
White	417	93.3	417	92.3
Non white	30	6.7	35	7.7
Total	**447**	**100.0**	**452**	**100.0**

*** Note: Not all totals will equal 447 or 452 (100%) due to missing data or multiple categories.**

Data Analysis

Data in this phase of the research were analyzed with the Statistical Package for the Social Sciences, version X (SPSSx) and the Statistical Analysis Systems (SAS). The following represents the general format of data analyses for this phase of the research:

1. Frequency analyses (using percentages and means) were conducted to describe the frequency and severity of perpetrated partner abuse as well as the demographic variables that define the sample. At this stage of the analysis, it was also possible to test for scale outliers, skewness, normality, linearity and homoscedasticity and to conduct appropriate transformations when necessary. Although the CTS (Straus, 1979) was found to be skewed, the criteria set by Cleary and Angel (1984) suggested the use of linear multiple regression was an appropriate statistical approach to analyze these data. Finally, examination of the distributions of the alcohol dependence measures established their high/low cutpoints and facilitated the construction of the Alcohol Dependence Index.

2.Pearson Correlations were computed to determine the bivariate relationships among continuous or dummy coded variables. As noted previously, correlational analyses determined the measures needed to be included in the Neuroticism Index. In addition, zero order relationships between the dependent measure, partner abuse and the independent measures, socio-demographic, personality, alcohol measures were determined.

3. A number of standard regression models testing both main and interaction effects were performed on continuous and dummy coded variables. These involved examining both the individual and combined effects of the independent variables against the dependent

variable (i.e., six items taken from the CTS). Through this procedures, it was possible to ascertain which variables were most salient in their explanation of partner abuse.

Major Findings

The following represents a summary of the results of the analyses conducted on the male and female data from Wave 1 of this research.

Male Data

1. The prevalence of male perpetrated abuse was 26.3 percent with the most common abuse tactic being "pushing, grabbing and shoving" (Barnes, Sommer, Murray & Patton, 1994) (See Table 2).

Table 2. Male perpetrated violence (Wave 1 data) (Barnes et al., 1994).

Type of violence	Number of occurrences	%
Minor violence acts		
Threw or smashed something (not at partner)	79	15.8
Threatened to throw something (not at partner)	42	7.3
Threw something at partner	30	4.6
Pushed, grabbed or shoved	85	17.2
Severe violence acts		
Hit partner	42	7.3
Hit partner with something hard	14	.9
Violence Indexes		
Minor Violence	128	25.9
Severe Violence	43	7.6
Overall Violence	125	26.3

There were 10 missing cases. Overall violence scale statistics: Mean = 6.63, S.D. = 1.48 and range = 6-20

2. Partner abuse by male respondents was significantly predicted by being nonwhite, unemployed and alcohol dependent, and by a low score on Eysenck's Lie Scale and a high score on the Neuroticism Index. In addition, an interaction effect was found for high alcohol consumption and high scores on the Neuroticism Index. This interaction effect was found to be the strongest predictor of male perpetrated partner abuse. Table 3 illustrates the results of a standard regression model testing both main and interaction effects.

Table 3. Standard multiple regression predicting male perpetrated partner abuse (Wave 1 data) (Sommer et al., 1991).

Predictor	r	Beta	R^2
Income	-0.08	0.04	
White	-0.09*	-0.14**	
Age	-0.10*	-0.05	
Unemployment	-0.25***	-0.23***	
Years of education	-0.08	-0.09	
Catholic	-0.04	-0.06	
Protestant	-0.04	0.02	
Ethanol	0.13*	0.11	
Alcohol dependence	0.26***	0.16**	
MacAndrew Scale	0.14*	0.12	
EPQP	0.17**	-0.12	
EPQE	0.07	0.04	
EPQL	-0.22**	-0.22**	
Neuroticism Index	0.23***	0.23***	
Alcohol consumption & Mac	0.16*	-0.38	
Alcohol consumption & Neuroticism Index	0.32***	0.25**	
Alcohol consumption & EPQL	-0.32***	-0.06	
Alcohol consumption & EPQE	0.11	0.07	
Alcohol consumption & EPQP	0.27***	0.25	
Equation			.26

* p<.05, ** p<.01, *** p<.001, F(19,311) = 5.92, p<.001, adj. R^2 = .22

Female Data

1. The prevalence of female perpetrated partner abuse was 39.1 percent with the most common abuse tactic also being "throwing or smashing something (but not directly at partner)" (23.6%). See Table 4.

Table 4. Female perpetrated violence (Wave 1 data) (Sommer et al., 1992).

Type of violence	Number of occurrences	%
Minor violence acts		
Threw or smashed something (not at partner)	108	23.6
Threatened to throw something (not at partner)	69	14.9
Threw something at partner	75	16.2
Pushed, grabbed or shoved	92	19.8
Severe violence acts		
Hit partner	73	15.8
Hit partner with something hard	16	3.1
Violence indexes		
Minor violence	173	38.0
Severe violence	75	16.2
Overall violence	178	39.1

Note: There are 2 missing cases. Overall violence scale statistics: Mean = 7.38, S.D. = 3.37, and range = 6-28.

2. Partner abuse by female respondents was significantly predicted by being young in age and having high scores on Esyenck's Psychoticism Scale (EPQ-R), the Neuroticism Index and the MacAndrew Scale. An interaction effect was found between alcohol consumption and the EPQ-P. The strongest predictor of partner abuse by women was the main effect of having high scores on the EPQ-P. Table 5 illustrates the results of a standard multiple regression model testing both main and interaction effects.

Table 5: Standard multiple regression analyses predicting female perpetrated partner abuse (Sommer et al., 1992).

Predictor	r	Beta	R^2
Age	-0.23***	-0.21***	
Years of education	-0.07	-0.02	
Unemployment	0.05	0.03	
Income	-0.14**	-0.06	
Catholic	-0.01	-0.03	
Protestant	0.00	0.04	
White	0.10*	-0.003	
Ethanol	0.001	0.14	
Alcohol dependence	0.02	-0.07	
EPQP	0.39***	0.30***	
EPQE	0.10*	-0.003	
EPQL	-0.17**	-0.03	
Neuroticism Index	0.32***	0.35***	
MacAndrew Scale	0.16**	0.16*	
Alcohol consumption & EPQP	-0.001	-0.38*	
Alcohol consumption & Neuroticism Index	0.20***	-0.13	
Alcohol consumption & EPQE	-0.001	0.19	
Alcohol consumption & EPQL	-0.03	-0.15	
Alcohol consumption & Mac	-0.004	0.08	
Equation			.28

Note: * p < .05, ** p < .01, *** p <.001
F(19,240)=4.87, p < .001, adj. R^2 =0.22.

Limitations of Wave 1 Partner Abuse Data

Wave 1 research has made an important contribution to the family violence literature because it is one of the first general population studies to investigate the prevalence of partner abuse by including both socio-demographic and individual variables in its analyses. Yet, in spite of the findings provided by this research, a number of theoretical and empirical questions have been raised. A discussion of Wave 1 results and its subsequent limitations follows.

Wave 1 data provides support for the role of both socio-demographic and individual risk factors in the perpetration of partner abuse. As might be expected, the regression analyses yielded abuser profiles that differed for males and females. The one common predictor, however, is the finding that both male and female abusers are most likely to score high on the Neuroticism Index.

Results demonstrated that male and female partner abusers can be distinguished in terms of how alcohol abuse influences the likelihood of perpetration. Whereas alcohol dependence and the consumption of alcohol (as it interacted with Neuroticism) were found to be salient factors in the prediction of male perpetrated violence, the same did not hold true in the prediction of female perpetrated violence. Although the interaction between Eysenck's P Scale and alcohol consumption was found to be a weak predictor for female abusers, it appears that the role of alcohol in partner abuse is experienced differently by males and females.

In an attempt to explain this sex difference, our article on female perpetrated spouse abuse (Sommer et al., 1992) relied upon Frieze and Schafer's (1984) cognitive model. According to this model, "a drinker's reactions will depend upon the social context in which drinking occurs and the prior expectations of the person about how the alcohol will affect him or her" (p.277). We suggested that "the effects of alcohol consumption are thought to be dependent upon an individual's cognitive interpretation of the physiological arousal experienced in a manner that is consistent with prior sex-role socialization" (Sommer et al., 1992, p. 1321). For women, the physiological effects associated with alcohol consumption may be interpreted as emotional warmth, whereas for men, it may be interpreted as power.

The contextual role of alcohol abuse in the perpetration of partner abuse is an issue that has arisen from this research. Specifically, the question "Is alcohol consumed during an abuse episode?" is in need of being answered. In doing so, it will be possible to determine whether it is the reaction to the immediate effects of alcohol consumption, or merely the alcoholic lifestyle, that is most influential in the perpetration of partner abuse.

The socio-demographic risk factors found to be significant for male (i.e., unemployment, nonwhite) and female abusers (i.e., young age) are also consistent with the findings of other general population surveys on partner abuse. Contrary to those derived from clinical data (Gondolf et al., 1990), abusers in this, and other general population based research, were not necessarily defined as being of low SES backgrounds even though the male data demonstrated that being unemployed was a risk factor. Further, the finding that being nonwhite was also a salient factor in the prediction of male perpetrated spouse abuse, needs to be considered cautiously since our male sample was 93.3 percent white. Finally, the finding that female abusers are most likely to be young in age is consistent with other research (Kennedy & Dutton, 1989; Shupe & Stacey, 1987; Stacey & Shupe, 1983; Straus et al., 1980), as well as with the profile of the deviance prone individual (Sommer et al., 1992).

Although Wave 1 data included the socio-demographic variables most often used to define a sample, several other variables commonly investigated in family violence research were omitted. For example, the effects of violence in the family and life stress events were not considered in the analysis of Wave 1 data. In view of the extensive literature suggesting that each of these factors are important correlates of partner abuse, it is thought that they too, may add to the explanatory power of a regression model.

Finally, with respect to the prevalence of perpetrated partner abuse, Wave 1 data demonstrated that 26.3 percent of males and 39.1 percent of females in this random sample of adult Winnipeg residents acknowledged at least one incident of partner abuse during the course of their relationship with their current partner. While the prevalence rates of partner abuse reported are consistent with Straus et al.'s (1980) findings, explanations regarding a significant sex difference (Sommer et al., 1991) in its occurrence remain a matter of speculation.

The recency of the partner abuse was also not examined. Establishing whether the abuse reported is part of a well established pattern or behaviour, or simply an isolated event, possibly occurring early on in the relationship is a matter that remains unresolved. Contextual issues (i.e., the perpetration of abuse occurring in self defence), as well as the consequences of partner abuse (i.e., partner's need for medical attention following a partner abuse episode) were not examined, and remain a challenge for future research.

The limitations just described indicate that the study of abuse between intimate partners like any other area of research is not without its problems. It was the goal of this study to be sensitive to these issues and to attempt to overcome them by way of the methods outlined in the following chapter. In so doing, some of the uncertainty regarding the dynamics underlying both male and female perpetrated partner abuse was clarified.

Diathesis Stress Model

In order to address both the socio-demographic and psychological variables represented in this research, and in order to provide a more definitive explanation of partner abuse, a diathesis stress model was selected for those purposes. This approach "considers the often subtle

interaction between a predisposition toward disease (or disorders) - the diathesis - and the environmental, or life events disturbing people - the stress" (p. 55, Davison & Neale, 1990). According to Davison and Neale (1990), an important tenet of this perspective is that both the diathesis and stress are necessary conditions in the development of a particular state. Often used to describe the development of schizophrenia (Buskist & Gerbing, 1990), this conceptual framework can also be extended to a number of phenomena whose underpinnings are thought to involve both biologically and environmentally based vulnerabilities. According to Graff (1993), vulnerability factors are thought to be relatively stable, whereas stressors may be experienced as acute or chronic.

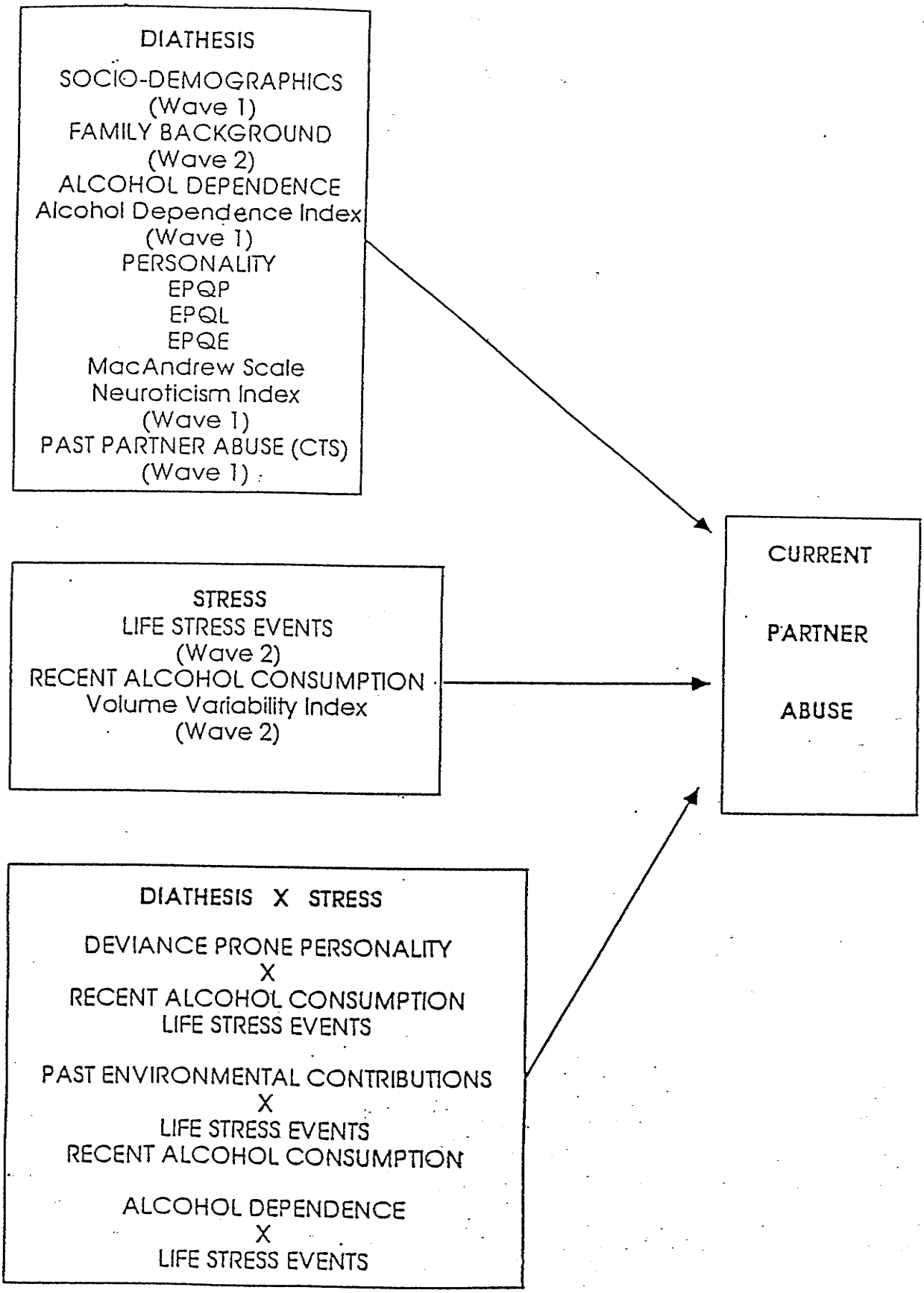
The Present Study: Application to Partner Abuse

The diathesis-stress model was thought to be particularly well suited toward explaining the problem of partner abuse. Our earlier research on courtship violence employed this conceptual framework (Barnes et al., 1991) and demonstrated that the inclusion of an interaction term (i.e., personality and alcohol consumption) in the diathesis-stress regression model increased the amount of variance explained over the amount explained by the main effects by seven percent. Previously, theories that have guided research demonstrating associations between a number of socio-demographic variables, personality, alcohol consumption, and the perpetration of abuse between intimate partners have not been successful in providing a complete explanation of this phenomenon. The application of a diathesis-stress model allowed for the integration of principles from a number of the theories previously discussed.

In this research, by conceptualizing personality, alcohol dependence, socio-demographic variables (i.e., age, employment status, income, education, religion and race), family background

and past partner abuse as the diathesis, and life stress events (i.e., job loss, job change, change in financial situation, change in residence, birth of a child, retirement, start or finish school, change in marital status, spouse's job loss, spouse's job change) and recent alcohol consumption as the stress, an examination of their individual and combined effects in the prediction of partner abuse was attempted. In the presence of both constitutional and environmental risk factors, the likelihood for partner abuse was expected to increase. It was expected that the application of a diathesis-stress model to the issue of partner abuse would improve upon the explanatory value of previously advanced models. Figure 1 illustrates the model tested in this research.

Figure1. Diathesis Stress Model of Partner Abuse



Assumptions Underlying the Research Project

This research project assumed that references to partner abuse were made within the context of heterosexual relationships. Although it is recognized that there is a growing body of literature on gay and lesbian partner abuse, it was deemed to be beyond the scope of this research to explore the perpetration of partner abuse within this population.

Objectives

The objectives of this project were as follows:

Primary:

1) Examine the longitudinal relationships among socio-demographic variables, alcohol consumption and dependence, personality and partner abuse.

Secondary:

1) Identify the incidence and prevalence of partner abuse in a large urban Canadian sample.

2) Compare the rates of partner abuse between males and females.

3) Compare these rates of partner abuse with those of other Canadian and U.S. urban samples.

4) Examine the stability of partner abuse during the course of the research project.

5) Examine whether the abuse perpetrated occurred in self defence.

6) Examine the consequences of partner abuse episodes based on whether medical treatment was sought.

7) Examine whether the consumption of alcohol was a factor at the time of an abuse episode.

8) Examine whether the relationship between the amount of alcohol consumed and the occurrence of partner abuse is linear (i.e., such that the likelihood for abuse increases with the amount consumed).

9) Examine the relationship between observing violence in the family of origin and the perpetration of partner abuse.

10) Examine the relationship between recent life stress events (i.e., those occurring during the past two years) and the perpetration of partner abuse.

Research Hypotheses

The empirical literature and the diathesis-stress model as applied to abuse between intimate partners suggest several testable hypotheses. A description of the hypotheses tested in this research are as follows:

Descriptive statistics and correlational analyses were expected to reveal that:

1. The incidence rates of male and female perpetrated partner abuse (i.e., abuse that has occurred during the past year) as measured in Wave 2 will be consistent with those reported in the literature (i.e., 10-14 percent).

2. The pattern of partner abuse (i.e., frequency, severity, most common abuse tactics and sex differences) found in Wave 1 of this research will also hold true for Wave 2 data.

3. Partner abuse scores will be significantly higher among respondents who had witnessed their parents' abuse of each other (as measured in Wave 2).

4. Partner abuse scores will be significantly higher among respondents who had reported having experienced life stress events (as measured in Wave 2).

5. The relationship between the consumption of alcohol and the perpetration of partner abuse will be curvilinear whereby individuals who consume moderate amounts of alcohol will have higher mean partner abuse scores than those who consume low and high amounts of alcohol (as measured in Wave 1 and Wave 2).

The main hypotheses, related to the diathesis-stress model were assessed by way of logistic regression analyses and included measures drawn from Wave 1 and Wave 2. The individual and combined main effects of the independent measures on current perpetrated partner abuse (as measured in Wave 2) as well as their interactive contributions to its prediction were evaluated for the following:

6. For males, witnessing mother's and father's abuse of each other, consuming alcohol (measured in Wave 2), being unemployed, perpetrating past partner abuse, having low scores on social conformity and having high scores on alcohol dependence, the Neuroticism Index, (measured in Wave 1) and stress (measured in Wave 2) will significantly predict current perpetrated partner abuse in Wave 2.

7. For females, witnessing mother's and father's abuse of each other (measured in Wave 2) being young in age, perpetrating past partner and having high scores on Esyenck's

Psychoticism Scale (EPQ-R), the Neuroticism Index, the MacAndrew Scale (measured in Wave 1) and stress (measured in Wave 2) will significantly predict current perpetrated partner abuse in Wave 2.

Finally, based on the findings emerging from the literature reviewed, the following two hypotheses were derived:

8. For males, the interaction between the following diathesis and stress factors will significantly predict current perpetrated partner abuse in Wave 2 and add to the explanatory power of the main effects model:

a) deviance prone personality (i.e. high scores on the neuroticism index) and high recent alcohol consumption,

b) deviance prone personality (i.e., high scores on the neuroticism index) and life stress,

c) past environmental contributions (i.e. past partner abuse and violence in the family of origin) and high recent alcohol consumption,

d) past environmental contributions (i.e., past partner abuse and violence in the family of origin) and life stress, and

e) alcohol dependence and life stress.

9. For females, the interaction between the following diathesis and stress factors will significantly predict current perpetrated partner abuse in Wave 2 and improve upon the explanatory power of the main effects model.

a) high scores on deviance prone personality (i.e., neuroticism index and psychoticism scale) and past partner abuse,

b) high scores on deviance prone personality (i.e., neuroticism index and psychoticism scale) and life stress events,

c) high scores on deviance prone personality (i.e., neuroticism index and psychoticism scale) and high recent alcohol consumption, and,

d) past environmental contributions (i.e., violence in the family of origin and past abuse) and life stress.

CHAPTER 4

WINNIPEG HEALTH AND DRINKING SURVEY - WAVE 2

Methodology

This chapter describes the methodology employed throughout this longitudinal project. Having already addressed this project's sampling technique and procedure of data collection in the previous chapter, a brief description of the Wave 2 response rates will be presented in the following section.

Response Rate

Data collection for Wave 2 began during the summer of 1991 and was completed by the fall of 1992. Of the 1257 persons interviewed in Wave 1, 83 moved away from the city, eight were deemed ineligible (i.e., died or were institutionalized), 57 could not be contacted and 121 refused to be reinterviewed. The number of completed interviews for Wave 2 was 988 and provided an overall response rate of 78.7 percent.

Independent Variables and Measures

The following is a list and explanation of the instruments and measures utilized throughout both waves of this project. A battery of demographic, alcohol abuse, personality and partner abuse items were administered in Wave 1 and then were readministered in Wave 2. Items designed to assess changes that might have occurred during the two year period between Wave 1 and Wave 2 as well as questions that might also elicit further information regarding the

circumstances surrounding episodes of partner abuse were added to the follow-up interviews in Wave 2. These items will be noted below where applicable.

Demographic variables. Questions were included to measure the following demographic variables: (1) age, (2) gender, (3) marital status, (4) race, (5) religion, (6) employment status and (7) income. Items regarding changes with respect to marital status, family size, employment status, as well as income were added to the Wave 2 questionnaire (Appendix B. Part 1).

Alcohol abuse. Two constructs were selected to assess the extent of alcohol abuse by the respondents (i.e., alcohol consumption and alcohol dependence).

1) Alcohol consumption:

Alcohol consumption was measured by the Volume Variability Index (Cahalan & Cisin, 1986; Room, 1982). This instrument contained nine questions and measured the quantity-frequency (with an added indicator for binge drinking) of wine, beer and liquor consumption. (Appendix B, Part 2). This measure is particularly relevant because of the association between alcohol consumption and the perpetration of violence consistently reported throughout the literature. The index selected for use in this research was the number of ounces of alcohol consumed per day.

2) Alcohol dependence:

An index was constructed to measure alcohol dependence (Sommer, Barnes & Murray, 1990). The Alcohol Dependence Index was constructed by assigning "0" and "1" values to scores which respectively fell below and above the scale cutpoints (based on those reported in clinical research on alcohol dependence). The values were then summed to produce a possible scale range of 0 to 3 whereby a score of 0 indicated no indicators of alcoholism while a score of 3 reflected being alcoholic on all indicators. It employed the following measures:

A) Michigan Alcoholism Screening Test (SMAST) (Porkorny & Miller, 1972) is a 13 item test intended to screen individuals in the general population and one which has been widely used in other studies (Appendix B, Part 3). The SMAST was designed to produce a more effective,shorter, self-administered and more easily scored version of the original MAST. In a study comparing the two versions of the MAST, reliability coefficient alphas computed for the two comparison group scores, yielded coefficients only slightly lower for the SMAST (Seltzer, Vinokur & Rooijen, 1975). However, validity coefficients on the other hand were found to be slightly higher for the same shortened scale version. In light of these findings, the authors concluded that the SMAST is as effective as the MAST in screening for alcoholism.

B) The Alcohol Dependence Data Schedule (SADD) (Raistrick, Dunbar & Davidson, 1983) is a 15 item instrument which has been administered to both clinical and non-clinical samples and has been found to strongly distinguish alcoholics from nonalcoholics (Appendix B, Part 4). The split-half reliability obtained by Raistrick et al. (1983) using the short form (i.e., the 15 item scale used in this study) was .87. Other research by Jorge and Mazur (1985) employing this shortened version obtained a split half reliability of .88 when used in an interview format and .82 when self-administered. Results of the Wave 1 provided an estimate of internal consistency of .82 for females and .68 for males.

3) A subscale of the NIMH Diagnostic Interview Schedule Version III, Revised (DIS) which provides a number of indices of alcoholism that follow the diagnostic criteria of the Diagnostic and Statistical Manual (DSM-III) (American Psychiatric Association, 1980) was developed by Robins, Helzer, Croughan, Williams and Spitzer (1979). The subscale

selected for use in this research is the "lifetime diagnosis of alcohol dependence/abuse" (Appendix B, Part 5).

Personality. Several instruments measuring the major dimensions of personality were selected for use in this research. They are as follows:

1) Eysenck Personality Questionnaire (EPQ-R) (1985):

The EPQ-R is a 100 item scale containing three personality subscales: Neuroticism (EPQN), Introversion-Extraversion (EPQE), and Psychoticism (EPQP). The EPQ-R also contains a validity scale, the Lie Scale (EPQL) (Appendix B, Part 6). The Lie Scale may also be considered a measure of social conformity. While Neuroticism and Introversion-Extraversion are well established tests of personality, the Psychoticism dimension is newer and has been a source of controversy. Earlier versions of this scale have been criticized for low reliabilities (i.e., Cronbach's Alpha = .74 for males and .68 for females) (Torrubia & Muntaner, 1987) and skewed distributions (Eysenck & Eysenck, 1975). The most recent version (EPQ-R) (Eysenck, Eysenck & Barrett, 1985) seems to have overcome these handicaps. Wave 1 data provided the following reliability coefficient alphas for the EPQ-R subscales: EPQN (males .85; females .85), EPQE (males .82; females .80), EPQP (males .60; females .61) and EPQL (males .83; females .82) (Sommer, 1990; Sommer et al., 1992).

2) MacAndrew Scale (MAC) (MacAndrew, 1965):

The MAC is a 51 item subscale of the Minnesota Multiphasic Personality Inventory MMPI) (Appendix B, Part 7). It has been successfully cross validated against samples similar to those for which it was originally developed (alcoholics versus non-substance abusing psychiatric patients) (MacAndrew, 1980). MacAndrew (1980) found that 85% of male alcoholics assessed

by the MAC scale were classified as "secondary psychopaths" (i.e., neurotic extroverts) according to Eysenck's model of personality. Whereas results of Wave 1 data indicated that the MAC was a predictor of partner abuse for female respondents (Sommer et al., 1992), tests of reliability performed on these data provided low estimates of internal consistency for both males (.43) (Sommer, 1990) and females (.54) (Sommer et al., 1992). These were likely due to the multidimensional nature of the scale. Earlywine, Fine and Martin (1990) considered the MAC a fallible indicator of underlying constructs. In spite of the MAC's low estimate of reliability, these authors determined that a confirmatory factor analysis demonstrated associations between it and personality measures. Other research by MacAndrew (1980) showed that the MAC is still considered an appropriate measure because of its widespread use and its demonstrated ability to distinguish between alcoholic and nonalcoholic populations.

3) Neuroticism Index:

In order to avoid the problems associated with multicollinearity, several highly correlated scales were combined to form a Neuroticism Index (Sommer, Barnes & Murray, 1990). A conservative approach toward selection of the measures based on the strength of intercorrelations supported this procedure (Sommer et al., 1992). Support for combining these measures was also found in the literature on personality (Krisha, 1980; Rosenberg, 1979; Roy, 1977). The index was constructed by averaging the means of the scales' z scores. Transformations were performed to ensure that all composite measures were scored in the same direction. The following instruments were included in this measure:

A) The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10 item scale which has been found to relate to alcoholism (Beckman, 1978) as well as with perpetrators of

partner abuse (Goldstein & Rosenbaum, 1985; Rouse, 1988; Barnes et al., 1990) (Appendix B, Part 8). This scale provided satisfactory estimates of internal consistency on Wave 1 data for males (Alpha =.83) (Sommer, 1990) and females (Alpha =.86) (Sommer et al., 1992).

B) The Trait Anxiety Scale (Spielberger, 1970), a widely used measure of anxiety consists of 20 items (Appendix B, Part 9). Since our earlier research on abuse among male college students found neuroticism to be a significant predictor of abuse (Barnes, Greenwood & Sommer, 1991), this particular measure was therefore thought to be relevant in this present examination of partner abuse. This measure provided a satisfactory estimate of internal consistency in Wave 1 for males (Alpha =.84) (Sommer, 1990) and females (Alpha =.88) (Sommer et al., 1991).

C) The Baron Ego-Strength Scale is another subscale of the MMPI containing 67 items (Appendix B, Part 10). It measures a general factor of the capacity for personality integration (Greene, 1980). According to Greene (1980), persons who score high on this measure are thought to have secure self concepts and are able to cope with situational stress. Low scorers on the other hand, are more likely to experience chronic, personality problems. It was suggested that those with less integrated personalities might experience lower levels of impulse control and resort to more primitive methods of coping such as violence (Sommer, 1990). Analyses of Wave 1 data provided somewhat low, yet satisfactory estimates of internal consistency for males (.67) (Sommer, 1990) and females (.70) (Sommer et al., 1992).

D) A fourth measure included in the Neuroticism Index is the EPQN described above.

Family background. In order to address the issue of violence within the family of origin, two questions were included in the Wave 2 interview schedule (Appendix B, Part 11).

Stress. Twelve items have been included in the Wave 2 interview schedule to assess the extent of life stress events experienced by abusers and their spouse/partners. The items selected are similar to some of those included in the Holmes and Rahe (1967) Life Stress Events Scale (Appendix B, Part 12).

Dependent Variable

Conflict Tactics Scale. In this project, the dependent variable, partner abuse was measured by an abridged version of Straus's (1979) Conflict Tactics Scale (CTS) (Form A). The scale measures the frequency with which abusive actions occur as well as the degree of its severity. An individual scoring low on the CTS is indicative of someone whose experience with partner abuse is both infrequent and less severe than one scoring high on the same measure. In this research, both the prevalence (i.e., abuse ever occurring during the course of a relationship) and incidence (i.e., reports of partner abuse incidents during the past year) of perpetrated partner abuse were assessed by this measure. In its original form, the CTS incorporates the following three modes of conflict resolution: (1) the use of rational discussion, argument and reasoning, (2) the use of verbal and nonverbal acts, and (3) the use of physical force against another person.

For the purposes of this study, six items of the CTS measuring "physical force" tactics were selected for analyses. Items associated with emotional abuse (i.e., rational discussion, argument and reasoning) were not considered relevant to this investigation of physical abuse and were therefore excluded. As well, the most severe "physical force" conflict tactics (i.e., beat up, threatened with a knife or gun, used a knife or gun) were also omitted because of low

endorsement rates demonstrated in past research (i.e., 0% to 4%) (Brinkerhoff & Lupri, 1988; Malone et al., 1989; Marshall & Rose, 1990; Smith, 1987; Stets & Pirog-Good, 1989).

Furthermore, whereas many studies have employed the full scale in their analyses, portions of the scale have also been used in other research (Brinkerhoff & Lupri, 1988; Roscoe & Benaske, 1985; Smith, 1987). In fact, the reliability of an abbreviated version used in Wave 1 of this project (Cronbach's Alpha =.79 for males and Cronbach's Alpha =.94 for females) was found to show greater internal consistency than that of the entire scale used in our earlier research on male perpetrated courtship violence (Cronbach's Alpha =.57) (Barnes, et al., 1991).

Various versions of the scale have been used in face-to-face interviews (Kennedy & Dutton, 1989; Schulman, 1981; Smith, 1987; Sommer, Barnes & Murray, 1990, 1991; Straus et al., 1980), telephone interviews (Straus & Gelles, 1986) and mail surveys (Straus, 1979). However as noted previously, the CTS is limited in its ability to elicit information on the following: (1) the circumstances surrounding the violent episode occurred (i.e., who initiated the episode or did it occur in self defence), (2) whether the consumption of alcohol was involved prior to the violent episode, (3) the consequences of violent episodes (i.e., physical injuries) and (4) whether episodes of abuse had been reported to the police. The revised version of the CTS employed in this study included items designed to overcome most of the noted limitations of previous research (Appendix C).

Data Analysis

The data analyses conducted in this second phase of the research followed a similar format to that conducted during its first phase using SAS statistical packages (SAS Institute Inc.,

1986). Data from both Waves 1 and 2 of the Winnipeg Health and Drinking Survey (Barnes & Murray, 1989) were used to test the theoretical issues in this research.

In light of the diminished response rate reported earlier for Wave 2, data analysis began with an investigation into the effects of sample attrition. Inspecting the data for possible distortions resulting from missing data is important because nonrandom attrition may pose a threat to internal and external validity (Stacy, Newcomb & Bentler, 1991). Determinations regarding the proportion of partner abusers from Wave 1 found among those who refused to participate or could not be contacted for Wave 2 data were made. In addition, possible differences between study dropouts and completers with respect to Wave 1 sample characteristics (i.e., socio-demographic and personality factors, alcohol consumption and CTS scores) were evaluated.

Assessing changes and stability in prevalence rates of partner abuse (i.e., has abuse "ever" occurred) as well as in other independent measures reported in Wave 1 and Wave 2 were achieved by way of frequency and correlational analyses. As was the case in the analysis of Wave 1 data, Pearson correlations were also performed within the Wave 2 data to assess the bivariate relationships between partner abuse.

The relationship between alcohol consumption (Wave 2) and partner abuse (Wave 2) were examined for linearity by collapsing the former variable into three levels (i.e., low, medium and high alcohol consumption) and then examining differences in the partner abuse score means. Linearity is established when the means of the partner abuse scores are found to increase across levels of alcohol consumption.

The final phase of the data analysis tested the major hypotheses of this research using logistic regression analyses. Given that reported incidence rates for perpetrated partner abuse (10-14%) fall well below the 25 percent cutoff considered to be appropriate for inclusion as a dependent measure in a multiple regression analyses (Cleary & Angel, 1984), the selection of this approach was considered appropriate. The application of this procedure in previous spousal violence research (Bland & Orn, 1986; Kalmuss & Seltzer, 1986; Seltzer & Kalmuss, 1988) provided additional support for use in this research.

The logistic regression approach has two distinct features; the dependent variable is dichotomous, and the effects of the independent variables are presented as odds ratios. In order to conform with the former, this study's dependent measure, "current perpetrated partner abuse" (i.e., the number of times an individual perpetrates partner abuse during the past year) was collapsed into the following two levels: abuse as reported at any level of severity and/or frequency (coded as 1) and no abuse (coded as 2).

According to Halli and Rao (1992), the odds ratio forms the backbone of logistic regression. In this research, logistic regression analyses made it possible to establish the ratio between perpetrating and not perpetrating current partner abuse based on a number of underlying and situational factors. The magnitude of each predictor was also assessed through an examination of the parameter estimate in relation to the standard error. Finally, the fit of the model being tested (i.e., the degree to which the predictors tested were needed to model the dependent measure) was determined by way of chi-square analysis.

In spite of the appropriateness of logistic regression in this research, there are a number of limitations inherent in the use of this approach that are in need of consideration. For example,

a problem associated with the severe skewness of the dependent variable is the potential instability of coefficient estimates using this statistical application (Seltzer & Kalmuss, 1988). In order to compensate for this problem, the following strategies put forth by Seltzer and Kalmuss (1988) were adopted in the logistic regression analyses conducted in this research:

1) Rather than including all the main effects and interaction effects in one model, the interactions were estimated in two separate models (i.e., one examining interactions with stress and the other examining interactions with current alcohol consumption).

2) Conservative standards for the interpretation of results were also employed. Thus, "statistical significance was attributed only when a coefficient was twice the value of the standard error" (p. 481, Seltzer & Kalmuss, 1988).

The second issue relates to a loss of sensitivity in the dependent measure due to the transformations performed. The quantitative differences once present in the continuous variable, "current perpetrated partner abuse" were eliminated when it was collapsed into two levels. Thus, instead of assessing the perpetration of current partner abuse as ranging from low to high (with a possible range of 0 to 12), the transformed variable can only be interpreted as indicating either the presence or absence of current perpetrated partner abuse. To the extent that a dichotomous dependent measure is a necessary condition of logistic regression, its resulting lack of sensitivity must be viewed as an unresolved limitation in this approach, to be dealt with theoretically.

CHAPTER FIVE

RESULTS OF WAVE 2 DATA

Examining the Data

Reliability of Scales

Prior to addressing the hypotheses set out in the previous chapter, two tests of reliability were performed on the independent and dependent measures in Wave 2 data. The first assessed the degree of internal consistency of the measures using Cronbach's Alpha, and the second assessed the stability of the measures across time by way of Test-Retest Reliability. Lack of internal consistency as well as instability of measures limit the generalizability of research findings (Cronbach, Gleser, Nanda & Rajaratnam, 1972).

Internal consistency of the measures. Cronbach's Alpha coefficients assess the proportion of variance due to common factors among scale items. More specifically, the alpha coefficient is the ratio of the universe-score variance to actual observed score variance. In other words, the alpha coefficient indicates how accurately one can generalize from an observed score with several modes of responses and a fixed situation, to the universe score for that situation over all modes of responses (Cronbach et al., 1972).

According to Kerlinger (1973), a reliability coefficient of .60 or better would be needed to meet a moderate standard of reliability. Listed below are the scale characteristics and reliability coefficients for measures put to this test. The following measures were assessed using this technique: (1) the EPQ-R (EPQN, EPQP, EPQL, EPQE), (2) the Barron-Ego Strength Scale,

(3) the MacAndrew Scale, (4) the Rosenberg Self-Esteem Scale, (5) the Spielberger Trait Anxiety Scale, (6) the Alcohol Dependence Data Schedule, and (7) the Conflict Tactics Scale (CTS). The remaining alcohol measures (Michigan Alcoholism Screening Test and the Diagnostic Interview Schedule) were not subjected to tests of reliability since they provide multidimensional indicators of alcohol related behaviour.

1) The Eysenck Personality Questionnaire - Revised (EPQ-R). The EPQ-R is composed of the following four subscales: psychoticism (EPQP), neuroticism (EPQN), extraversion (EPQE) and a validity or lie scale (EPQL). For the purposes of these analyses, the long version of this measure was employed. Respondents were asked to answer "YES" or "NO" to all subscale items.

A. The EPQP is composed of 32 items. The scale range was 0-14 for males and 0-12.38 for females with means of 3.78 (S.D.= 2.59) and 3.25 (2.39), respectively. The EPQP provided Alpha levels of .58 for males and .54 for females.

B. The EPQN is composed of 24 items. The scale range was 0-24 for both males and females with means of 7.76 (S.D.=5.16) and 10.17 (S.D.=5.25), respectively. The EPQN provided Alpha levels of .87 for both males and females.

C. The EPQE is composed of 22 items. The scale range was 0-23 for both males and females with means of 13.53 (S.D.=5.29) and 13.45 (S.D.=4.63), respectively. The EPQE provided Alpha levels of .86 for males and .82 for females.

D. The EPQL is also considered to be a measure of social conformity (Eysenck & Eysenck, 1985). It is composed of 21 items. The scale range was 0-20 for males and 0-21 for females with means of 9.33 (S.D.=4.48) and 10.48 (S.D.=4.49), respectively. The EPQL provided Alpha levels of.82 for males and .83 for females.

2. Barron Ego Strength Scale. The Barron Ego Strength Scale is composed of 67 items. Respondents were asked to answer "TRUE" or "FALSE" to each of the scale items. The scale range was 25-58 for males and 24-59 for females with means of 47.41 (S.D.=5.41) and 43.85 (S.D.=5.68), respectively. The Barron Ego Strength Scale provided Alpha levels of .63 for males and .60 for females.

3. The MacAndrew Scale. The MacAndrew Scale (MAC) is composed of 49 items. As with the Barron Ego Strength Scale, respondents were asked to answer "TRUE" or "FALSE" to the scale items. The scale range was 10-34 for males and 10.42-32 for females with means of 22.05 (S.D.= 3.80) and 20.05 (S.D.=3.49), respectively. The MacAndrew Scale provided Alpha levels of .33 for males and .25 for females.

4. Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale is composed of 10 items. Respondents were asked to indicate the extent to which they agreed or disagreed with each scale item. Choices of responses were: (1) strongly agree, (2) agree, (3) disagree, and (4) strongly disagree. When computed, high scores indicate high self esteem, whereas low scores indicate the opposite. The scale range was 20-40 for both males and females with means of 33.83 (S.D.=4.50) and 33.30 (S.D.=4.49), respectively. The Rosenberg Self-Esteem Scale provided Alpha levels of .85 for both males and females.

5. Spielberger Trait Anxiety Scale. The Spielberger Trait Anxiety Scale is composed of 20 items. Respondents were asked to indicate the extent to which they experienced scale items. As was the case with the Rosenberg Self-Esteem Scale, this measure was also based on a four point scale. The item values were as follows: (1) almost never, (2) sometimes, (3) often, and (4) almost always. The scale range was 20-61 for males and 21-71 for females with means of 32.88

(S.D.=7.86) and 34.72 (S.D.=8.20), respectively. The Spielberger Trait Anxiety Scale provided Alpha levels of .88 for males and .89 for females.

6. Raistrick's Alcohol Dependence Data Schedule (SADD). The SADD is composed of 15 items. As in the previous scale, respondents were asked to indicate the extent to which they experienced the scale items. Scale values were similar to those of the Trait Anxiety Scale and were as follows: (1) never, (2) sometimes, (3) often, and (4) nearly always. The scale range was 0-13 for males and 0-12 for females with means of 1.15 (S.D.=2.30) and .96 (S.D.=2.02), respectively. The SADD provided Alpha levels of .76 for males and .66 for females.

7. Conflict Tactics Scale (CTS). The abridged version of CTS used in this research is composed of 6 items reflecting the more severe forms of physical abuse. Respondents were asked to indicate how often they participated in the various forms of conflict resolution strategies reflected by the scale items. The CTS was constructed on the following six point scale: (1) never, (2) once a year, (3) two to three times a year, (4) often, but less than once a month, (5) about once a month, and (6) more than once a month. The scale range was 6-22 for both males and females with means of 6.44 (S.D.=1.53) and 6.70 (S.D.=1.66), respectively. The CTS provided Alpha levels of .83 for males and .74 females.

Table 6 provides a summary of Wave 1 and Wave 2 reliability coefficients for male and female respondents. Upon comparing the Alpha levels from both sets of data, it appears that for the most part, estimates of internal consistency remained relatively stable across the two year period between data collection for both males and females. The exceptions are the reliability coefficients provided by the MacAndrew Scale (male and female data), the Ego-strength Scale (female data), the SADD Scale (male and female data) and the CTS (female data). The source

of these differences will be explored in an examination of attrition that follow in a later section.

Table 6. Cronbach's alpha coefficients for male and female respondents in Wave 1 and Wave 2.

Scale	Wave 1		Wave 2	
	Males	Females	Males	Females
EPQ-R				
EPQP	.60	.61	.58	.54
EPQN	.85	.85	.87	.87
EPQE	.82	.80	.86	.82
EPQL	.82	.82	.82	.83
Ego Strength	.67	.70	.63	.60
MacAndrew	.43	.54	.33	.25
Self-Esteem	.83	.86	.85	.85
Trait Anxiety	.84	.88	.88	.89
SADD	.68	.82	.76	.66
CTS	.75	.91	.83	.74

Test-retest reliability of the measures. One of the objectives of this study is to examine the stability of the partner abuse across time. In order to better understand this variable, the stability of other independent measures also needs to be explored. Wave 1 and Wave 2 measures were correlated and assessed by Pearson's correlation coefficients to determine their test-retest reliability. Of the 13 measures tested, six for males, and five for females attained r values of .70 or greater. In general, correlations were stronger for males compared to females. As expected, personality measures were found to be more stable than alcohol or spouse abuse measures. Strongest correlations were provided by the EPQE (r=.86) for males, and the EPQL (r=.80) and EPQN (r=.80) for females. Weakest correlations were provided by the MAST and the "lifetime

diagnosis for alcoholism for both males (r=.47 and r=.17, respectively) and females (r=.27 and r=.11, respectively). Correlations for the prevalence of partner abuse (CTS) were .59 for males and .44 for females. Table 7 summarizes the results of these analyses based on male and female respondents who completed questionnaires in both Wave 1 and Wave 2.

Table 7. Test-Retest Reliabilities: Pearson Correlation Coefficients on Wave 1 and Wave 2 measures for male and female respondents.

Measures	r	
	Males	**Females**
Personality Measures:		
EPQP	.63	.64
EPQE	.86	.78
EPQL	.81	.80
EPQN	.82	.80
MacAndrew	.65	.60
Trait Anxiety	.84	.77
Ego Strength	.72	.71
Self-Esteem	.72	.68
Alcohol Measures:		
SADD	.61	.60
Ethanol	.60	.65
Mast	.47	.24
Lifetime Diagnosis for Alcoholism	.17	.11
Partner Abuse (CTS)	.59	.44

Note: All correlations are significant at the $p < .001$ level except for female's lifetime diagnosis for alcoholism ($p < .05$).

Rates of Attrition

It has already been reported that an attrition rate of 21.3 percent has been experienced by the entire sample. Of the subsample of males and females who were married or remarried, this rate was found to be 20.7 percent (21% for males and 20.4% for females).

T-Tests and Chi-Square analyses were conducted within the married and remarried subsample to assess whether systematic differences existed between respondents who completed Wave 2 of this project and those who did not. Both male and female dropouts had significantly higher MAST scores than male and female completers (1.36 v. 1.00 , $p < .05$ for males, and .58 v. .37,$p < .001$ for females). Male dropouts alone differed from male completers along the following dimensions: male dropouts tended to be nonwhite (46.33%, $p < .01$), belonged to the religious preference category, "other" (35.39%, $p < .05$), had higher EPQP scores (4.66 v. 3.63, $p < .01$), and consumed more alcohol (.74 ounces v. .55 ounces, $p < .001$). Female dropouts on the other hand, were significantly different from female completers in that they tended to be older (28.66%, $p < .01$), had higher SADD scores (1.29 v. .79, $p < .001$), consumed less alcohol (.19 ounces v. .28 ounces, $p <.001$) and had higher scores on the "lifetime diagnosis for alcoholism measure" (1.30 v. 1.08, $p < .05$).

T-Tests conducted on CTS mean scores (as measured by the abridged version of the CTS) did not produce any significant differences between dropouts and completers for either male or female respondents. Similarly, the proportion of male and female respondents reporting perpetrating partner abuse did not differ significantly for either completers or dropouts. Tables 8 and 9 provide the results of chi-square and t-test analyses conducted on Wave 1 demographic,

personality, alcohol, and the prevalence of perpetrated partner abuse with respect to participation in this project.

Table 8: Sample attrition by demographic and partner abuse variables for married and remarried, but previously divorced male and female respondents who participated in Wave 1.

Variable Wave 1	N		% Attrition		Chi-Square	
	M	F	M	F	M	F
Age Groups						
18-34 yrs	95	135	20.0	17.0	0.08	10.43**
35-49 yrs	164	160	21.3	15.0		
50 yrs+	188	157	21.3	28.7		
Marital Status						
Married	429	443	21.4	20.5	1.11	0.48
Remarried	18	9	11.1	11.1		
Educational Status						
Grade school	27	26	37.0	38.5	11.36*	8.85
Some high sc	93	92	28.0	20.6		
High sc grad	88	110	22.7	20.0		
Some college/ technical sc	110	115	16.4	20.9		
College degree	73	79	17.8	19.0		
Post grad education	56	30	12.5	6.7		
Current Employment Status						
Employed	377	280	21.2	19.6	0.23	0.001
Unemployed	11	10	27.3	20.0		
Annual Income						
<$10,000/yr.	5	4	40.0	25.0	8.48	4.14
$10,000-20,000/yr	16	34	43.7	26.5		
$20,000-35,000/yr	88	88	22.7	23.9		
$35,000-50,000/yr	127	117	19.7	14.5		
>$50,000/yr.	196	161	16.8	18.6		
Religious Preference						
Catholic	117	143	24.8	24.5	10.97*	7.15
Protestant	197	205	17.8	20.0		
Jewish	14	11	7.1	0.0		
Other	51	47	35.3	23.4		
No religious preference	56	46	16.4	10.9		

Table 8 cont'd...

Table 8 (continued)

Variable	N		% Attrition		Chi-Square	
	M	F	M	F	M	F
Race						
White	417	417	19.4	19.4	9.63**	2.87
Nonwhite	30	35	43.3	31.4		
CTS						
No abuse	322	273	19.9	23.1	0.18	2.77
Abuse	115	175	21.7	16.6		

Note:* p < .05, ** p < .01

Table 9. Personality, alcohol and partner abuse scores by study participation for married and remarried male and female respondents.

Variable	N		Score Means		F	
	Males	Females	Males	Females	Males	Females
EPQP						
Dropouts	94	92	4.66	3.35	1.51**	1.17
Completers	350	359	3.63	3.32		
EPQL						
Dropouts	94	92	11.29	11.55	1.22	1.19
Completers	349	360	9.32	10.39		
EPQE						
Dropouts	94	92	13.66	13.41	1.29	1.05
Completers	350	359	13.78	13.22		
EPQN						
Dropouts	94	92	8.39	10.68	1.04	1.15
Completers	352	359	8.93	11.07		
SELF-ESTEEM						
Dropouts	92	92	32.39	32.72	1.27	1.03
Completers	351	358	33.70	32.65		
TRAIT ANXIETY						
Dropouts	91	92	35.28	36.13	1.07	1.11
Completers	351	358	33.50	35.22		
EGO-STRENGTH						
Dropouts	93	91	45.14	41.75	1.23	1.08
Completers	349	359	46.92	43.48		
MACANDREW						
Dropouts	93	91	23.07	20.98	1.15	1.11
Completers	349	359	22.35	20.29		
SADD						
Dropouts	93	91	1.32	1.27	1.18	5.36***
Completers	349	359	1.57	0.79		
ETHANOL						
Dropouts	94	92	.74	.19	2.28***	2.89***
Completers	349	358	.55	.28		
MAST						
Dropouts	94	91	1.36	0.58	1.43*	1.09***
Completers	350	360	1.00	0.37		

Table 9 continued

Table 9 (continued)

Variable	N Males	N Females	Score Mean Males	Score Mean Females	F Males	F Females
LIFETIME DIAGNOSIS FOR ALCOHOLISM						
Dropouts	94	92	1.45	1.30	1.33	1.38*
Completers	352	359	1.34	1.08		
CTS						
Dropouts	89	92	6.72	7.11	1.03	1.04
Completers	348	358	6.60	7.46		

Note: * p < .05, ** p < .01, *** p < .001
:Not all totals will equal 94 (males) or 92 (females) for dropouts or 352 (males) or 360 (females) completers due to missing data.

Descriptive Analyses

Wave 2 Demographic Characteristics

After taking into account the attrition experienced by Wave 2 data, the final sample of respondents who were married, cohabiting or remarried was found to consist of 369 males and 368 females (n=737). The demographic characteristics of this subsample drawn from the WHADS dataset are outlined below. Table 10 provides a complete summary of Wave 2 male and female demographic data.

Age. The mean age for male and female respondents was 47.08 years (SD. = 11.76, range 22-67) and 44.10 years (SD. = 12.03, range 21-68), respectively. Frequency data for Wave 2 indicate a shift in the proportion of female respondents found in each age group. For example, the proportion of respondents found in the 18-34 year age group increased (33.4%) whereas the proportion of respondents found in the 50+ age group decreased (29.1%).

Marital status. Wave 2 data included an additional response category for this variable (cohabiters). The distribution of Wave 2 respondents was found to be predominantly married (90.5% of males and 91.6% of females) followed by males and females who cohabited with a partner (7.3% and 6.3%, respectively). Only 2.2 percent of males and females were found to be remarried.

Educational status. Wave 2 analyses conducted on six levels of educational attainment indicated that 56.9 percent of males and 51.1 percent of females achieved educational status beyond receipt of a high school diploma. Wave 1 data indicated a similar distribution pattern for males (53.5%) and females (49.6%).

Current employment status. Results of Wave 2 data on current employment status are consistent with those found in Wave 1 for male respondents who were employed (84.4% in Wave 1 v. 79.4% in Wave 2) but not for females who were employed (62% in Wave 1 v. 40.2% in Wave 2). The category that experienced a fivefold increase during Wave 2 is that of "student" for male respondents (.4% v. 2.2%).

Income. Total family income was distributed across five broadly based categories. Wave 2 results indicated that among male respondents, 56.2 percent reported a combined family income greater than $50,000 per year. The same category was represented by only 42.2 percent of female respondents. Compared to Wave 1 data, both males and females report higher total family incomes in Wave 2. For example, Wave 2 reports of those earning combined family incomes of $50,000 or more annually increased from 43.8 percent in Wave 1 to 56.2 percent in Wave 2 for males and from 35.6 percent in Wave 1 to 42.2 percent in Wave 2 for females.

Religious preference. The distribution of religious preference categories for both male and female respondents remained virtually unchanged from those reported in Wave 1 of this project. The largest religious preference category indicated by respondents was Protestant (44.0% of males and 44.3% of females), followed by Catholic (25.8% for males and 31.0% of females). Combined, these represented 69.8 percent (males) and 75.3 percent (females) of all response categories.

Race. As described above, the distribution of Wave 1 and Wave 2 data with respect to racial groups remained unchanged for both males and females. Descriptive analyses conducted on Wave 2 data indicated that 95.7 percent of males (v. 93.3% reported in Wave 1) and 94.0 percent of females (v. 92.3% in Wave 1) reported being white.

Table 10. Demographic characteristics of married, cohabiting and remarried males and females from Wave 2.

Category	Males		Females	
	N	%	N	%
Mean Age		47.08 years		44.10 years
Age Groups				
18-34 years	92	24.9	123	33.4
35-49 years	129	35.0	138	37.5
50 years +	148	40.1	107	29.1
Total	**369**	**100.0**	**368**	**100.0**
Marital Status				
Married	334	90.5	337	91.6
Living with partner	27	7.3	23	6.3
Remarried/previously divorced	8	02.2	8	02.2
Total*	**369**	**100.0**	**368**	**100.0**
Educational Status				
Grade School	10	2.7	10	2.7
Some High School	75	20.3	71	19.3
Completed High School	74	20.1	99	26.9
Some college or technical diploma	90	24.4	93	25.3
University Graduate	70	19.0	68	18.5
Post Graduate Education	50	13.6	27	07.3
Total	**369**	**100.0**	**368**	**100.0**
Current Employment Status				
Working full time	294	79.4	148	40.2
Working part time	6	01.6	82	22.3
Unemployed, but looking	6	01.6	11	03.0
Student	8	02.2	6	01.6
Homemaker	---	----	85	23.1
Retired	45	12.2	26	07.1
Other	10	02.7	10	02.7
Total	**369**	**100.0**	**368**	**100.0**
Income				
<$10,000/Yr.	5	01.4	2	00.6
$10,000-$20,000/Yr.	10	02.8	24	06.9
$20,000-$35,000/Yr.	58	16.0	73	21.1
$35,000-$50,000/Yr.	86	23.7	101	29.2
>$50,000/Yr.	204	56.2	146	42.2
Total*	**363**	**100.0**	**343**	**100.0**

Table 10 cont'd....

TABLE 10 (continued)

Religious Preference				
Catholic	95	25.8	114	31.0
Protestant	162	44.0	163	44.3
Jewish	13	03.5	14	03.8
Other	34	09.2	37	10.1
No religious preference	64	17.4	40	10.9
Total*	**368**	**100.0**	**368**	**100.0**
Race				
White	353	95.7	346	94.0
Non-white	16	04.3	22	06.0
Total	**369**	**100.0**	**368**	**100.0**

*** Note: Not all totals will equal 369 or 368 (100%) due to missing data and rounding.**

Rates of Perpetrated Partner Abuse

Prevalence of perpetrated partner abuse. Descriptive analyses conducted on the entire sample of Wave 2 married, cohabiting and remarried respondents indicated that 17.3 percent of males (n=64, Range 6-22, SD. 1.50) and 27.4 percent of females (n=100, Range 6-17, SD. 1.47) reported perpetrating at least one episode of partner abuse at some point during their relationship with a current partner ($p < .001$). The most common form of partner abuse tactic reported for both males and females was throwing or smashing something (but not at partner) (11.1% and 14.2%, respectively). Table 11 summarizes an item analysis of the CTS for the prevalence of perpetrated partner abuse by males and females in Wave 2.

Table 11. Wave 2 perpetrated partner abuse prevalence rates by married, cohabiting and remarried males and females.

Type of Violence	% Males	% Females	Chi-Square
Minor Violence Acts			
Threw or smashed something (but not at partner)	11.1	14.2	4.18
Threatened to throw something	4.4	9.9	11.64*
Threw something at partner	3.3	8.8	8.58**
Pushed, shoved or grabbed	6.8	11.8	7.70
Severe Violence Acts			
Hit partner	3.3	8.2	10.60**
Hit partner with something hard	.3	2.2	5.71
Violence Indexes			
Minor Violence Index	16.5	26.0	21.88**
Severe Violence Index	3.3	9.0	14.41**
Overall Abuse Index	17.3	27.4	10.69***

Note: * p < .05, ** p < .01, *** p < .001
For males: overall scale means = 6.43, SD. = 1.50, range = 6-22
For females: overall scale means = 6.66, SD. = 1.47, range = 6-17

The following are the abuse tactics found to differ significantly by gender: 1) threatened to throw something (chi-square = 11.64, $p < .05$) , 2) threw something at partner (chi-square = 8.58, $p < .01$), 3), and hit partner (chi-square = 10.60, $p < .01$). In each case, a greater proportion of females was found to engage in the perpetration of partner abuse tactics.

Comparison of Wave 1 and Wave 2 prevalence rates of perpetrated partner abuse. To facilitate an objective comparison of Wave 1 and Wave 2 prevalence rates for perpetrated partner abuse, frequency analyses were repeated on both waves of data based on the same sample. These analyses provided similar results to those just reported, and indicated that 17.5 percent of males and 27.6 percent of females perpetrated at least one episode of partner abuse during the course

of their relationship with a current partner. Compared to the prevalence rates of perpetrated partner abuse reported during Wave 1, Wave 2 data experienced a 35.01 percent reduction in abuse reporting by males and a 29.01 percent reduction in abuse reporting by females.

Post hoc analyses found that 18.4 percent of the males (n=52) and 25 percent of the females (n=63) who reported "abuse" in Wave 1, reported "no abuse" in Wave 2. Furthermore, in order to test the possibility that respondents' denial of partner abuse may have been in response to social pressure, correlations were conducted on Wave 2 CTS and the EPQL scores. Results indicated a significant negative correlation for female respondents (r=-.12, $p < .05$) whereby individuals who scored high on the EPQL (indicating a tendency for dissimulation) also scored low on the CTS.

Recency of perpetrated partner abuse. In order to examine the recency of perpetrated partner abuse, married, cohabiting and remarried respondents were asked to indicate the last time they perpetrated any of the six partner abuse items against their current partner. On average, the last episode of perpetrated abuse occurred 5.99 years ago for males (range 1-30, SD. 8.10) and 7.33 years ago for females (range 1-36, SD. 8.22). Of those reporting perpetrating partner abuse at some time, 56.5 percent of males and 35.7 percent of females indicated that their most recent episode of perpetrated partner abuse happened within the past two years.

Incidence of perpetrated partner abuse. Frequency analyses indicated that 41.9 percent of males (n=26) and 25.5 percent of females (n=24) who had previously reported perpetrating partner abuse also acknowledged perpetrating partner abuse during the past year. This represents 7.1 percent and 6.6 percent of all married, cohabiting and remarried males and females participating in this survey. On average, partner abusing males reported 3.08 incidents of abuse (range 1-11,

SD. 2.85) during the past year, while partner abusing females reported 3.91 incidents of abuse (range 1-20, SD. 3.92) during that same time period.

Chi-square analyses were conducted on individual partner abuse items as well as on the total partner abuse perpetrated during the past year. Results indicated only one significant sex difference (i.e., males "threw or smashed something" more often than females). This item was also found to be the most common partner abuse tactic reported by males (5.7%). "Pushing, shoving or grabbing" was found to be the most common partner abuse tactic among females (3.8%). Table 12 provides a summary of these analyses.

Table 12. Partner abuse perpetrated during the past year by gender.

Variable	Number of Occurrences		% Abuse		Chi-Square
	M	F	M	F	
1. Threw or smashed something (not at partner)	21	7	5.7	1.9	7.20**
2. Threatened to throw something (not at partner)	7	12	1.9	2.6	1.41
3. Threw something at partner	5	4	1.4	1.1	0.11
4. Pushed, shoved or grabbed partner	12	14	3.3	3.8	0.17
5. Hit partner	6	9	1.6	2.5	0.63
6. Hit partner with something hard	1	3	0.3	0.8	1.02
Total Abuse	26	24	7.1	6.6	0.07

Note: ** p < .01

Perpetrated Partner Abuse and Related Characteristics

Demographic characteristics. In order to assess the bivariate relationships between current partner abuse (i.e., abuse occurring during the past year) and the demographic measures included in Wave 2 of this research, analysis of variance and chi-squares were performed on these variables.

The mean number of partner abuse incidents perpetrated during the past year was found to be significantly greater for males who cohabited and who were unemployed, nonwhite and earned less than $20,000 per year. Males who were 50 years old and over, reported significantly fewer partner abuse incidents during that same time. For females, the age group of 18 and 34 years was associated with significantly more partner abuse incidents perpetrated during the past year.

Chi-square analyses indicated the following: Significantly more males who had perpetrated partner abuse during the past year were found to be unemployed (50%), earned less than $20,000 per year (26.67%) [1], and belonged to the religious preference category "other" (17.65%). Significantly fewer of these same males were also found to be 50 years and over (2.03%) and married (5.09%). Significantly more females who had perpetrated partner abuse during the past year were between the ages of 18 and 35 (11.4%), cohabited (27.3%), and had some high school education (14.1%). Tables 13 and 14 summarize the results of these bivariate relationships for males and females, respectively.

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[1] The small number of cases found in some of the variable categories suggests that these and other previously noted significant findings be regarded with caution.

Table 13. Incidence of perpetrated partner abuse during the past year by demographics for male respondents.

Variable	N	Mean # of Abuse Incidents	F	%Abuse	Chi-Square
Age Groups					
18-34 yrs.	92	.36	3.60*	11.96	10.08**
35-49 yrs.	129	.33		9.30	
50 yrs. +	148	.04		2.03	
Marital Status					
Married	334	.14	10.40***	5.09	22.77***
Cohabiting	27	1.07		22.23	
Remarried	8	.63		37.50	
Educational Status					
Grade school	10	.33	0.47	16.67	4.54
Some high Sc	75	.29		9.33	
High diploma	74	.07		2.70	
Some college or tech	90	.26		8.89	
College degree	70	.31		7.14	
Post grad	50	.17		14.24	
Current Employment					
Employed	300	.21	4.46***	7.00	15.05***
Unemployed	6	2.33		50.00	
Annual Income					
<$20,000/yr	15	1.00	3.04*	26.67	12.18***
$20-35,000/yr	58	.31		10.34	
$35-50,000/yr	86	.15		6.98	
>$50,000/yr	204	.16		4.41	
Religious Preference					
Catholic	95	.17	1.44	3.16	12.01*
Protestant	162	.19		4.94	
Jewish	13	.08		7.69	
Other	34	.32		17.65	
No religious preference	64	.47		12.50	
Race					
White	353	.19	4.08*	6.80	.76
Nonwhite	16	.75		12.50	

Note: * p < .05, ** p < .01, *** p < .001

Table 14. Incidence of perpetrated partner abuse during the past year by demographics for female respondents.

Variable	N	Mean # of Abuse Incidents	F	%Abuse	Chi-Square
Age Groups					
18-34 yrs.	123	.54	3.84*	11.4	7.10*
35-49 yrs.	137	.10		3.6	
50 yrs. +	105	.13		4.8	
Marital Status					
Married	335	.23	.65	5.1	7.03***
Cohabiting	22	.55		27.3	
Remarried	8	.50		12.5	
Educational Status					
Grade school	10	.00	0.98	0.0	13.48*
Some high Sc	71	.39		14.1	
H.sc diploma	99	.31		9.1	
Some college or tech	92	.04		2.2	
College degree	66	.47		4.5	
Post grad	27	.00		0.0	
Current Employment					
Employed	228	.34	.46	8.3	1.00
Unemployed	11	.00		0.0	
Annual Income					
<$20,000/yr	25	.12	0.46	4.0	4.77
$20-35,000/yr	73	.41		12.3	
$35-50,000/yr	99	.18		5.1	
>$50,000/yr	146	.27		5.5	
Religious Preference					
Catholic	114	.23	.81	7.9	4.45
Protestant	162	.36		8.0	
Jewish	14	.50		7.1	
Other	37	.00		0.0	
No religious preference	38	.08		2.6	
Race					
White	343	.25	0.14	6.7	0.16
Nonwhite	22	.36		4.6	

Note: * p < .05, *** p < .001

Level of alcohol consumption. Perpetrated partner abuse rates for male and female respondents were computed for four levels of alcohol consumption. These levels included: abstainers, and low, moderate, and heavy drinkers. The latter three categories were based on equal cutpoints along the distribution of the alcohol consumption variable (measured in ounces consumed per day). Separate analyses were conducted on Wave 1 and Wave 2 data using the same subjects and compared the prevalence of perpetrated partner abuse (i.e., abuse at some point during the relationship) by drinking level. A third set of analyses examined current rates of perpetrated partner abuse (i.e., abuse occurring during the past year) by drinking level.

In general, a greater proportion of males and females reporting perpetrating partner abuse at some point during their relationships was found among heavy drinkers. However, with the exception of Wave 2 females, the proportion of those reporting "ever" perpetrating partner abuse did not significantly differ with the amount of alcohol consumed. In other words, significantly fewer Wave 2 females who abstained from alcohol perpetrated partner abuse at some point during their relationships compared to the partner abuse perpetrated at any other drinking level (chi-square=14.09, $p < .05$). Analyses examining the relationship between partner abuse perpetrated during the past year and drinking levels provided findings similar to those just described. For example, the proportion of males and females reporting perpetrating partner abuse during the past year did not significantly differ with the amount of alcohol consumed.

Tables 15 and 16 summarize the results of anova analyses. Table 15 compares the CTS means for the prevalence of perpetrated partner abuse across levels of drinking for males and females in Wave 1 and Wave 2 data. Table 16 on the other hand, compares the mean number of partner abuse incidents perpetrated by males and females during the past year also across all

drinking levels. In each case, the perpetration of partner abuse did not significantly differ for males or females with respect to the amount of alcohol consumed. Altogether, these findings do not support the existence of a curvilinear relationship between the amount of alcohol consumed and the perpetration of partner abuse.

Table 15. Mean CTS scores for the prevalence of perpetrated partner abuse by drinking level for males and females based on Wave 1 and Wave 2 data.

	Wave 1		Wave 2	
Drinking level	**Males**	**Females**	**Males**	**Females**
Abstainers	6.90	8.11	6.68	6.52
Low	6.56	7.44	6.46	6.45
Moderate	6.44	7.27	6.37	6.67
Heavy	6.73	7.37	6.39	6.80
Lambda	0.00	0.00	0.00	0.03
	(0.00)	(0.00)	(0.00)	(0.03)

Note: Asymptotic Standard Errors are presented in brackets.

Table 16. Mean number of partner abuse incidents perpetrated during the past year by drinking level for males and females based on Wave 2 data.

Drinking Level	**Males**	**Females**
Abstainers	.08	.27
Low	.13	.43
Moderate	.34	.07
Heavy	.26	.30
Lambda	.00	.00
	(.00)	(.00)

Note: Asymptotic Standard Errors are presented in brackets.

Context and effect of abuse. Frequency analyses conducted on data gathered from Wave 2 married, cohabiting and remarried males and females who reported perpetrating partner abuse at some point during their relationships revealed the following findings with respect to the context of partner abuse episodes: 1) 16 percent of males (n=8) and 8 percent of females (n=6) drank at the time of an abuse incident, 2) 21.4 percent of males (n=14) and 14.3 percent of females (n=14) reported that their spouse required medical attention as a result of an abuse incident, and 3) 14.8 percent of males (n=9) and 9.9 percent of females (n=10) reported that their actions were in self defence. No significant sex differences were indicated on any of these items.

Life stress events. Married, cohabiting and remarried respondents' experiences of life stress events during the past two years were assessed by analyzing 15 related survey items drawn from Wave 2 data. Chi-squares were conducted to assess the relationship between the experience of these events and the proportion of those reporting perpetrated partner abuse. Three items were eliminated because of insufficient cases (i.e., becoming separated, divorced and widowed during the past two years) [2]. Results indicated that significantly more males and females who perpetrated partner abuse during the past year had financial problems (33.3% v. 4.73% of males and 20.59% v. 5.14% of females) and stopped school (28.57% v. 6.65% of males and 18.75% v. 6.05% of females) during the past two years. Significantly more males who perpetrated abuse during the past year lost their jobs (39.13% v. 4.91% , changed jobs or started work (18.03% v. 4.84%) and had a spouse who started work (18.03% v. 5.0%) during the past two years. Table 17 provides a summary of chi-square and related item analyses for males and females in Wave 2.

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[2] Respondents who were divorced, separated or widowed during the past two years were not asked questions on partner abuse.

Table 17. Perpetrated partner abuse by stress during past two years.

Variable	N		% Abuse		Chi-Square	
	Males	Females	Males	Females	Males	Females
1. Lost job/unemployed						
yes	23	27	39.13	7.51	35.55***	.03
no	346	337	4.91	6.53		
2. Changed job/started work						
yes	61	64	18.03	7.81	13.47***	.29
no	308	300	4.87	6.00		
3. Spouse started work						
yes	61	43	18.03	6.98	12.88***	.02
no	300	316	5.00	6.33		
4. Spouse lost job						
yes	18	28	16.67	10.71	2.51	.96
no	341	333	6.74	6.01		
5. Financial problems						
yes	30	34	33.33	20.59	34.33***	11.98***
no	338	331	4.73	5.14		
6. Stopped school						
yes	7	16	28.57	18.75	5.03*	3.99*
no	361	347	6.65	6.05		
7. Quit job/retired						
yes	18	19	7.43	0.00	1.44	1.42
no	350	345	6.56	7.81		
8. Moved						
yes	49	71	12.24	8.45	.33	.51
no	320	294	6.25	6.12		
9. Someone moved in						
yes	30	47	6.67	12.77	.01	3.37
no	339	318	7.08	5.66		
10. Someone moved out						
yes	61	64	6.56	7.81	.03	.19
no	308	301	7.14	6.31		
11. Had a baby						
yes	40	44	10.00	6.82	.59	.004
no	329	320	6.69	6.56		
12. Recently married						
yes	14	17	7.14	0.00	.00	1.25
no	355	348	7.04	6.90		

Note: * p < .05, *** p < .001

In order to measure respondents' overall experiences of stress, a scale was constructed combining all the items contained in the previous table. For each item, the value "1" was assigned to a positive response and the value "0" to a negative response. The values were then summed to provide an index in which high scores denoted high stress and low scores denoted the opposite. Two separate scales were calculated; one using weighted factors (using the weights suggested by Holmes & Rahe, 1967) and the other using unweighted factors. Anova results indicated that independent of weighting, a significant main effect was found for current perpetrated partner abuse such that abusers had higher stress scores than nonabusers. A significant interaction effect was also found between gender and abuse by stress whereby males who abused their partners during the past year had higher stress levels than females who did the same (based on both versions of the stress scale) (See Tables 18 and 19). Figures 2 illustrates the interaction effect based on the unweighted stress scale.

Table 18. Stress by perpetrated partner abuse and gender (weighted scale).

	Stress Scale Means	F
Abuse		
No Abuse	81.93	31.73***
Abuse	116.28	
Gender		
Males	82.08	2.06
Females	86.48	
Abuse*Gender		5.95*

Note: F for model=13.24, p < .0001
*** p < .05, *** p < .001**

Stress by partner abuse and gender.

Based on unweighted stress scale means

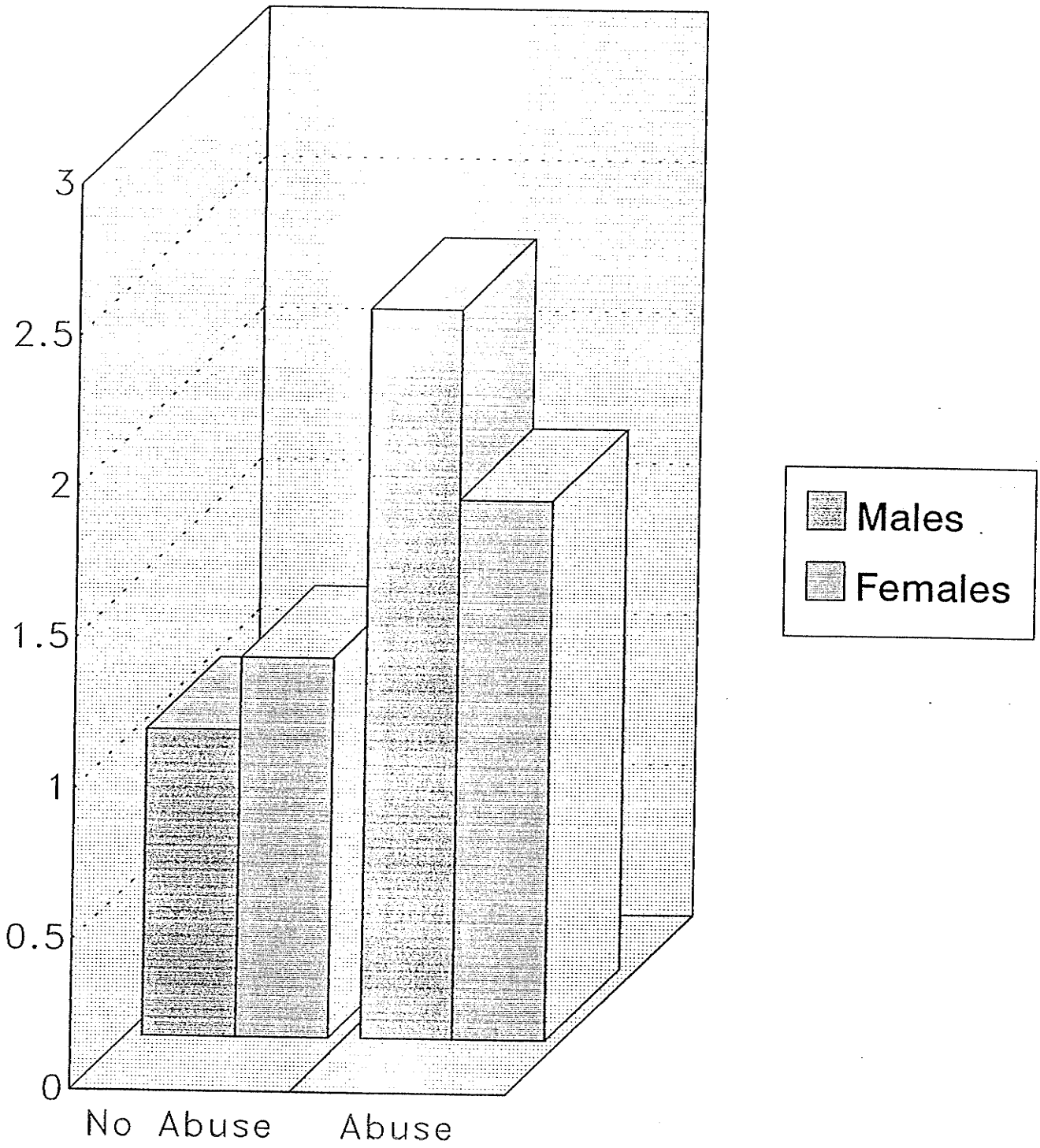

Figure 2.

Table 19. Stress by perpetrated partner abuse and gender (unweighted scale).

	Stress Scale Means	F
Abuse		
No Abuse	1.14	22.88***
Abuse	2.12	
Gender		
Males	1.12	3.11
Females	1.30	
Abuse*Gender		4.75*

Note: F for model=10.25, p < .0001
*** p < .05, *** p < .001**

Violence in the family of origin. Married, cohabiting and remarried respondents were asked to indicate whether they observed violence in their families of origin. Overall, 6.41 percent of males (n=23) and 6.34 percent of females (n=22) observed their mothers hitting their fathers while 11.73 percent of males (n=42) and 12.68 percent of females (n=44) observed their fathers hitting their mothers. It was also found that 4.44 percent of males (n=16) and 4.02 percent of females (n=14) observed both parents hitting each other. While no significant differences with respect to respondent's gender were found, observing fathers hitting mothers was reported significantly more often than reports of mothers hitting fathers ($p < .001$).

Among those who reported to have perpetrated partner abuse at some point during their relationships, 34.78 percent of males and 40.91 percent of females reported having observed their mothers hitting their fathers. On the other hand, 30.95 percent of "ever" abusive males and 38.64 percent of "ever" abusive females reported having observed their fathers hitting their mothers. Mutual violence was reported by 37.50 percent of "ever" abusive males and 35.71 percent of "ever" abusive females. None of these findings were significant with respect to gender.

Among those who reported perpetrating partner abuse during the past year, 17.39 percent of males and 18.18 percent of females reported having observed their mothers hitting their fathers. On the other hand, 21.43 percent of currently abusive males and 9.09 percent of currently abusive females reported having observed their fathers hit their mothers ($p < .01$). Mutual violence (i.e., observing parents hitting each other) was reported by 25 percent of currently abusive males and 7.14 percent of currently abusive females ($p < .001$).

Reports of observing violence in the family of origin by nonabusers were as follows: 4.97 percent of males and 4.94 percent of females observed their mothers hitting their fathers, 9.51 percent of males and 10.19 percent of females observed their fathers hitting their mothers and 3.56 percent of males and 3.70 percent of females observed their parents hitting each other. A greater proportion of males and females who reported having "ever" perpetrated partner abuse, observed violence in the family of origin across all three indices compared to nonabusers. This pattern held true when comparing the reports of current abusers with those of nonabusers except in the case of fathers hitting mothers, where current abusive and nonabusive females provided similar reports.

Correlations Among Variables

Pearson's Correlation analyses were performed to examine the relationship between partner abuse and the following sets of variables: (1) demographic variables, (2) life stress events scale, (3) violence in the family of origin, (3) alcohol consumption and dependence measures and (4) personality measures. In the case of demographic variables, alcohol consumption and dependence

measures and personality measures, comparisons of Wave 1 and Wave 2 correlations based on same samples were also performed.

Demographic Variables and Perpetrated Partner Abuse

Correlation coefficients illustrating the relationships between perpetrated partner abuse and demographic variables based on Wave 1 and Wave 2 data are provided for males in Table 20, and females in Table 21. Prior to conducting Pearson's Correlations, transformations had to be performed on a number of these categorical variables. In so doing, the variables "religious preference", "race" and "employment status" were dummy coded to form the following new variables: Catholic, Protestant, other religious preference, White (nonwhite), employed (unemployed). The variable "education status" was transformed as follows to reflect "years of education": 1=3, 2=6, 3=9, 4=12, 5=14, 6=16, 7=18 and 8=20. Separate correlational analyses were performed on the prevalence [3] and incidence [4] of perpetrated partner abuse. For the most part, the associations between the prevalence and incidence of perpetrated partner abuse and demographic variables were weak. However, the following significant relationships were found in Wave 2 data:

For males,

1) Age was negatively correlated with the incidence of perpetrated partner abuse (r=-.17, $p < .01$).

2) Income (i.e., total family income) was negatively correlated with the prevalence (r=-.15, $p < .01$) and incidence of perpetrated partner abuse (r=-.15, $p < .01$).

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[3] Partner abuse perpetrated during the course of the most recent relationship.

[4] Partner abuse perpetrated during the past year.

3) Employment status (employed v. unemployed) was negatively correlated with the prevalence (r=-.15, $p < .01$) and incidence of perpetrated partner abuse (r=-.26, $p < .001$).

4) Race (white v. nonwhite) was negatively correlated with the prevalence of perpetrated partner abuse (r=-.11, $p < .05$).

For females,

1) Age was negatively correlated with the prevalence of perpetrated partner abuse(r=-.15, $p < .01$).

2) Employment status (employed v. unemployed) was negatively correlated with the prevalence of perpetrated partner abuse (r=-.12, $p < .05$).

Z scores were computed to assess the significance in proportions between correlations at Wave 1 and Wave 2. The following are the demographic variables found to differ with respect to the perpetration of partner abuse based on prevalence of abuse data:

For males,

1) The association between employment status (employed v. unemployed) and perpetrated partner abuse was significantly stronger in Wave 1.

2) The association between income and perpetrated partner abuse was significantly stronger in Wave 1.

3) The association between race (white v. nonwhite) and perpetrated partner abuse was stronger in Wave 1.

4) The association between Protestant and perpetrated partner abuse was significantly stronger in Wave 1.

With the exception of the relationship between race and the incidence of partner abuse, Kendal's Tau-b values approximated those obtained by Pearson Correlation coefficients. Bonferroni T tests (p=.05) conducted on Wave 2 demographic variables with respect to the incidence of perpetrated partner abuse by males indicated that only employment status and income showed significant differences between groups. This finding suggests that there is an increased likelihood for a Type 1 error in the associations between partner abuse and age, other religions and race.

For females,

1) The association between age and perpetrated partner abuse was significantly stronger in Wave 1.
2) The association between income and perpetrated partner abuse was significantly stronger in Wave 1.
3) The association between Catholic and perpetrated partner abuse was significantly stronger in Wave 2.
4) The association between Protestant and perpetrated partner abuse was significantly stronger in Wave 1.
5) The association between other religions and perpetrated partner abuse was significantly stronger in Wave 2.

Kendal's Tau-b values assessing the relationship between demographic variables and the incidence of perpetrated partner abuse approximated those obtained by Pearson Correlation coefficients. Bonferroni T tests (p=.05) conducted on Wave 2 demographic variables with respect to the incidence of perpetrated partner abuse by females indicated no significant differences

between groups, suggesting an increased likelihood for a Type 1 error in the associations between partner abuse and demographic variables.

Table 20. Pearson Correlation Coefficients: Demographic variables and perpetrated partner abuse comparing Wave 1 and Wave 2 data based on the same sample of male respondents.

Partner Abuse			r	Kendal's Tau-b
		Prevalence of Abuse	Incidence of Abuse	
Age	Wave 1	-.08		
	Wave 2	-.06	-.17**	-.15
	+Z Score	1.05		(.45)
Income	Wave 1	-.05		
	Wave 2	-.15**	-.15**	-.14
	Z Score	4.55***		(.06)
Years of Education	Wave 1	-.03		
	Wave 2	.009	-.006	-.004
	Z Score	-1.33		(.05)
Employment (employed/ unemployed)	Wave 1	-.26***		
	Wave 2	-.15**	-.26***	-.24
	Z Score	3.67***		(.05)
Catholic	Wave 1	.01		
	Wave 2	-.03	-.07	-.07
	Z Score	.27		(.04)
Protestant	Wave 1	-.07		
	Wave 2	-.03	-.04	-.08
	Z Score	-2.50**		(.05)
Other religions	Wave 1	-.06		
	Wave 2	-.05	.17**	.16
	Z Score	-.59		(.06)
Race (white/ nonwhite)	Wave 1	-.22***		
	Wave 2	-.11**	-.11*	-.05
	Z Score	4.07***		(.07)

Note: * p < .05, ** p < .01, p < .001

+ Z Scores were derived from the prevalence data and demographic measures measured in Wave 1 and Wave 2, respectively.

Asymptotic Standard Errors are provided in brackets.

Partner abuse was based on the full measure prior to any transformations being conducted.

Table 21. Pearson Correlation Coefficients: Demographic variables and perpetrated partner abuse comparing Wave 1 and Wave 2 data based on the same sample of female respondents.

Partner Abuse			r	Kendal's Tau-b
		Prevalence of Abuse	Incidence of Abuse	
Age	Wave 1	-.21***		
	Wave 2	-.15**	-.10	-.07
	+Z Score	3.00**		(.05)
Income	Wave 1	-.04		
	Wave 2	.008	-.002	-.03
	Z Score	-3.55***		(.05)
Years of Education	Wave 1	-.02		
	Wave 2	-.03	-.02	-.12
	Z Score	-.58		(.03)
Employment (employed/ unemployed)	Wave 1	-.11		
	Wave 2	-.12*	.04	.06
	Z Score	.42		(.01)
Catholic	Wave 1	.01		
	Wave 2	-.03	-.01	.03
	Z Score	1.94*		(.06)
Protestant	Wave 1	-.06		
	Wave 2	.02	.06	.05
	Z Score	-4.00***		(.05)
Other religions	Wave 1	-.004		
	Wave 2	.05	-.05	-.08
	Z Score	4.60***		(.04)
Race (white/ nonwhite)	Wave 1	-.05		
	Wave 2	-.05	-.02	.01
	Z Score	0.00		(.05)

Note: * p < .05, ** p < .01, p < .001

+ Z Scores were derived from the prevalence data and demographic measures measured in Wave 1 and Wave 2, respectively.

Asymptotic Standard Errors are provided in brackets.

Partner abuse was based on the full measure prior to any transformations being conducted.

Life Stress Events and Perpetrated Partner Abuse

Pearson's Correlational analyses were conducted on Wave 2 data for males and females using weighted and unweighted stress scales. Overall, correlations between stress and perpetrated partner abuse were positive and were low to moderate in strength. The strongest correlations were demonstrated by males in both weighted (r=.25) and unweighted (r=.21) scale formats. By comparison, correlations for females were weaker in both weighted (r=.12) and unweighted formats (r=.10). Table 22 summarizes the results of these analyses.

Table 22. Pearson Correlation Coefficients: Stress experienced during the past two years and current perpetrated partner abuse among males and females based on Wave 2 data.

Partner Abuse	r	
	Males	Females
Unweighted Stress Scale	.21***	.10*
Weighted Stress Scale	.25***	.12**

Note: * p < .05, ** p < .01, *** p < .001
Partner abuse was based on the full measure prior to any transformations being conducted.

Exposure to Violence in the Family of Origin and Partner Abuse

Table 23 provides the results of Pearson's Correlations conducted on Wave 2 prevalence and incidence data on perpetrated partner abuse for males and females. Each of the three exposure to violence in the family of origin variables were coded as follows: 1=observed violence and 0=did not observe violence. When testing the relationship between the prevalence of perpetrated partner abuse and violence in the family of origin, results provided low to moderate positive relationships for all violence in the family of origin measures for both males and females. The

strongest relationships were found among males who observed father hitting mother (r=.18, $p < .001$) and parents' mutual violence (r=.17, $p < .001$). For females, significant relationships were also found between the prevalence of perpetrated partner abuse and observing mother hitting father (r=.11, $p < .05$), father hitting mother (r=.12, $p < .05$), and parents' mutual violence (r=.14, $p < .01$).

The relationship between the incidence of perpetrated partner abuse and violence within the family provided moderate correlations for males, but weak correlations for females. The strongest relationships were found among males who observed their fathers hitting their mothers (r=.27, $p < .001$) and who observed their parent's mutual violence (r=.27, $p < .001$).

Table 23. Pearson Correlation Coefficients: Violence in the family of origin and perpetrated partner abuse by male and female respondents.

Partner Abuse	r			
	Prevalence of Abuse (Wave 2)		Incidence of Abuse (Wave 2)	
	Males	Females	Males	Females
Mother hit Father	.09	.11*	.16*	.07
Father hit Mother	.18***	.12*	.27***	.004
Parent's Mutual Violence	.17***	.14**	.27***	.03

Note: * p < .05, ** p < .01, *** p < .001
Partner abuse was based on the full measure prior to any transformations being conducted.

Alcohol Consumption and Dependence and Perpetrated Partner Abuse

Tables 24 and 25 provide correlation coefficients for alcohol measures and perpetrated partner abuse comparing Wave 1 and Wave 2 data for same samples of males and females. Alcohol measures assessed during Wave 1 were correlated with the prevalence of partner abuse reported in Wave 1 and Wave 2 as well as with the incidence of partner abuse reported in Wave 2. Alcohol measures assessed during Wave 2 were correlated with the prevalence and incidence of partner abuse reported in Wave 2. Overall, correlations for males were weak to moderate in strength.

Z scores were computed to assess the significance in proportions between correlations at Wave 1 and Wave 2. The following are the alcohol variables found to differ with respect to the perpetration of partner abuse by males based on prevalence of abuse data:

1) The association between MAST scores and perpetrated partner abuse was significantly stronger in Wave 1.
2) The association between alcohol consumption and perpetrated partner abuse was significantly stronger in Wave 1.
3) The association between the Alcohol Dependence Index (ADI) and perpetrated partner abuse was significantly stronger in Wave 1.

Overall, Kendal's Tau-b values assessing the relationships between alcohol measures and the incidence of perpetrated partner abuse differed from those obtained by Pearson's Correlation coefficients. This suggests that a more conservative approach to evaluating the relationship between these measures among males may be needed. Bonferroni T tests (p=.05) conducted on the Wave 1 alcohol measures with respect to the incidence of perpetrated partner abuse by males

indicated that ALC3R, MAST and SADD showed significant differences between groups. No significant differences were found on the Wave 2 alcohol measures. These findings suggest an increased likelihood of a Type 1 error in the association between partner abuse and alcohol consumption variables as measured in Wave 1.

Table 24. Pearson Correlation Coefficients: Alcohol consumption and dependence and perpetrated partner abuse comparing Wave 1 and Wave 2 data based on the same sample of male respondents.

Partner Abuse		r			Kendal's Tau-b
		Prevalence of Abuse		Incidence of Abuse	
		Wave 1	Wave 2	Wave 2	
Alcohol consumption					
	Wave 1	.21***	.11*	.21***	.007 (.05)
	Wave 2		-.04	-.002	-.02 (.05)
	+Z Score	8.09***			
Alcohol Dependence Index (ADI):					
MAST	Wave 1	.31***	.23***	.17**	.08 (.06)
	Wave 2		.05	.11*	.05 (.01)
	Z Score	8.96***			
SADD	Wave 1	.21***	.17**	.26***	.10 (.06)
	Wave 2		.22***	.23***	.13 (.07)
	Z Score	.91			
ALC3R	Wave 1	.09	.05	.06	.44 (.07)
	Wave 2		-.0002	.10	.08 (.05)
	Z Score	1.25			
ADI	Wave 1	.30***	.18***	.09	.06 (.07)
	Wave 2		.15**	.19***	.08 (.05)
	Z Score	4.69***			

Note: * p < .05, ** p < .01, *** p < .001
+ Z Scores were derived from the prevalence data and alcohol measures for Wave 1 and Wave 2, respectively. Partner abuse was based on the full measure prior to any transformations being conducted.

Compared to the male data, correlations between Wave 1 and Wave 2 alcohol measures and the prevalence and incidence of partner abuse reported in Wave 1 and Wave 2 were found to be weaker for females. However, for some of the measures, the strength of the correlations improved in Wave 2. Z scores were computed to assess the significance in proportions between

correlations at Wave 1 and Wave 2. The following are the alcohol variables found to differ with respect to the perpetration of partner abuse by females based on prevalence of abuse data:

1) The association between alcohol consumption and perpetrated partner abuse was significantly stronger in Wave 2.
2) The association between SADD scores and perpetrated partner abuse was significantly stronger in Wave 2.
3) The association between ALC3R (lifetime diagnosis for alcoholism) scores and perpetrated partner abuse was stronger in Wave 2.

The Kendal's Tau-b values assessing the relationship between alcohol measures and the incidence of perpetrated partner abuse approximated those obtained by Pearson's Correlations coefficients. Bonferroni T tests (p=.05) conducted on Wave 1 and Wave 2 alcohol measures with respect to the incidence of perpetrated partner abuse by females did not show any significant differences in groups suggesting an increased likelihood of a Type 1 error in the associations between partner abuse and the alcohol measures.

Table 25. Pearson Correlation Coefficients: Alcohol consumption and dependence and perpetrated partner abuse comparing Wave 1 and Wave 2 data based on the same sample of female respondents.

Partner Abuse		r			Kendal's Tau-b
		Prevalence of Abuse		Incidence of Abuse	
		Wave 1	Wave 2	Wave 2	
Alcohol consumption	Wave 1	-.03	.003	-.04	-.006 (.05)
	Wave 2		.04	-.01	-.002 (.05)
	+Z Score	2.00*			
Alcohol Dependence Index (ADI):					
MAST	Wave 1	.12*	.13*	.05	.06 (.06)
	Wave 2		.15**	.02	.06 (.01)
	Z Score	1.20			
SADD	Wave 1	.11*	.14**	.03	.04 (.06)
	Wave 2		.33***	.15**	.13 (.08)
	Z Score	7.10***			
ALC3R	Wave 1	.04	.01	-.01	.03 (.07)
	Wave 2		.14**	.03	.02 (.05)
	Z Score	4.76***			
ADI	Wave 1	.05	.00	.03	.00 (.00)
	Wave 2		.00	.00	.00 (.00)
	Z Score	4.54***			

Note: * p < .05, ** p < .01, *** p < .001
+ Z Scores were derived from the prevalence of abuse data and alcohol measures from Wave 1 and Wave 2, respectively. Partner abuse was based on full measure prior to any transformations being conducted.

Personality Measures and Perpetrated Partner Abuse

As in previous analyses, personality measures assessed during Wave 1 and Wave 2 were correlated with the prevalence of partner abuse reported in Wave 1 and Wave 2 as well as with

the incidence of partner abuse reported in Wave 2. As in the previous sets of analyses, correlations were likewise found to be low to moderate in strength.

Z scores testing differences in proportions between Wave 1 and Wave 2 correlations revealed a number of inconsistent relationships between the prevalence of perpetrated partner abuse and personality measures. For males, they are as follows:

1. The relationship between EPQP scores and the perpetration of partner abuse was significantly stronger in Wave 2.
2. The relationship between MacAndrew Scale scores and the perpetration of partner abuse was significantly stronger in Wave 2.
3. The relationship between EPQL scores and the perpetration of partner abuse were significantly stronger in Wave 1.
4. The relationship between EPQN scores and the perpetration of partner abuse was significantly stronger in Wave 1.

With the exception of the relationships between EQPQ, EPQE and EPQL and the perpetration of partner abuse, the values obtained by Kendal's Tau-b (assessing the relationship between personality measures and the incidence of perpetrated partner abuse) and Pearson's Correlation coefficients were found to differ. This suggests a more conservative approach to evaluating these personality measures among males. Bonferroni T tests (p=.05) conducted on Wave 1 personality measures with respect to the incidence of perpetrated partner abuse by males indicated significant differences between groups for EPQL and EPQN. However, analyses conducted on Wave 2 personality measures did not find any significant differences between groups (high v. low scores on measures). These findings suggest an increased likelihood for a Type 1 error in the

associations between partner abuse and EPQP (Wave 2), MacAndrew (Wave 2), Ego-strength (Wave 1 and Wave 2), Self Esteem (Wave 2), Trait Anxiety (Wave 1 and Wave 2) and EPQN (Wave 2). A summary of the correlation coefficients for personality and partner abuse by males respondents are reported in Table 26.

Table 26. Pearson Correlation Coefficients: Personality measures and perpetrated partner abuse comparing Wave 1 and Wave 2 data based on the same sample of male respondents.

Partner Abuse		r			Kendal's Tau-b
		Prevalence of Abuse		Incidence of Abuse	
		Wave 1	Wave 2	Wave 2	
EPQP	Wave 1	.09	.04	.07	.05 (.05)
	Wave 2		.13*	.14*	.12 (.05)
	+Z Score	1.66*			
EPQL	Wave 1	-.22***	-.05	-.09	-.08 (.05)
	Wave 2		-.07	-.11*	-.07 (.05)
	Z Score	5.77***			
EPQE	Wave 1	.08	.04	.04	-.03 (.05)
	Wave 2		.06	.07	.02 (.05)
	Z Score	1.18			
MacAndrew	Wave 1	.07	.04	.03	-.05 (.05)
	Wave 2		.15**	.13*	-.02 (.05)
	Z Score	3.34***			
Neuroticism Index (NI) EPQN	Wave 1	.26***	.17**	.16**	.09 (.05)
	Wave 2		.19***	.23***	.05 (.05)
	Z Score	2.19*			
Ego Strength	Wave 1	-.17**	-.12*	-.16**	-.05 (.05)
	Wave 2		-.13*	-.10*	-.002(.05)
	Z Score	1.48			
Self Esteem	Wave 1	-.15**	-.09	-.09	-.04 (.05)
	Wave 2		-.18***	-.19***	-.02 (.05)
	Z Score	1.07			
Trait Anxiety	Wave 1	.16**	.16**	.12*	.05 (.05)
	Wave 2		.18***	.19***	.07 (.05)
	Z Score	.71			
NI	Wave 1	.20***	.17**	.16**	.11 (.05)
	Wave 2		.20***	.21***	.06 (.05)
	Z Score	.00			

Note: * p < .05, ** p < .01, *** p < .001
+ Z Scores were derived from the prevalence of partner abuse data and personality measures from Wave 1 and Wave 2, respectively.
Asymptotic Standard Errors are presented in brackets.
Partner abuse was based on the full measure prior to any transformations being conducted.

The following are the relationships between personality and partner abuse from Wave 1 and Wave 2 that were found to differ significantly based on Z scores computed for females:

1. The relationship between EPQP scores and the perpetration of partner abuse was significantly stronger in Wave 1.
2. The relationship between EPQL scores and the perpetration of partner abuse was significantly stronger in Wave 1.
3. The relationship between EPQE scores and the perpetration of partner abuse was significantly stronger in Wave 1.
4. The relationship between MacAndrew Scale scores and the perpetration of partner abuse was significantly stronger in Wave 1.
5. The relationship between Ego-strength Scale scores and the perpetration of partner abuse was significantly stronger in Wave 1.
6. The relationship between Self Esteem Scale scores and the perpetration of partner abuse was significantly stronger in Wave 1.
7. The relationship between Trait Anxiety Scale scores and the perpetration of partner abuse was significantly stronger in Wave 1.
8. The relationship between Neuroticism Index scores and the perpetration of partner abuse was significantly stronger in Wave 1.

The values obtained by Kendal's Tau-b assessing the relationship between personality measures and the incidence of perpetrated partner abuse approximated those obtained by Pearson's Correlation coefficients with the exception of the relationships between Trait Anxiety, Ego-strength and EPQP and the perpetration of partner abuse. Bonferroni T tests (p=.05)

conducted on Wave 1 personality measures with respect to the incidence of perpetrated partner abuse by females indicated significant differences between groups for EPQN (high v. low scores). Analyses conducted on Wave 2 personality measures likewise found significant differences between groups for EPQN as well as for EPQP and Ego-strength. These findings suggest an increased likelihood for Type 1 error in the associations between partner abuse and EPQP (Wave 1) and Trait Anxiety (Wave 1 and Wave 2). A summary correlation coefficients for personality and partner abuse by female respondents are reported in Table 27.

Table 27. Pearson Correlation Coefficients: Personality measures and perpetrated partner abuse comparing Wave 1 and Wave 2 data based on the same sample of female respondents.

Partner Abuse		r			Kendal's Tau-b
		Prevalence of Abuse		Incidence of Abuse	
		Wave 1	Wave 2	Wave 2	
EPQP	Wave 1	.36***	.20***	.12*	.12 (.05)
	Wave 2		.21**	.16**	.21 (.05)
	+Z Score	4.54***			
EPQL	Wave 1	-.14*	-.17**	-.07	-.05 (.06)
	Wave 2		-.11*	-.06	-.06 (.05)
	Z Score	-3.33***			
EPQE	Wave 1	.08	.05	.04	.04 (.05)
	Wave 2		.03	.005	.08 (.05)
	Z Score	2.94**			
MacAndrew	Wave 1	.19***	.11*	.03	.05 (.05)
	Wave 2		.07	.009	-.03 (.05)
	Z Score	4.80***			
Neuroticism Index (NI)					
EPQN	Wave 1	.30***	.25***	.14**	.18 (.04)
	Wave 2		.29***	.23***	.22 (.03)
	Z Score	.29			
Ego Strength	Wave 1	-.23***	-.06	-.03	-.11 (.05)
	Wave 2		-.08	-.08	-.15 (.05)
	Z Score	5.56***			
Self Esteem	Wave 1	-.21***	-.11*	-.05	-.05 (.05)
	Wave 2		-.09	-.09	-.06 (.05)
	Z Score	4.61***			
Trait Anxiety	Wave 1	.33***	.22***	.21***	.10 (.05)
	Wave 2		.23***	.20***	.10 (.05)
	Z Score	3.03**			
NI	Wave 1	.32***	.20***	.14**	.15 (.05)
	Wave 2		.20***	.19***	.17 (.05)
	Z Score	3.75***			

Note: * p < .05, ** p < .01, *** p < .001
+ Z Scores were derived from the prevalence of partner abuse data and personality measures from Wave 1 and Wave 2, respectively.
Asymptotic Standard Errors are presented in brackets.
Partner abuse was based on the full measure prior to any transformations being conducted.

Testing the Diathesis Stress Model

Logistic Regression Analyses

The rationale behind the application of logistic regression analyses in the testing of the diathesis-stress model of partner abuse has already been discussed. In summary, the use of this approach provided the opportunity to test the diathesis-stress model of partner abuse by investigating the relative effects of underlying and situational factors on current partner abuse. Through this statistical approach, the additive effects of the independent measures as well as the overall fit of the models tested were assessed.

Several preparatory measures were undertaken prior to conducting the logistic regressions. First, the dependent measure, "current perpetrated partner abuse" which assesses the number of times a respondent perpetrated partner abuse during the past year was collapsed into two levels, "abuse" (1) and "no abuse" (2). Second, the dummy codings previously applied to the demographic variables (i.e., race, religion, employment status) were likewise applied to these analyses. The transformations previously conducted on the variable "education status" were also utilized in these logistic regression analyses. Finally, the variables included in these analyses were inspected for missing data. Two cases in the male data and eleven cases in the female data were deleted where systematic missing data were found across a number of variables. Where missing data were found on one or two variables only, variables means were substituted when appropriate.

Analyses were first conducted on the main effects of the diathesis-stress model of partner abuse for both males and females. The diathesis measures included demographic variables (Wave 1), personality measures (Wave 1), past perpetrated partner abuse (prevalence of perpetrated partner abuse reported in Wave 1), violence in the family of origin (Wave 2) and the alcohol

dependence index (Wave 1). The stress measures included the life events stress scale (Wave 2) and current alcohol consumption (Wave 2). Two separate interaction models were also tested. One assessed the diathesis by life stress events effects, and the other assessed the diathesis by alcohol consumption effects.

Tables 29 and 30 provide the results of the logistic regressions conducted on the variables included in the diathesis-stress models for males and females, respectively. The results are organized as follows. The parameter estimates for the main effects diathesis-stress model of partner abuse are presented in Column 1. The parameter estimates for the interaction models are presented in Column 2 (life stress events interactions) and in Column 3 (alcohol interactions). Only variables found to be significant in the main effects models were included in the interaction terms. The last column presents the antilogs for the main effects listed in Column 1 (i.e., relative odds ratios).

Male data. The results of the logistic analyses conducted on the male data are presented in Table 29. The coefficients in Column 1 indicate that of the 19 diathesis and stress variables tested [5], the following five had statistically significant effects on the log odds of currently perpetrated partner abuse by males: age, Catholic, past perpetrated partner abuse, observing father hitting mother, and stress. The parameter estimates indicated that males who are young in age, non-Catholic, have perpetrated past partner abuse, have observed their fathers hitting their mothers, and who experience high levels of stress are more likely to perpetrate current partner abuse than those not identified by these factors. The global test for the significance of the diathesis-stress

[5] The variables "observing mother hitting father" and "parents' mutual abuse" were found to be highly correlated (r=.85). Separate logistic analyses were conducted to test the salience of each measure. Since it was revealed that former did not contribute significantly to the perpetration of current partner abuse, it was deleted from the analyses.

main effects model was L^2=69.056 with 19 d.f., indicating that it is highly significant ($p < .0001$).

The interaction models in Columns 2 and 3 addressed the question, "does stress and alcohol consumption have an effect on the perpetration of current partner abuse independent of other significant main effects?". Put another way, "is the influence of stress and alcohol consumption dependent upon the effects of other independent measures included in the interaction terms?" Of interest as well, was determining whether either of the interaction models added to the explanatory power of the main effects model. This determination was made by contrasting the log likelihood ratios of the main effects and interaction effects models. The information needed to assess the overall salience of these models is reported in the last row of Table 29. The global tests of significance conducted on the stress (L^2=90.543, d.f. 23) and alcohol interaction models (L^2=73.160, d.f. 23) indicated that both were highly significant ($p < .0001$).

The first contrast involved a comparison of the log likelihood ratios for the diathesis-stress main effects with the log likelihood ratios for the stress interaction model (Columns 1 and 2). The second contrast compared the log likelihood ratios for the diathesis-stress main effects and alcohol consumption interaction model (Columns 1 and 3).

The nested comparison of the log likelihood ratio revealed that the terms included in stress interaction model improved upon the explanatory power of the main effects model. The coefficients for the interaction terms as well as log likelihood ratio also suggest that there is a significant interaction between stress and underlying vulnerabilities as related to age and past perpetrated partner abuse in the prediction of current perpetrated partner abuse by males (X^2=21.49, d.f.=4, $p < .001$). According to the results, the effect of stress on the perpetration of current partner abuse is dependent upon whether male respondents were young and experienced episodes of past perpetrated partner abuse.

With respect to age, males who experience high levels of stress and who are under the age of 49 years are more likely to perpetrate current partner abuse than males who are older or have low levels of stress. The effects of past perpetrated partner abuse and stress on the perpetration of current partner abuse are such that males who experience high levels of stress and who have perpetrated partner abuse in the past are more vulnerable to current perpetrated partner abuse than those who do not have a history of past partner abuse under low or high stress conditions (See Figures 3 and 4).

Percentage of males reporting current partner abuse by age by stress.

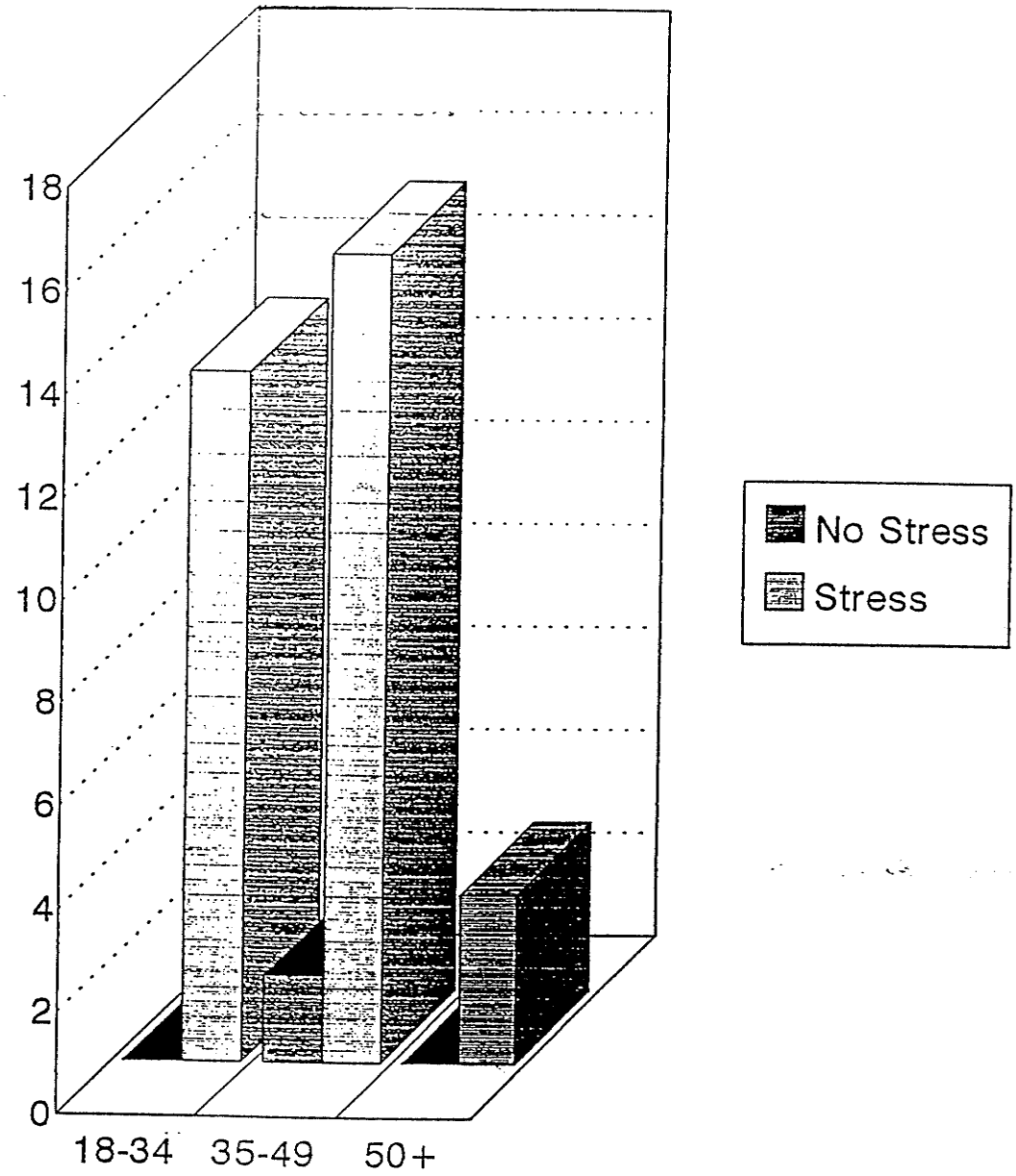

Figure 3.

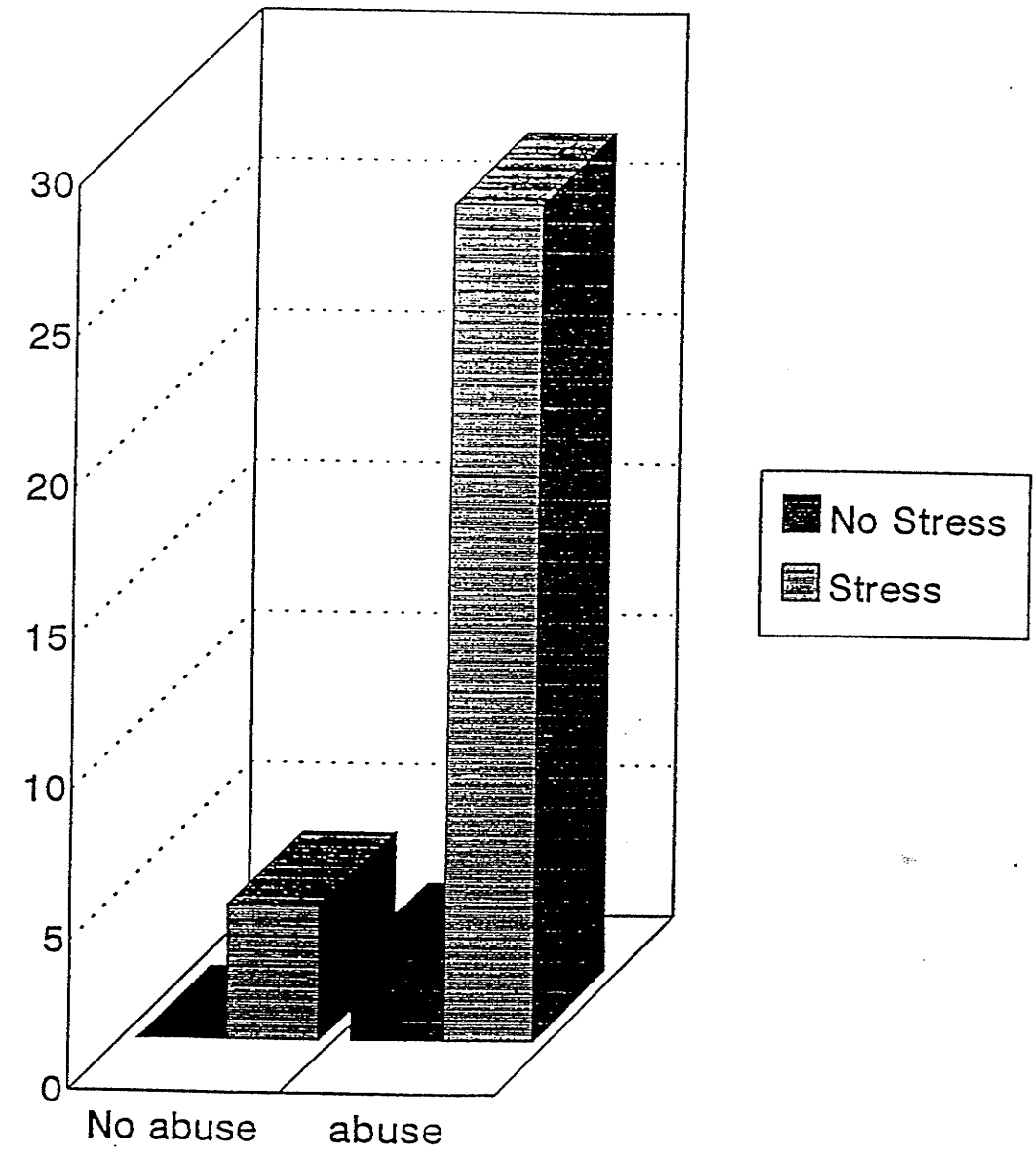
Percentage of males reporting current partner abuse by past abuse by stress
30
25
20
15
10
5
0
No abuse
abuse
No Stress
Stress
Past Perpetrated Partner Abuse

Figure 4.

The log likelihood ratio derived from a comparison of the coefficients in diathesis-stress main effects model with the alcohol interaction model indicate little improvement by this interaction model over the main effects model (X^2=5.94, d.f.=4, n.s.). No significant interactions emerged from this analysis. This together with the inverse main effect for alcohol, suggests that the consumption of alcohol has little influence on the perpetration of current partner abuse on its own, or in combination with other variables.

The comparisons conducted demonstrate that the life stress events interaction model provides the best explanation of current perpetrated partner abuse by males. Based on this model, life stress events' influence on current perpetrated partner abuse by males is demonstrated as a significant main effect as well as significant interaction effects. When the main effect and interaction effects of stress are compared, the former is associated with a high score on the stress measure, whereas the latter is associated with the opposite.

The antilogs show the net multiplicative effects of each independent variable on the odds of perpetrating partner abuse. According to an examination of the antilogs emerging from the logistic regression analyses conducted on the male data (based on significant predictors from the main effects model), the following estimates emerged:

1) males who observed their fathers hitting their mothers have odds of perpetrating current partner abuse that are 4.569 times the odds of those who did not, other factors held constant,
2) being Catholic decreases the odds of males perpetrating current partner abuse by a factor of .030, other factors held constant,
3) for each increase in the Wave 1 CTS score (i.e., measuring past perpetrated partner abuse), the odds of males perpetrating current partner abuse is increased by a factor of 1.783, other factors held constant,

4) for each increase in the stress scale score, the odds of males perpetrating current partner abuse is increased by a factor of 1.696, other factors held constant,

5) for each additional year of age, the odds of males perpetrating current partner abuse is decreased by a factor of .906, other factors held constant.

Table 28. Coefficients representing the main effects of diathesis and stress measures and their interactions on the log odds of perpetrating current partner abuse among males based on Wave 1 and Wave 2 data.

	Parameter Estimates for Main Effects (1)	Parameter Estimates for Interaction Models (2)	(3)	Antilogs for Main Effects in Column 1 (4)
Diathesis Measures:				
Age	-0.061*	-0.180**		.906
	(.031)	(.061)		
Catholic	-2.493**	-2.595		.030
	(.970)	(1.116)*		
Protestant		-2.111*		
		(.950)		
Past Perpetrated Partner Abuse	0.578***		0.458	1.783
	(.142)		(.176)**	
Father hit Mother	1.519*			4.569
	(.729)			
Stress Measures:				
Stress	0.528**	-4.686**	0.510**	1.696
	(.187)	(1.489)	(.200)	
Alcohol Consumption			-8.277*	
			(4.037)	
Diathesis x Stress:				
Past Perpetrated Partner Abuse X Stress		0.432**		
		(.158)		
Age X Stress		0.069**		
		(.026)		
Diathesis x Alcohol:				
No significant interactions				
Constant	-0.217	9.514	0.593	
-2*log likelihood	112.528	91.040	106.589	

Note: Only predictors reaching a .05 level of significance or less are presented in this table.

Standard errors are reported under parameter estimates in parentheses.

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

(1) significant main effects for diathesis and stress variables (2) stress interactions (3) alcohol interactions (4) odds ratios for significant main effects

Female data. Logistic regression analyses conducted on the female data followed the same approach as described for the male data. The coefficients in Column 1 indicate that of the 20 independent variables tested, the following four had statistically significant effects on the log odds of current partner abuse perpetrated by females: EPQP scores, Neuroticism Index scores, observing one's mother hit one's father and parents' mutual violence. The parameter estimates show that females who had high scores on the EPQP and the Neuroticism Index, who observed their mothers hitting their fathers and who did not observe their parents' mutual abuse were more likely to perpetrate current partner abuse than those who are not identified by these factors. The global test for the significance of the diathesis-stress main effects model was L^2=56.240 with 20 d.f. indicating that it is highly significant ($p < .0001$).

As before, Columns 2 and 3 respectively report the parameter estimates of the stress and alcohol interaction models and assess whether each has an effect on current perpetrated partner abuse independent of other main effects. As was done for the male data, the log likelihood ratios derived from the last row of Table 30 were used to assess the significance of each interaction model. The contrasts conducted on the female data also followed the approach carried out on the male data. The global tests for significance for the stress (L^2=60.613, d.f. 23) and alcohol interaction models (L^2=75.611, d.f. 23) were both highly significant ($p < .0001$).

The nested comparison of the log likelihood ratio revealed that the terms included in stress interaction model did not improve upon the explanatory power of the main effects model (X^2=4.756, d.f. 3, n.s). Furthermore, no significant predictors emerged from the stress interaction model. These analyses did not support stress' influence on current partner abuse perpetrated by

females either as a main effect, or as an interaction effect, where its effect would be dependent upon the influence of other variables.

The log likelihood ratio derived from a comparison of the coefficients in diathesis-stress main effects model with the alcohol interaction model indicate that the terms included in the interaction model improved upon the explanatory power of the main effects model (X^2=19.76, d.f. 3, $p < .001$). The coefficients for the interaction terms suggest that there is a significant interaction between alcohol consumption and underlying vulnerabilities with respect to past perpetrated partner abuse, neuroticism index scores and observing mother hitting father in the prediction of current perpetrated partner abuse by females. According to the results, the effect of alcohol consumption on the perpetration of current partner abuse is dependent upon whether female respondents had a history of past partner abuse, had high scores on the neuroticism index, and observed their mothers hitting their fathers.

The interaction of alcohol consumption and these variables in predicting current perpetrated partner abuse by females have revealed some interesting associations. Whereas the neuroticism by alcohol interaction demonstrated that the highest rates of current perpetrated partner abuse among females were found among those who consumed high levels of alcohol and who had high scores on the neuroticism index, the interactions involving past perpetrated partner abuse and observing mother hitting father presented somewhat different relationships. Where females had neither perpetrated partner abuse in the past nor observed their mothers hitting their fathers, rates of current perpetrated partner abuse were very low regardless of the amount of alcohol consumed. However, when there was a history of past perpetrated partner abuse or exposure to mother's violence, the highest rates of current perpetrated partner abuse were found among abstainers as well as high alcohol consumers (See Figures 5, 6, and 7).

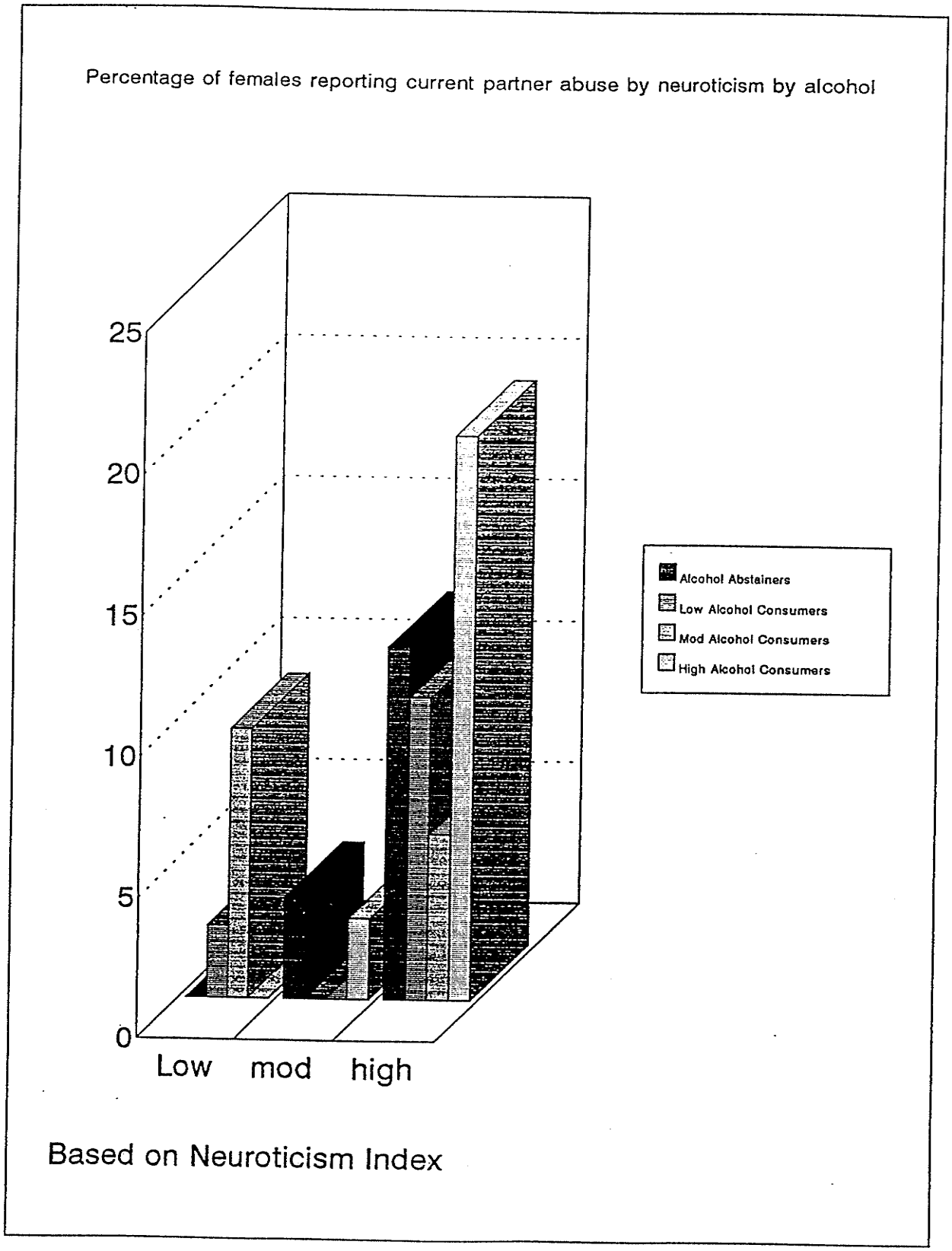
Percentage of females reporting current partner abuse by neuroticism by alcohol
25
20
15
10
5
0
Low
mod
high
Alcohol Abstainers
Low Alcohol Consumers
Mod Alcohol Consumers
High Alcohol Consumers
Based on Neuroticism Index

FIGURE 5.

Percentage of females reporting current partner abuse by mother hitting father by alcohol

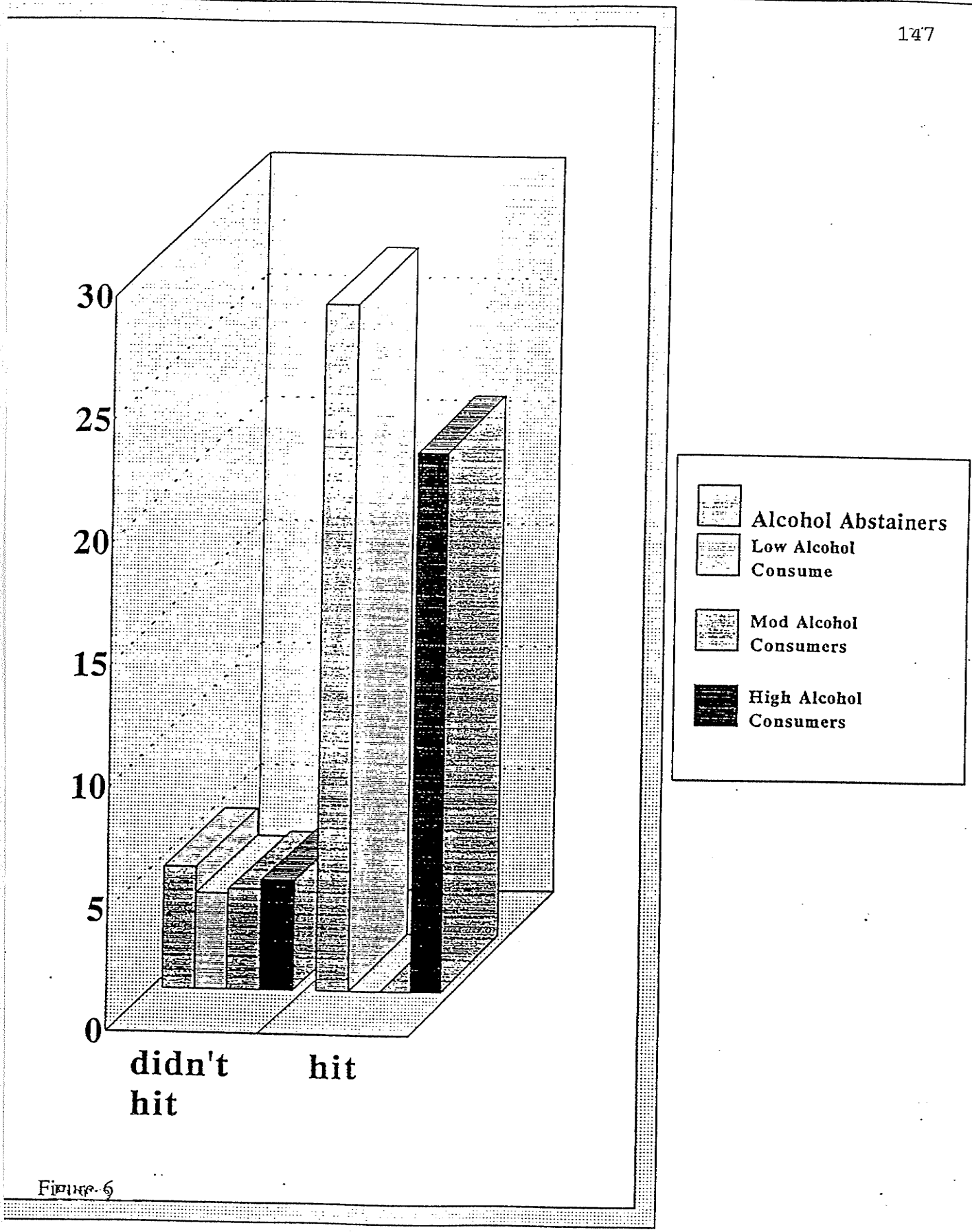

Figure 6

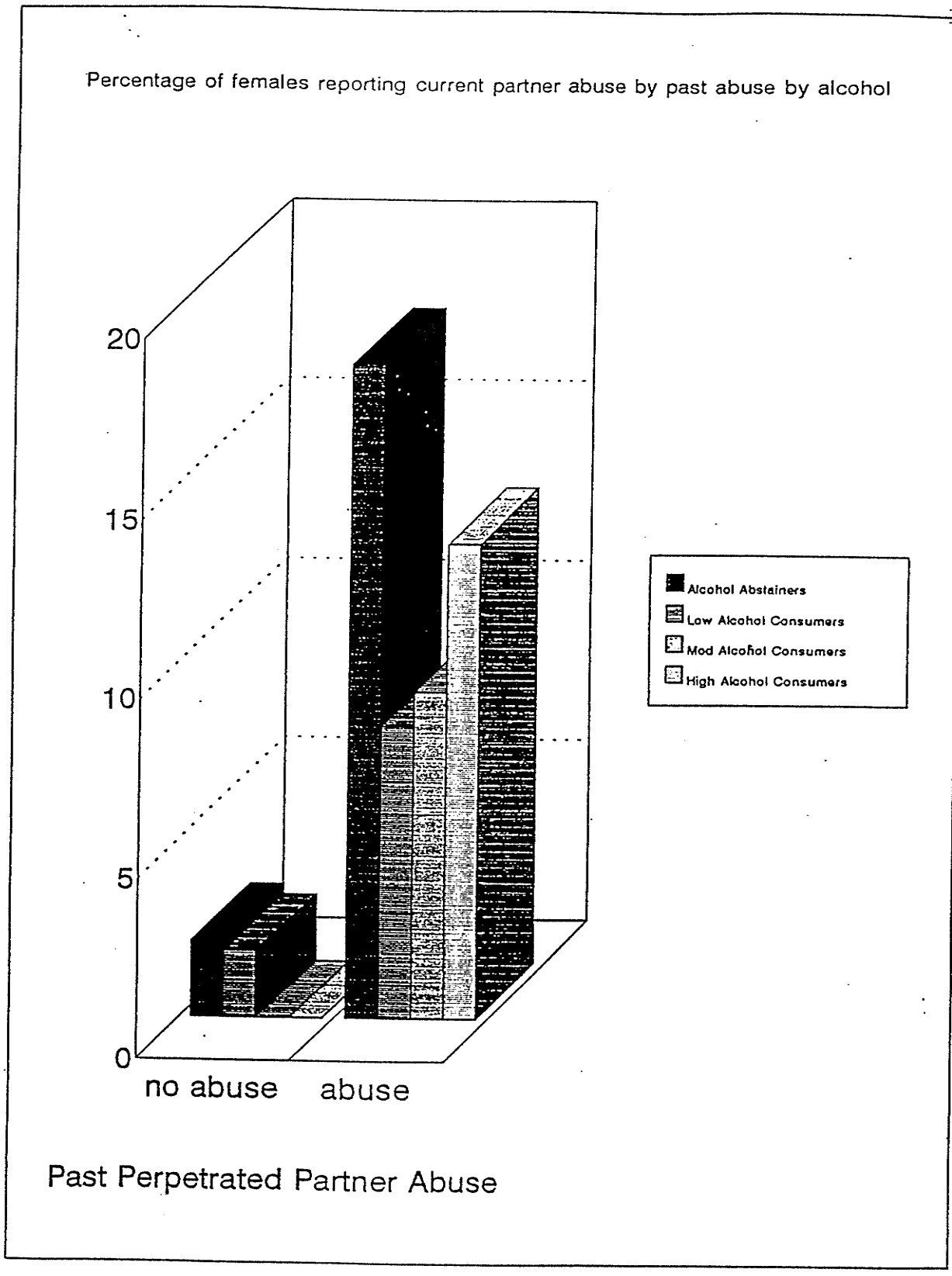
Percentage of females reporting current partner abuse by past abuse by alcohol
20
15
10
5
0
no abuse
abuse
Past Perpetrated Partner Abuse
Alcohol Abstainers
Low Alcohol Consumers
Mod Alcohol Consumers
High Alcohol Consumers

Figure 7.

An examination of the antilogs emerging from the logistic regressions conducted on the female data (based on significant predictors from the main effects model) revealed the following estimates:

1) females who observed their mothers hitting their fathers have odds of perpetrating current partner abuse that are 12.514 times the odds of those who did not, other factors held constant,
2) observing parents' mutual violence decreases the odds of females perpetrating current partner abuse by a factor of .001, other factors held constant,
3) for each increase in an EPQP score, the odds of females perpetrating current partner abuse is increased by a factor of 1.333, other factors held constant, and
4) for each increase in a neuroticism index score, the odds of females perpetrating current partner abuse is increased by a factor of 1.355, other factors held constant.

Table 29. **Coefficients representing the main effects of diathesis and stress measures and their interactions on the log odds of perpetrating current partner abuse among females based on Wave 1 and Wave 2 data.**

	Parameter Estimates for Main Effects (1)	Parameter Estimates for Interaction Models (2)	(3)	Antilogs for Main Effects in Column 1 (4)
Diathesis Measures:				
EPQP	0.287*			1.333
	(.120)			
Neuroticism	0.304**			1.355
	(.096)			
EPQL			0.190*	
			(.091)	
Alcohol Consumption			-11.882**	
			(4.545)	
Past Perpetrated Partner Abuse		.312	0.602***	
		(.124)	(.171)	
Mother hit Father	2.527*		-6.677*	12.514
	(1.120)			
Stress Measures:				
No significant Main Effects				
Diathesis x Stress:				
No significant interactions				
Diathesis x Alcohol				
Past Perpetrated Partner Abuse x Alcohol			1.156*	
			(.476)	
Neuroticism x Alcohol			1.043*	
			(.394)	
Mother hit father x Alcohol			18.533***	
			(5.569)	
Constant	-8.903	-12.556	-18.353	
-2*log likelihood	108.990	104.234	89.235	

Note: Only predictors reaching a .05 level of significance or less are presented in this table.

Standard errors are reported under parameter estimates in parentheses.

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

(1) significant main effects for diathesis and stress variables (2) stress interactions (3) alcohol interactions (4) odds ratios for significant main effects

Hypothesis Testing

Hypothesis 1: *The incidence rates of male and female perpetrated partner abuse (i.e., abuse that has occurred during the past year) as measured in Wave 2 will be consistent with those reported in the literature (i.e., 10-14 percent).*

Descriptive analyses revealed that the incidence of perpetrated partner abuse was 7.1 percent for males and 6.6 percent for females. These percentages fall short of the incidence rates reported in the literature. Hypothesis 1 was not supported.

Hypothesis 2: *The pattern of partner abuse (i.e., frequency, severity, most common abuse tactics and sex differences) found in Wave 1 of this research will also hold true for Wave 2 data.*

Descriptive analyses revealed that the prevalence of perpetrated partner abuse reported in Wave 2 was 17.3 percent for males and 27.4 percent for females. Severe partner abuse was perpetrated by 3.3 percent of males and nine percent of females. Across the three partner abuse indices (i.e., minor abuse, severe abuse and overall abuse) , significantly more females perpetrated partner abuse than males. Although the reported percentages of perpetrated partner abuse in Wave 2 are lower than those reported in Wave 1, the pattern of sex differences is consistent. Based on the Wave 2 prevalence data, the most common partner abuse tactic for both males and females was "throwing or smashing something". Wave 1 data found the most common partner abuse tactic to be "pushing, shoving or grabbing". To the extent that the pattern of perpetrated partner abuse held with respect to sex differences, Hypothesis 2 is supported.

Hypothesis 3: *Partner abuse scores will be significantly higher among respondents who had witnessed their parents' abuse of each other (as measured in Wave 2).*

Pearson's correlations were conducted on the prevalence and incidence of perpetrated partner abuse (Wave 2) and three measures of violence in the family of origin for both males and females. Whereas female perpetrated partner abuse was significantly related to observing "mother hitting father" (r=.11, $p < .05$), this was not the case for males (r=.09). On the other hand, the prevalence of perpetrated partner abuse and observing "father hitting mother" (r=.18, $p < .001$ for males and r=.12, $p < .05$ for females) and observing "parents' mutual violence" (r=.17, $p < .001$ for males and r=.14, $p < .01$ for females) were both found to be significant. All associations were in the expected direction.

Pearson's correlations conducted on the incidence of perpetrated partner abuse and the violence in the family of origin measures provided mixed results. Whereas the associations between these variables were found to be significant and in the expected direction for males (observe "mother hitting father" r=.16, $p < .05$, observe "father hitting mother" r=.27, $p < .001$, and observe "parents' mutual violence" r=.27, $p < .001$), analyses conducted on the female data revealed no significant relationships for these same variables (observe "mother hit father" r=.07, observe "father hit mother" r=.004, and observe "parents' mutual violence" r=.03). In light of these findings, Hypothesis 3 was supported by the male data, but was only partially supported by the female data.

Hypothesis 4: *Partner abuse scores will be significantly higher among respondents who had reported having experienced life stress events (as measured in Wave 2).*

Pearson's correlations demonstrated that the relationship between stress and current perpetrated partner abuse was significant and in the expected direction for males and females when testing both the unweighted stress scale ($\underline{r}$=.21, $p < .001$ for males and $\underline{r}$=.10, $p < .05$ for females) and weighted stress scales ($\underline{r}$=.25, $p < .001$ for males and $\underline{r}$=.12, $p < .05$ for females. Based on these findings, Hypothesis 4 was supported by both the male and female data.

Hypothesis 5: *The relationship between the consumption of alcohol and the perpetration of partner abuse will be curvilinear whereby individuals who consume moderate amounts of alcohol will have higher mean partner abuse scores than those who consume low and high amounts of alcohol (as measured in Wave 1 and Wave 2).*

Analysis of variance procedures were conducted on the mean scores for perpetrated partner abuse (Wave 1 and Wave 2 prevalence scores and Wave 2 incidence scores) by drinking level for males and females. None of the relationships reached significance, and in general, the findings were not in the predicted direction. Hypothesis 5 was not supported.

Hypothesis 6: *For males, witnessing mother's and father's abuse of each other, consuming alcohol (measured in Wave 2), being unemployed, perpetrating past partner abuse, having low scores on social conformity and having high scores on alcohol dependence, the Neuroticism Index, (measured in Wave 1) and stress (measured in Wave 2) will significantly predict current perpetrated partner abuse in Wave 2.*

Correlations testing the bivariate relationships between the above measures and current perpetrated partner abuse by males indicated that the latter was significantly related to the following measures:

1. witnessing father hitting mother ($\underline{r}$=.16, $p < .05$), mother hitting father ($\underline{r}$=.27, $p < .001$) and parents hitting each other ($\underline{r}$=.27, $p < .001$)
2. perpetrating partner abuse in the past ($\underline{r}$=.46, $p < .001$)
3. being unemployed ($\underline{r}$=-.20, $p < .001$)
4. having a high score on the Neuroticism Index ($\underline{r}$=.16, $p < .01$)
5. experiencing high levels of stress ($\underline{r}$=.21, $p < .001$, unweighted stress scale; $\underline{r}$=.25, $p < .001$, weighted stress scale

Logistic regression analyses tested the main effects of a diathesis-stress model that included demographics, personality, alcohol dependence, past perpetrated abuse and violence in the family of origin, stress and current alcohol consumption. These analyses revealed that relative to the effects of other variables tested, the following emerged as significant risk factors for current perpetrated partner abuse by males:

1. young age
2. Non-Catholic
3. Past perpetrated partner abuse
4. Observing father hitting mother
5. High stress

To the extent that five of the nine hypothesized risk factors were found to be significantly related to male perpetrated current partner abuse, and that three of these were significant relative to the effects of other variables tested, Hypothesis 6 was partially supported.

Hypothesis 7: *For females, witnessing mother's and father's abuse of each other (measured in Wave 2), being young in age, perpetrating past partner abuse and having high scores on Esyenck's Psychoticism Scale (EPQ-R), the Neuroticism Index, the MacAndrew Scale (measured in Wave 1) and stress (measured in Wave 2) will significantly predict current perpetrated partner abuse in Wave 2.*

Correlations testing the bivariate relationships between the above measures and current perpetrated partner abuse by females indicated that the latter was significantly related to the following:

1. perpetrating partner abuse in the past ($r=.29$, $p < .001$)
2. being young in age ($r=-.11$, $p < .05$)
3. having a high score on the EPQP ($r=.12$, $p < .05$)
4. having a high score on the Neuroticism Index ($r=.14$, $p <.01$)

5. experiencing high levels of stress ($\underline{r}$=.10, $p < .05$, unweighted stress scale; $\underline{r}$=.12, $p < .01$, weighted stress scale)

Logistic regression analyses tested the main effects of the diathesis-stress model that included demographics, personality, alcohol dependence, past perpetrated partner abuse and violence in the family of origin, stress and current alcohol consumption. These analyses revealed that relative to the effects of other variables tested, the following emerged as significant risk factors for current perpetrated partner abuse by females:

1. High EPQP scores
2. High Neuroticism Index scores
3. Observing mother hitting father
4. Not observing parents hitting each other

To the extent that five of the eight hypothesized risk factors were found to be significantly related to female perpetrated current partner abuse and three of these were significant relative to the effects of other variables tested, Hypothesis 7 was partially supported.

Hypothesis 8: *For males, the interaction between the following diathesis and stress factors will significantly predict current perpetrated partner abuse in Wave 2 and add to the explanatory power of the main effects model:*

a) deviance prone personality (i.e. high scores on the neuroticism index) and high recent alcohol consumption,

b) deviance prone personality (i.e., high scores on the neuroticism index) and life stress,

c) past environmental contributions (i.e. past partner abuse and violence in the family of origin) and high recent alcohol consumption,

d) past environmental contributions (i.e., past partner abuse and violence in the family of origin) and life stress, and

e) alcohol dependence and life stress.

Logistic regression analyses testing the interaction effects of significant risk factors from the diathesis-stress main effects model revealed the following two significant interaction relationships emerging from the stress interaction model:

1. Past perpetrated partner abuse by stress
2. Age by stress

The salience of the main effects model was compared with both interaction models (i.e., stress and alcohol consumption). Results of the log likelihood ratio revealed that the stress interaction model significantly improved upon the explanatory power of the main effects model (X^2=21.49, d.f. 4, $p < .001$). However, no significant improvement was demonstrated by the log likelihood ratio for the alcohol interaction model and the main effects model (X^2=5.94, d.f. 4, n.s.). To the extent that environmental contributions interacted with life stress events, Hypothesis 8 was only partially supported.

Hypothesis 9: *For females, the interaction between the following diathesis and stress factors will significantly predict current perpetrated partner abuse in Wave 2 and improve upon the explanatory power of the main effects model.*

a) high scores on deviance prone personality (i.e., neuroticism index and psychoticism scale) and past partner abuse,

b) high scores on deviance prone personality (i.e., neuroticism index and psychoticism scale) and life stress events,

c) high scores on deviance prone personality (i.e., neuroticism index and psychoticism scale) and high recent alcohol consumption, and

d) past environmental contributions (violence in the family of origin and past abuse) and life stress.

Logistic regression analyses testing the interaction effects of significant risk factors derived from the diathesis-stress main effects model revealed the following three significant relationships emerging from the alcohol interaction model:

1. Past perpetrated partner abuse by alcohol consumption
2. Neuroticism by alcohol consumption
3. Observing mother hitting father by alcohol consumption

Results of the log likelihood ratio revealed that the alcohol interaction model provided the best explanation of current partner abuse perpetrated by females (X^2=19.76, d.f. 3, $p < .001$) and in so doing, improved upon the explanatory power of the main effects model. A comparison of the log likelihood estimates for stress interactions and diathesis-stress main effects on the other hand, failed to show any improvement of the interaction model over the main effects model (X^2=4.76, d.f. 3, n.s.). To the extent that alcohol consumption interacted with underlying vulnerabilities in the prediction of current perpetrated partner abuse by females and improved upon the explanatory power of the main effects model, Hypothesis 9 was only partially supported.

Summary of the Results

The prevalence and incidence of partner abuse perpetrated by males and females were examined in several ways. First, the occurrence of perpetrated partner abuse and its context were explored by way of frequency data. It was found that the pattern of perpetrated partner abuse remained stable across Wave 1 and Wave 2 of this project with a greater proportion of females perpetrating violence than males in Wave 2 (17.5% compared to 27.6% based on same samples p=.002). In spite of the stability in the pattern of abuse, the prevalence rates of perpetrated

partner abuse reported by both sexes in Wave 2 were proportionately smaller than those reported in Wave 1 (26.3% for males and 39.1% for females). When the rates of partner abuse perpetrated during the past year by males and females were examined (7.1% for males and 6.6% for females), the difference in the reports of perpetrated partner abuse by males and females disappeared.

Of those who abused their partners during the course of their relationships, 16.0 percent of males and eight percent of females consumed alcohol at the time of the abuse incidents, 21.4 percent of males and 14.3 percent of females reported that their partners required medical attention as the result of a partner abuse incident, and 14.8 percent of males and 9.9 percent of females perpetrated violence in self defence. Males who abused their partners during the past year had significantly higher levels of stress than females who did the same. Finally, approximately 1/3 of male and female respondents who abused their partners observed some form of violence within the family of origin.

Correlational analyses were conducted to assess the relationships between the independent measures and past and current perpetrated partner abuse in Wave 2 as well as to assess the stability of these relationships across time. In general, the relationships between perpetrated partner abuse and demographic and personality variables remained stable for males and females in Wave 1 and Wave 2. However, the relationships between perpetrated partner abuse and some of the alcohol measures (i.e., alcohol consumption, MAST) lost their salience in Wave 2. Correlational analyses limited to Wave 2 data demonstrated the following: 1) stress was significantly and positively related to the perpetration of current partner abuse by males and females using both weighted and unweighted versions of the scale, and 2) indices of violence in

the family of origin were significantly and positively related to the prevalence of partner abuse perpetrated by males and females, but significantly and positively related to current partner abuse perpetrated by males only.

The final phase of analyses involved a series of logistic regressions that tested the diathesis-stress model of partner abuse. For males, having high levels of stress, observing father hitting mother, perpetrating partner abuse in the past and being young and non-Catholic were the significant risk factors that emerged from the main effects model. Stress was also found to interact with past perpetrated partner abuse and age. Significant risk factors for current perpetrated partner abuse by females emerging from the main effects model included observing mother hitting father, not observing parents' mutual violence and having high scores on the EPQP and neuroticism index. It was also found that alcohol interacted with neuroticism, past perpetrated partner abuse and observing mother hitting father.

For both males and females, observing violence in the family of origin posed the greatest risk for current perpetrated partner abuse. For males who observed their fathers hitting their mothers, the risk of perpetrating current partner abuse was increased by a factor of 4.569. The risk of current perpetrated partner abuse by females was increased by a factor of 12.514 when they observed their mothers hitting their fathers. Whereas life stress events significantly improved upon the explanation of current perpetrated partner abuse by males, alcohol consumption was found to do the same for females.

CHAPTER 6 - DISCUSSION

The purpose of this study was to examine the problem of male and female perpetrated partner abuse. The stability of its occurrence as well as its associated factors were investigated through the analysis of data drawn from a random sample of adult residents in Winnipeg, Manitoba that were collected at two points in time. A diathesis-stress model of partner abuse was used to test the individual and joint effects of environmental and underlying factors related to current perpetrated partner abuse.

The Prevalence and Incidence of Perpetrated Partner Abuse

Wave 2 of this research reported that 17.3 percent of males and 27.4 percent of females perpetrated some form of partner abuse against their intimate partners at some point during their relationships. It was also reported that 7.1 percent of males and 6.6 percent of females were involved in the same kind of behaviour during the past year. Both of these annual estimates of perpetrated partner abuse are below that which has been reported in the spousal abuse literature (Bland & Orn, 1986; Brinkerhoff & Lupri, 1988; Schulman, 1981; Smith, 1987; Straus & Gelles, 1986).

There are a number of factors that may explain the low incidence rates of perpetrated partner abuse reported in this study. This study's longitudinal design may be an important one. When comparing the prevalence rates of perpetrated partner abuse reported during Wave 1 with those of Wave 2, a 35 percent reduction in the reports of males and a 29 percent reduction in the reports of females is noted. Furthermore, the less than optimal correlations between Wave 1 and Wave 2 CTS scores suggested that some of the respondents may have changed the pattern of

their partner abuse reports from Wave 1 to Wave 2. Post hoc analyses indicated that approximately 18 percent of males and 25 per cent of females recanted previous reports of perpetrated abuse made during Wave 1.

It was also shown that mean Wave 1 CTS scores for these respondents when compared to that of overall sample means for males and females were higher for both males ($x=8.04$, n.s.) and females ($x=8.97$, $p < .001$). Further analyses involving correlations between Wave 2 CTS scores and EPQL scores also suggested that for females, changes in partner abuse reports may have possibly been made in response to social pressure associated with the interview process. Sensitivity to repeated measurement as reflected by changes in responses is an issue addressed Menard (1991) and Carmines and Zeller (1979).

While some may argue that Wave 1 prevalence rates of partner abuse could be considered over-reporting, it seems unlikely that individuals would falsely respond in the affirmative to an issue as sensitive as partner abuse (Szinovacz, 1983). The above average Wave 1 CTS scores found among female recanters, as well as the relationship found between partner abuse and social conformity, suggests that their sensitivity toward the issue of partner abuse has been enhanced. This is consistent with research by Arias and Beach (1987) who reported that social desirability influences self-reports of physical aggression against a partner. Moreover, females' higher rate of recanting is also congruent with Browning and Dutton's (1986) finding that when comparisons were made of the reports of males and females with respect to perpetration and victimization, females were found to under-report abuse perpetrated against their partner.

Szinovacz (1983) addressed the issue of discrepant reports of abuse by couples. She noted that couples' inability to recall past behaviours or events in a consistent manner was a factor

related to this problem. Because a person's memory of an event (or lack of it) may be shaped by his or her present reality, events of the past often are often reconceptualized.

With respect to the respondents in this study, it is possible that the recanting of previous partner abuse (or the denial of ongoing partner abuse) may have come about in response to the recent attention given to partner abuse by the media and the Justice Department (Sommer, 1993). However, in the absence of a measure to assess respondents' attitudes and sensitivities toward partner abuse, the above comment is one of speculation.

The finding of recanted reports of perpetrated partner abuse again raises the issue of under-reporting of partner abuse. Estimates of under-reporting of perpetrated partner abuse by men and women are reported to range between 10 percent (O'Leary et al., 1989) and 50 percent (Szinovacz, 1983). However, much of these discussions have centred around the validity of self reports based on the presence of sex differences in abuse reporting (Arias & Beach, 1987; Browning & Dutton, 1986; Jouriles & O'Leary, 1985; O'Leary et al., 1989; Szinovacz, 1983) and differences with the same sample.

Given that previous general population based research has relied upon "one wave" estimates of partner abuse, this research is the first to report recanted reports of abuse previously made by the same individual. The rates of under-reporting of partner abuse demonstrated in this study fall within the range of estimates noted above. Although the contention is that reports of partner abuse given during Wave 1 are more accurate, concerns are raised about research that relies solely upon reports of partner abuse derived from single waves of data with no means of cross validation.

A final consideration in the under-reporting of the prevalence and incidence of perpetrated partner abuse is a limitation carried over from the first phase of this study. Unlike other random surveys using the CTS, this research only reported the more severe items included in the scale. As a consequence, the less severe abuse items contained in the "reasoning" subscale that carry with them higher rates of disclosure (Straus et al., 1986) were not examined. The inclusion of these items in this study would likely have resulted in higher rates of partner abuse reporting.

In spite of the problems just described, Wave 2 data attempted to overcome a number of limitations found in Wave 1. Of those, the following are relevant to the present discussion: 1) Wave 1 reports of perpetrated partner abuse were limited to married and married, but previously divorced persons, and 2) the recency and the frequency of perpetrated partner abuse were not addressed by Wave 1.

The first or these limitations was dealt with by including the marital status category, "cohabiters" in the analyses of partner abuse data in Wave 2. In doing so, it was revealed that cohabiters accounted for 9.38 percent of "ever" reported perpetrated partner abuse by males, and 11 percent of "ever" reported perpetrated partner abuse by females. Moreover, it was also found that male cohabiters had significantly higher number of partner abuse incidents during the past year than other marital status categories. These findings support the need to survey individuals across marital status groups. While Wave 2 improved upon Wave 1 by expanding the scope of its data collection, it did not gather partner abuse data from individuals who were divorced, widowed or involved in informal (i.e., noncohabiting) intimate relationships. The retrospective information to be gained from these groups of people may provide some insight into whether abuse perpetrated during past relationships is carried on to current ones.

The latter limitation was addressed by the assessing the last time a partner abuse incident occurred and by establishing the number of times an incident occurred during the past year. Analyses indicated that on average, the last incident of perpetrated partner abuse occurred approximately six years earlier for males and slightly more than seven years earlier for females. Thus, for most of respondents who reported perpetrating partner abuse at some point during their relationships, its occurrence appears to be an "event of the past".

For the other 7.1 percent of males and 6.6 percent of females who reported ongoing partner abuse, they reported on average, 3.08 (males) and 3.91 (females) incidents during the past year. These figures suggest that for this group of individuals, partner abuse is a frequently occurring event. In light of this, and other factors still to be discussed in following sections, persons experiencing ongoing partner abuse should be the primary targets of partner abuse prevention programs.

Partner Abuse Tactics

Wave 2 prevalence reports of perpetrated partner abuse showed that overall, significantly more females perpetrated partner abuse against their partner. A higher rate of reporting was also found for females on each partner abuse tactic. For three of these tactics, the differences were significant (i.e., "threatened to throw something", "threw something at partner" and "hit partner"). The most common tactic for males and females was "throwing or smashing something (but not at partner)".

The pattern of these Wave 2 findings is similar to those reported in Wave 1, where significantly more females reported perpetrating partner abuse overall and across all but one tactic. Although, the most common partner abuse tactic endorsed by females remained the same

during Wave 1 and Wave 2, this was not found to be the case for males. Whereas Wave 1 males endorsed "pushing, shoving and grabbing" most often, Wave 2 "males endorsed throwing or smashing something (but not at partner)" most often. This too, is an example of the change in the reporting of perpetrated partner abuse. Whereas the changes in abuse reporting by females is most evident in their denial of partner abuse, for males it appears to be in the type of abuse perpetrated. The greater endorsement of a "milder" form of partner abuse" in Wave 2 by males also supports the redefining of past behaviour based on one's present reality.

Wave 2 incidence reports of perpetrated partner abuse characterized respondents' use of partner abuse tactics much differently than previously described. First, there was no overall difference between the reports of males and females. Moreover, an item analysis revealed only one sex difference, whereby significantly more males perpetrated partner abuse against their partners. When the most common partner abuse tactics were considered, "throwing or smashing something" was reported most often by males and "pushing, shoving and grabbing" was reported most often by females.

These findings based on ongoing perpetrated partner abuse, support males' and females' equal involvement in the perpetration of partner abuse and reject findings reported earlier indicating females' greater involvement. It is possible however, that this shift in findings may be related to respondents' recanting of previous partner abuse. Recalling that "recanters" had above average CTS scores (indicating the endorsement of more partner abuse tactics more often), it is possible that had Wave 2 reports of perpetrated partner abuse been consistent with those of Wave 1, the sex differences and most common tactics noted in Wave 1 might still have persisted.

While it is wrong to condone any form of partner abuse, it is worthwhile noting that the most common tactics reported by males and females in Wave 1 and Wave 2 are considered among the least coercive. According to Brinkerhoff and Lupri (1988), "pushing, shoving and grabbing" was considered a normal part of family life not perceived as abuse by family members. These partner abuse tactics also share in common a lessened likelihood for injury compared to other that involve hitting, punching or the use of weapons. The endorsement of these tactics by individuals in the general populations may prove to be important factors differentiating them from clinical samples. This hypothesis can be tested by comparing these sampling bases while using parallel partner abuse measures.

The Context and Effects of Perpetrated Partner Abuse

Failure to explore the context of partner abuse has been a major limitation of much of the previous partner abuse research. In an effort to overcome this serious methodological shortcoming, Wave 2 considered the following questions: 1) Was the respondent drinking at the time if an abuse incident? 2) Did the partner require medical attention as a result of an abuse incident? 3) Was abuse perpetrated in self-defence?

As noted previously, the link between alcohol consumption and partner abuse is well established in the literature. Less understood however, is the mechanism of alcohol's effect on partner abuse. In order to gain more insight into this relationship, respondents were asked to report whether they had been drinking at the time of an abuse incident. Results demonstrated that more than twice as many males (16.0%) compared to females (8%) drank at the time of an abuse incident. This sex difference is consistent with those of Gelles (1974), Coleman and Straus

(1983), Frieze and Schafer (1984) and Russell, Lipov, Phillips and White (1989) who reported that alcohol consumption was predominantly a problem of violent men.

Kantor and Straus (1987) explored this relationship and reported that 24 percent of males drank just prior to a partner abuse incident. They also found a significant relationship between the amount of alcohol consumed and drinking prior to a partner abuse incident. The percentages of male and female respondents reporting drinking at the time of a partner abuse incident in this present research falls short of those reported by Kantor and Straus (1987).

The disparity between other researchers' findings and the ones reported here, may in part, be explained by Wave 2's loss of heavy drinkers through attrition. Another possible explanation could be related to the substantive difference between "drinking at the time" and "drinking just prior to" an abuse incident. Perhaps the important issue in the alcohol/partner abuse relationship is the time needed for alcohol to be ingested and metabolized. In other words, the stronger linkage between alcohol consumption and partner abuse reported by others may reflect reports of perpetrated partner abuse following a bout of drinking. If this is true, the greater reporting of alcohol just prior to an abuse incident can be better understood. Replication using parallel measures is needed to clarify this issue.

The issue of a spouse or partner requiring medical attention following a partner abuse incident has not been widely researched in general population research. This study provides the first insights into yet another dimension of this serious social problem for Canadians. It was reported that approximately 21 percent of males' and 14 percent of females' partners required medical attention as a result of a partner abuse incident. This represents approximately 3 percent of the total subsample of married, cohabiting and remarried males and females. This percentage

is greater than that reported by Straus and Gelles (1990) based on the findings from their national survey (.4% of males and 3% of females needed to see a doctor following a violent incident). Moreover, while Straus and Gelles (1990) found that significantly more females required medical attention, the results of this study failed to find such a sex difference.

The issue of self defence in perpetrated partner abuse has been discussed by feminist writers who have long argued that when a woman hits a man, it is usually in self defence (Pleck et al., 1978; Walker, 1979). The findings of this study stand in the face of this argument. This study has found that only approximately 10 percent of women and 15 percent of men perpetrated partner abuse in self defence. In other words, for almost 90 percent of women and 85 percent of men, the perpetration of partner abuse was influenced by other factors. According to these findings, self defence is not a common motivation for the perpetration of partner abuse for males and females in the general population. Further inquiries into other possible reasons for the abuse are needed.

Predictors of Perpetrated Partner Abuse

The correlational and logistic regression analyses conducted in this study revealed profiles of male and female partner abusers that depart somewhat from those previously described in the literature. The following sections will discuss the underlying and situational risk factors found to be associated with the perpetration of current male and female partner abuse and point out their relationships to other research in the area.

Given that this is the first study to examine the perpetration of partner abuse across time in the general population, the degree to which its findings can be compared is greatly restricted.

Moreover, the literature's primary focus on partner abuse perpetrated by males will further impede comparisons with respect to female perpetrators of partner abuse.

Demographic Risk Factors

The literature examining the demographic characteristics of male partner abusers indicates that while violence and abuse between intimate partners occurs at every level of society (Ontario Association of Professional Social Workers, 1987; Schulman, 1981; Sommer, 1990), there are some groups of individuals who are more at risk than others. For example, Finkelhor (1983) and Kantor and Straus (1987) argued that members of the lower social strata are more at risk. These individuals are typically young, nonwhite, having achieved only a high school education, being of a low income bracket and more likely to be blue collar workers.

With the exception of low education and blue colour status, the correlational analyses conducted on current perpetrated partner abuse in Wave 2 support the above demographic profile for males. It was also found that the religious preference category "other" was also found to be correlated with current perpetrated partner abuse by males.

The results of the logistic regression analyses conducted on the male data limited the salience of some of these variables. Significant predictors emerging from these analyses indicated that being young and non-Catholic were the only significant demographic risk factors of current perpetrated partner abuse by males.

Correlational analyses conducted on the female data failed to reveal any significant relationships between demographic variables and current perpetrated partner abuse by females. Results of the logistic regression analyses likewise failed to demonstrate any significant relationships between any of the demographic variables and current partner abuse perpetrated by

females. The discussion that follows will therefore focus exclusively on the findings that emerged from the male data.

Age. The results of correlational and logistic regression analyses examining main effects indicated that being young in age was significantly related to current perpetrated abuse by males. This finding is consistent with other general population research in this area (Kennedy & Dutton, 1989; Schulman, 1981; Straus et al., 1980). Thus, when age is considered independent of the influences of other variables, the perpetration of current partner abuse is most likely to occur among males who are under 34 years of age.

Religion. Being non-Catholic was found to be a significant main effect in predicting current perpetrated partner by males based on the results of the logistic regression analyses. This finding is particularly difficult to interpret because of the limited research investigating the relationship between perpetrated partner abuse and religion. Furthermore, much of the available research on this topic is overridden by problems associated with measurement and definition. Given the likelihood that individuals who are non-Catholics belong to any number of other religious denominations, making comments about these unknown groups is difficult.

Nevertheless, these findings do seem to suggest that the tenets of Catholicism may insulate individuals from perpetrating partner abuse compared to those adhering to non-Catholic principles. Further inquiries into rates of perpetrated partner abuse among members of non-mainstream religious groups are needed. However, given that only nine to ten percent of males and females reported membership in the "other" religious preference category, such investigations may not prove to be entirely fruitful. An alternative to this approach may be to investigate the religious practices of respondents (i.e., church attendance, religious observance of holidays).

History of Abuse

Included under this heading are variables related to abuse within the family of origin (perpetrated by the mother, father or mutually) as well as respondents' reports of past history of perpetrated partner abuse as measured in Wave 1.

Exposure to violence within the family of origin. Compared to persons without a history of abuse within the family of origin, a significantly greater proportion of males and females exposed to some form of violence in their family of origin were involved in both past and ongoing partner abuse. Of interest, is the finding that the greatest proportion of males and females exposed to violence in the family of origin are those who were involved in the perpetration of partner abuse at some point in the relationship. Given that the exposure to violence in the family of origin was found to be a less salient factor in the incidence of perpetrated partner abuse, it appears that observing parents' violence may not be a sufficient factor in the perpetration of partner abuse, in general. It is also possible that for many, exposure to more appropriate models of conflict resolution has a positive influence on how individuals resolve conflicts in their current intimate relationships.

When the exposure to violence in the family of origin was separated into observing mother hitting father, father hitting mother and mutual violence and checked for sex differences, some interesting distinctions emerged. For example, the strongest correlations between exposure to violence in the family of origin and past and current perpetrated partner abuse were found for father hitting mother and mutual violence among male respondents. For female respondents, correlations were weaker overall, and little distinctions were made between the type of exposure to violence in the family of origin and either past or current perpetrated partner abuse.

Based on the results of these correlations, it appears that the linkages between past and current perpetrated partner abuse and the modelling of fathers' aggression toward their mothers, as well as the modelling of parents' aggression toward each other, are more important for males than they are for females. In the absence of measures assessing respondents' attitudes toward the perpetration of partner abuse, one may speculate that the lack of association for females may be related to differences in males' and females' perception of their parents' conflict.

Results of the logistic regressions characterize the relationship between exposure to violence in the family of origin and the perpetration of current abuse somewhat differently than what has been described above. The magnitude of the coefficient estimate for the main effect, observing "mother hitting father" among females was found to be greater than that for the main effect, observing "father hitting mother" among males. Moreover, while the latter increased the likelihood of current perpetrated partner abuse by males by a factor of 4.569, the former increased the likelihood of the same by a factor of 12.514.

The gender related modelling effect demonstrated for the exposure to violence in the family of origin and its association with current perpetrated partner abuse is worthy of some consideration. While past research has supported the link between violence in the family of origin and partner abuse, the mechanism of this linkage has been disputed (Sommer, 1993). While some argue that the association between exposure to violence in the family of origin and the perpetration of partner abuse is gender specific (O'Leary & Curley, 1986; Simon et al., 1993), others contend that this association is role specific (Kalmuss, 1984). This research refutes the latter claim with respect to the perpetration of current partner abuse only by demonstrating

that when males and females observe the same sex parent hitting the other parent, they are at greater risk for perpetration of partner abuse in their present relationships.

Another strong predictor of current perpetrated partner abuse by females is observing parents' mutual violence. Contrary to the previous findings, the likelihood for females' perpetrating current partner abuse is lessened by the influence of observing their parents' mutual fighting relative to other variables included in the model. In the absence of other research to support this finding, one might speculate that parents' mutual abuse may be perceived as balanced, where neither mother or father is viewed as the sole victim or perpetrator. On the other hand, women observing reprisals received by their mothers may provide less of an incentive to be aggressive themselves.

Regardless of the modelling agent, it has been suggested that the exposure to violence in the family of origin teaches children the acceptability of violence (Kalmuss, 1984). It also teaches them to resolve conflicts through the use of violent tactics. While researchers agree on the strong modelling potential that exposure to violence in the family has on the perpetration of partner abuse in future relationships, the transfer of dysfunctional modes of conflict resolution to these relationships has not been formally addressed.

These findings provide strong support for the influence of observing one's same sex parent hitting the other on the perpetration of current partner abuse. However, it should also be noted that exposure to violence in the family of origin was not reported by 78.57 percent of males and 81.82 percent of females who perpetrated current partner abuse. The perpetration of partner abuse by these individuals can be accounted for in part by measurement error as well as by a number of other factors that may include the modelling of violence by peers and the media.

Past perpetrated partner abuse. Past perpetrated partner abuse emerged as a significant main effect as well as an interaction effect with stress for predicting current perpetrated partner abuse by males. (A detailed discussion of this interaction effect will follow in the next section.) By comparison, the effect of this variable was not as salient in the prediction of current perpetrated partner abuse by females.

The above finding is supported by the results of the correlations conducted on past and current perpetrated partner abuse for males and females. The strength of the association between these measures were found to be greater for males (r=.46, $p < .001$) than they were for females (r=.29, $p < .001$). The magnitude of these correlations are consistent with other research that also surveyed respondents over a two to 2.5 year period. For example, O'Leary et al.'s (1989) study of stability in marital aggression within a community sample of men and women found that the correlations between past and current perpetrated partner abuse over a 30 month period were r=.31 for both males and females. Marshall and Rose's (1990) study of premarital violence among college students provided similar results (r=.33, $p < .001$ for males and for females, r=.25, $p < .001$ for females). These correlations lend support to this study's finding that past perpetrated partner abuse plays a role in predicting current perpetrated partner abuse by both males and females.

The linkage between past and current perpetrated partner abuse is also supported by personality theorists who argue that people's behaviour is consistent across time and situations (Davison & Neale, 1990). This line of reasoning aids in our understanding of how partner abuse is sustained and transferred from one relationship to another (Kalmuss & Seltzer, 1986). However, at the same time, the relationship between these variables has been shown to be

anything but perfect. For many, current perpetrated partner abuse is not always predicted by past perpetrated partner abuse and is likely to be influenced by a number of other factors.

Stress

Although the relationship between stress and the perpetration of partner abuse has not previously been clearly delineated, the results of this research appear to shed some light on the how these variables may be linked. While this study's findings are consistent with other research demonstrating that batterers can be differentiated by measures of stress (Barnett et al., 1991; Neidig et al., 1985; Seltzer & Kalmuss, 1988), its results extend previous findings by examining the influence gender has on the relationship between these variables.

Analyses conducted on the individual stress items revealed that there were only two stress events common to males and females that significantly differentiated abusers from nonabusers (i.e., financial problems and stopping school). While no other stress events differentiated female abusers from female nonabusers, male abusers on the other hand, were found to differ significantly from male nonabusers on three other stress events (i.e., lost job, changed job and spouse started work). These findings suggest that males' experiences of a wider variety of stressors is more greatly reflected in the perpetration of current abuse than females'.

Analyses conducted on the full stress scale provide further insight into gender's influence on stress and the perpetration of current partner abuse. First, the significant interaction effects between gender and partner abuse based on both weighted and unweighted scales demonstrated that males who abused their partners during the past year had higher stress scores than females who did the same. This finding suggests that the influence of stress on the perpetration of partner abuse is dependent upon one's gender. Second, the results of Pearson correlations also

lend support to a stronger linkage between stress and perpetrated partner abuse among males. Results indicated that while stress was found to be significantly related to the perpetration of current partner abuse by females, the magnitude of the correlations were half those found for males based on both versions of the stress scale.

The most definitive characterization of sex differences with respect to the relationship between stress and the current perpetration of partner abuse emerged from the results of the logistic regression analyses. Results clearly indicated that while stress is an important risk factor in current partner abuse perpetrated by males, it is not one for females.

As a significant main effect, increments in stress levels increased the likelihood for current perpetrated partner abuse by males by a factor of 1.696. Analyses conducted on the male data also revealed two significant interaction effects (i.e., stress by past perpetrated partner abuse and stress by age). In each of these interactions, under high stress conditions, past perpetrated partner abuse, and being less than 50 years of age were associated with an increased likelihood of perpetrating current partner abuse. Finally, a comparison of the log likelihood ratio of the main effects model, and the stress and alcohol models showed that the stress interaction model provided the best explanation of current perpetrated partner abuse by males.

The influence of past perpetrated partner abuse on partner abuse in future relationships likens itself to that of exposure to violence in the family of origin, in that it is demonstrates a reliance upon pre-existing and well established patterns of conflict resolution. When accompanied by high levels of stress, a partner abuse incident represents a form of negative reinforcement (Bandura, 1973) in which the immediate source of stress is reduced following the perpetration of abuse.

If the pattern of current perpetrated partner abuse is a reflection of what has transpired in previous relationships, then it is likely that the contingencies described above may have been operative in those earlier relationships. When these contingencies are repeated over time, the result is a well established pattern of behaviour that is extremely difficult to extinguish. Albeit dysfunctional, the combined effects of high stress and past partner abuse increases the likelihood of current perpetrated partner abuse among males.

Results of an experiment examining changes in the systolic blood pressures of college students suggest that aggression could be adaptive (Hokanson, 1970). Findings indicated that when subjects were given an opportunity to counteragress following a planned harassment-insult procedure, there was a dramatic decrease in blood pressure readings to prefrustrative levels compared to those subjects with no opportunity to aggress. Thus, perpetrating partner abuse may be for some males an adaptive response to frustration and stress. Once the partner abuse incident is ended, so is the stress and frustration that proceed it.

The interaction between stress and age provides some interesting insight into the dynamics underlying the perpetration of current partner abuse by males. An examination of this interaction effect indicates that for males reporting no stress, low rates of current perpetrated partner abuse can be found across all age groups. However, for males reporting stress, those in the age group 35-49 followed by those in the age group 18-34 appear to be the most vulnerable to perpetrate current partner abuse. Finally, males who experienced stress and who were 50 years old or more, reported the lowest rate of current perpetrated partner abuse.

The above findings are better understood when the items included in the stress scale are considered. For the most part, the stressors included in this study reflect the concerns of younger

people (i.e., being fired, starting a new job, school, moving, having a baby, etc.). Post hoc analyses also indicated that males between the ages of 18 to 34 years who experience high levels of stress were found to have low scores on ego strength ($r=-.28, p < .001$). In other words, the stressors included in this study appear to be ego threatening to young males. It should therefore not be surprising that the rates of current perpetrated partner abuse are highest among those who are under 50 years of age and who report high levels of stress.

Alcohol Risk Factors

A comparison of Wave 1 and Wave 2 results demonstrate changes in the relationship between perpetrated partner abuse and alcohol consumption and dependence for males and females. In Wave 1, multiple regression analyses demonstrated that alcohol dependence and the interaction between alcohol consumption and the neuroticism were significant risk factors in male perpetrated partner abuse. Analyses conducted on Wave 2 male data found that these relationships lost their salience.

For females, the results of Wave 1 multiple regression analyses demonstrated that the perpetration of partner abuse was predicted by the interaction between alcohol consumption and EPQP scores. The findings of Wave 2 also indicated that alcohol's effect on the perpetration of current partner abuse by females was dependent on the influence of other variables. However, this time current perpetrated partner abuse by females was predicted by the interaction between alcohol consumption and observing one's mother hitting one's father, past perpetrated partner abuse and neuroticism.

Comparisons of Wave 1 and Wave 2 correlation coefficients for the perpetration of partner abuse and alcohol measures also demonstrated a diminishment in effect in Wave 2 for both males

and females. Whereas alcohol consumption, MAST, SADD and the alcohol dependence index were all found to be significantly correlated with the prevalence of perpetrated partner abuse in Wave 1 for males, only MAST and SADD attained levels of significance in Wave 2 for current perpetrated partner abuse. For females, only SADD retained statistical significance in Wave 2 whereas previously both the MAST and SADD were found to be significantly correlated with the perpetration of partner abuse.

The diminished effect of the alcohol variables on perpetrated partner abuse can be explained in a number of ways. First, alcohol's diminished effect for males is better understood when the effects of attrition with respect to alcohol consumption are considered. Given that male dropouts consumed almost 30 percent more alcohol than male respondents who completed Wave 2, it is not surprising that lower levels of alcohol consumption are reflected in the relationship between alcohol and the perpetration of current partner abuse. It also reasonable to suggest that high alcohol consumers are likely among those who score high on alcohol dependence. If so, the loss of salience in the relationship between that alcohol dependence and partner abuse can be more easily discerned.

Although the instability of alcohol measures is less pronounced for females, it may also be affected somewhat by attrition. For example, Wave 2 female completers consumed more alcohol than female dropouts suggesting that low alcohol consuming dropouts could have attenuated the correlations.

Aside from the issue of attrition, the relative instability of some measures compared to others can be more easily explained for both males and females if one considers what it is that each alcohol instrument measures. For example, whereas the MAST assesses the social consequences

associated with drinking (i.e., marital, family and work problems), the SADD and ALC3R assess its physiological and psychological effects (i.e., hangovers, blackouts and inability to control drinking). The lower MAST scores reported in Wave 2 suggest that male partner abusers in Wave 2 experienced fewer social consequences associated with drinking compared to either physiological and psychological effects.

Finally, the lack of association between Wave 2 EPQL scores and alcohol measures for both males and females raises the possibility of yet another explanation for the diminished relationship between the perpetration of partner abuse and alcohol. The results of the correlations between Wave 2 EPQL scores and various alcohol measures suggests that alcohol's reduced effect on perpetrated partner abuse was not related to pressures associated with social conformity. Instead, differences in the relationship between perpetrated partner abuse and alcohol for both males and females may instead reflect actual changes in drinking behaviour and/or be reflective of differences found in the reporting of partner abuse.

An examination of the interactions between alcohol consumption and observing mother hitting father, past perpetrated partner abuse, and neuroticism index scores reveals a number of complex sets of associations. In all instances, females who did not observe their mothers hitting their fathers, did not perpetrate partner abuse in the past, and had low or moderate scores on the neuroticism index reported lower rates of current perpetrated partner abuse, independent of the amount of alcohol consumed. On the other hand, the highest rates of current perpetrated partner abuse were found among females who scored high on neuroticism and who consumed the highest amounts of alcohol. This pattern however, was not repeated for females who either observed their mothers hitting their fathers or perpetrated partner abuse in the past.

In both these latter two instances, highest rates of current perpetrated partner abuse were reported by females who either abstained from alcohol or consumed high amounts of alcohol. The lack of research on the relationship between alcohol and female perpetrated partner abuse makes comparisons with other studies difficult. Nevertheless, the interpretations of these results will again borrow upon the explanations advanced by Frieze and Schafer (1984).

According to these authors, considerable variability exists in the effects of alcohol on women. Differences in women with respect to amounts of body fat, phase of the menstrual cycle, and use of oral contraceptives make it difficult to predict the effect that drinking may have on them. Because of this, the rate and level of intoxication may vary from one woman to another given the same amount of alcohol. Frieze and Schafer (1984) also suggested that the effects of alcohol in women may also depend on their cognitive interpretation of the physical sensations experienced when drinking. If the sensation of warmth associated with vasodilation is interpreted as power (as is often the case for men), then increased aggression may result. On the other hand, if the interpretation is one of emotional warmth, the likelihood for violence is reduced. The unpredictability of alcohol's effect on women together with the cognitive interpretation of its effect help to explain why the influence of alcohol consumption on current perpetrated partner abuse by females with respect to past abuse and observing abuse by mothers is nonlinear.

It is also possible that for high alcohol consuming females the exposure to violence in the family of origin may also include a pattern of heavy drinking. Given individuals' genetic predisposition toward alcoholism (Brook & Brook, 1992), this hypothesis seems to have theoretical merit. While Brook and Brook (1992) noted that little is known about alcohol's genetic influences on family interactions, post hoc analyses examining the relationship between

"observing mother hitting father" and "mother's MAST scores" (assessed in Wave 1) revealed a correlation coefficient of .18 ($p < .001$) [6]. It appears that mothers who perpetrated partner abuse against their husbands also had drinking problems. This finding suggests that in addition to a possible genetic predisposition toward alcoholism, there may be the modelling of problem drinking as well as partner abuse by the daughter. It is possible that the intergenerational transmission of partner abuse is also somehow linked to the intergenerational transmission of problematic drinking.

Personality Risk Factors

The correlational and logistic regression analyses conducted on the personality measures with respect to the perpetration of partner abuse, have provided some of this study's most interesting findings. Logistic regression analyses conducted on the female data revealed that two of the personality measures found to be significant predictors of partner abuse by females in Wave 1 (i.e., EPQP and Neuroticism Index) were also found to be significant predictors of current perpetrated partner abuse in Wave 2. This pattern, was not repeated for males as no single personality measure was found to predict current perpetrated partner abuse by them in Wave 2.

Measures assessing personality were found to be more stable across Wave 1 and Wave 2 for both males and females than was the case for the alcohol measures. The stability found among personality measures is consistent with the argument that personality is biologically determined, and therefore remains relatively fixed across time (Buss & Plomin, 1984; Eysenck, 1965). Given this premise, the following two questions are then raised: 1) Why did the relationship between

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[6] Although statistically significant, the amount of variance explained by this correlation is only .03 and should be interpreted cautiously.

the prevalence of perpetrated partner abuse and the EPQL (for males), ego-strength (for females), self-esteem (for females) and the MacAndrew Scale (for males and females) diminish in Wave 2? 2) Why did the Neuroticism Index (for males) and the MacAndrew Scale (for females) lose their salience as predictors of current perpetrated partner abuse in Wave 2?

With respect to the diminished effect of the relationship between perpetrated partner abuse and the EPQL, it is possible that for males who perpetrated partner abuse, their tendency to dissimulate diminished in Wave 2 because they felt more at ease with the interview process and questions being asked. The lessening of the effect for the ego-strength and self-esteem scales among females may have more to with changes in the reporting pattern of partner abuse in Wave 2, and therefore be reflected in a weaker correlation. Finally, the loss of salience in the relationship between the prevalence of perpetrated partner abuse and MacAndrew Scale scores for both males and females may be associated with changes in the drinking patterns among males and females. Given that the MacAndrew Scale gauges an individual's predisposition toward alcohol and drug dependency (MacAndrew, 1965), the weakening of the alcohol measures reported earlier, may in part have influenced the strength of the association between the MacAndrew Scale and the perpetration of current partner abuse. Being that this is the first study to examine these relationships longitudinally, comparisons with other research cannot be made and as a result, limits one's ability to move beyond speculation.

The question regarding the loss of salience for the Neuroticism Index' for males and the MacAndrew Scale for females is a more difficult one to answer. As suggested previously, it is possible that changes in the response patterns for Wave 2 reports of partner abuse may have influenced the relationship between the above described personality variables. Equally likely, is

the possibility that changes made to the partner abuse models tested in Wave 2 have also influenced the strength of these personality measures. When Wave 1 and Wave 2 partner abuse models are compared, the following important differences are noted: 1) the Wave 2 model was based on longitudinal data whereas the Wave 1 model was not, 2) the Wave 2 model included all the variables tested in the Wave 1 model, as well as additional variables such as life stress events and exposure to violence in the family of origin, 3) the Wave 2 model included reported partner abuse from Wave 1 as one of its independent variables, and 4) Wave 1 and Wave 2 employed different statistical approaches to test the partner abuse models. When all these differences are considered, changes in the relative importance of some variables from Wave 1 to Wave 2 are better understood.

Finally, the inclusion of past perpetrated partner abuse in the Wave 2 partner abuse model may have cancelled out the effects of individual differences previously reported for males in Wave 1. This is supported by the significant correlation found between the neuroticism index and current perpetrated partner abuse ($\underline{r}$=.16, $p < .01$) derived from the Wave 2 data. Also recall that Wave 1 regression analyses found a link between the prevalence of perpetrated partner abuse and Neuroticism. It was also this variable (i.e., Wave 1 prevalence of partner abuse) that constituted "past perpetrated partner abuse" and was found to be a significant predictor of current perpetrated partner abuse by males in the Wave 2 analyses.

In light of this linkage, one might expect that the effects of neuroticism on the perpetration of current partner abuse by males may have been suppressed and that the removal of past perpetrated partner abuse from the logistic regression model would improve the explanatory power of personality. However, when this was done, the effects of personality still remained

nonsignificant suggesting that its salience is likely to have been influenced by the factors previously noted or others not yet considered (i.e., stress).

The relationship between personality and current perpetrated partner abuse in this study is more clearly delineated by female data. Results of the logistic regression analyses indicate that high scores on the EPQP and the Neuroticism Index were found to predict current perpetrated partner abuse. Furthermore, the odds of perpetrating current partner abuse increased by a factor of 1.333 for those with high EPQP scores and by a factor of 1.355 for those with high Neuroticism scores. As was described for males with high scores along this dimension (Eysenck, 1965), females who perpetrate current partner abuse also have a tendency to over-react and experience high levels of anxiety. But in addition to these characteristics, they also possess the ability to be toughminded, uncaring and antisocial (Eysenck, 1965).

An interesting feature of the EPQP, is that high scores along this personality dimension are typically found among males (Eysenck, 1965). Thus, the finding that high scores on the EPQP predict female perpetrated current partner abuse suggests that these women are characteristically more masculine. This premise is supported by Kalichman (1988) who reported that females found guilty of domestic murders scored low on the MMPI MF scale which indicates higher masculinity. In light of this study's findings of equivalent rates of current perpetrated partner abuse by males and females, investigations into possible sex differences in partner abuse might prove to be more beneficial if they were directed toward examining differences in hormone levels (i.e., testosterone), rather than differences in gender.

The personality characteristics just described are part of the multidimensional profile of the partner abuser described in family violence research. Clinical research conducted by Gondolf

(1985) found that male partner abusers experienced difficulties with impulse control, tolerance for stress and low self-esteem. General population (Bland and Orn, 1986) and clinically based research (Kalichman, 1988; Hale et al., 1988; Scheurger and Reigle, 1988) found that male and female partner abusers exhibited antisocial behaviours similar to those characterized by the EPQP (i.e., social nonconformity, chronic lying and trouble with the law). The challenge facing researchers is to determine the factors that predispose individuals to different types of abuser profiles.

The association between personality and the perpetration of current partner abuse by females, and what is possibly an indirect link to current partner abuse perpetrated by males supports the inclusion of personality measures in general population based research on partner abuse. The diminished ability of personality measures to directly predict current perpetrated partner abuse among males also suggests that various characteristics may be subsumed within each other. In order to overcome this problem, developing strategies that can isolate the effects of each remains an ongoing test for future research.

The Diathesis-Stress Model of Partner Abuse

The diathesis-stress model of partner abuse that guided this research hypothesized that constitutional risk factors which form an underlying vulnerability (the diathesis) would interact with environmental risk factors (the stress) to explain the perpetration of current partner abuse by males and females. Although the patterns of results differ for males and females, the findings emerging from the logistic regressions provided support for the application of the diathesis-stress model of partner abuse in this research. Whereas the life stress events interaction model

provided the best explanation of current perpetrated partner abuse by males, the alcohol interaction model did the same for females.

The limited explanatory power of the alcohol interaction model in predicting current perpetrated partner abuse by males may be related to the loss of heavy drinkers through attrition. It is possible that had these respondents participated in Wave 2 of this study, an increase in the explanatory power of the alcohol interaction model would have been realized. Developing strategies to overcome problems associated with attrition remains an ongoing challenge to social science researchers.

The limited explanatory power of the stress interaction model in predicting current perpetrated partner abuse by females may in part be related to the type of items included in the stress scale employed in this research. The inadequacy of stress measures has also been raised earlier in this paper and in other discussions on partner abuse (Marshall & Rose, 1990; Seltzer & Kalmuss, 1988). Sex differences in the measurement of stress has been central issues in these discussions.

Of the twelve stress items assessed in this study, only two were found to differ significantly with respect to the proportion of females reporting partner abuse. Males on the other hand, were found to significantly differ on five stress items. It is possible that the measures assessed in this study are more relevant to males than they are to females. As noted previously, most of the items included in the measure are in some way related to individuals' economic functioning (i.e., getting fired, starting work, retiring, someone moving into the household, having a baby). A stronger effect for both males and females might have been achieved had events that take into account the different dimensions of mens' and womens' lives been included in the scale (i.e.,

childrearing, division of household labour, balancing home and work, illness, vacations, legal problems).

The testing of the diathesis-stress model of partner abuse in this study has been very useful. It has pointed out the possible risk factors that differentiate male and female perpetrators of current partner abuse. The longitudinal component of the model provided some interesting insights into the issue of partner abuse. For example, the findings that both high scores on psychoticism and neuroticism predict current perpetrated partner abuse among females supports the stability of personality over time. The odds ratios provided by the stress and violence in the family of origin predictors in this study are higher than those reported by Seltzer and Kalmuss (1988).

Yet, this model like others, is not without its limitations. The real value of this model of partner abuse is that it serves as a building block to direct future research, and contributes to a better understanding of the circumstances surrounding the perpetration of partner abuse by males and females.

Implications

The results of this study have demonstrated that the problem of partner abuse is multifaceted and as a result, requires a complex strategy to assess its causes. The equivalent rates of current perpetrated partner abuse reported for males and females confirms the findings of other researchers (Marshall & Rose, 1990; Stets & Straus, 1989; Straus et al., 1986), and beseech those involved in policy, prevention, and treatment to pay attention to all those involved in abusive relationships.

Equally relevant to program and policy implementation is the finding that indicates that of the 26.3 percent of males and 39.1 percent of females who reported having "ever" perpetrated partner abuse in Wave 1, only 7.1 percent of males and 6.6 percent of females reported perpetrating partner abuse currently. Using the prevalence rates of partner abuse to suggest current risk for abuse not only exaggerates the problem of current partner abuse but may also lead to inappropriately designed interventions. By focusing on the smaller percentage of males and females involved in ongoing cases of partner abuse, the limited resources currently available can be directed to those who can really benefit.

As noted previously, the results indicating that three percent of this sample required some form of medical attention as a result of a partner abuse incident, suggest that the physical consequences of partner abuse are not limited to clinical samples alone. In the absence of research delineating the full extent of partner abuse's impact on the healthcare system or other agencies concerned with victims of partner abuse, we are left to speculate about how the physical and psychological consequences of partner abuse translate into costs associated with the use of these agencies as well as days lost on the job. In light of the economic challenges facing governments, the issue of partner abuse seems worthy of its consideration.

The finding that self defence was not a motivation for perpetrating current partner abuse for most men and women in this general population sample suggests that researchers need to rethink earlier explanations of spousal abuse or restrict them to the clinical populations in which they were based (Dobash & Dobash, 1979, Walker, 1979). While no one can dispute the plight of women who seek aid at battered women's shelters, this study challenges an assumption made by the shelter movement that battered women's experiences of partner abuse are strictly

unidirectional. The association between a past history of partner abuse (either through the exposure to violence in the family of origin and/or past perpetrated abuse) and current perpetrated partner abuse also suggests that the perpetration of partner abuse in the general population may simply be a form of conflict resolution established early in life and transferred to later relationships. Programs aimed at prevention and treatment need to consider the effects of past histories of abuse and make them important parts of intervention strategies.

The different profiles found for male and female perpetrators of current partner abuse have important implications for how partner abuse prevention and treatment programs should be designed and carried out. The differences found suggest that instituting broad based prevention and treatment programs for partner abusers may be ineffective in dealing with the unique problems of men and women. According to this study's findings, programs for males should focus on stress reduction and overcoming issues related to past histories of abuse, whereas programs for females should focus on past abuse issues as well, but also concentrate on problems associated with excessive drinking and learning more effective interpersonal skills. Because male and female partner abusers have adopted violence as a means to resolve their conflicts, the teaching of more constructive methods of communication and conflict resolution should be important components of all partner abuse programs. However, given that this has been the first study of its kind to longitudinally examine the profiles of partner abusers, the gender differences that have emerged should be considered tentatively, and should be subjected to replication.

The exposure to violence in the family of origin is an important predictor of current perpetrated partner abuse for both males and females, and because of this, those involved in program development need to also consider the children of abusive parents as targets of

intervention efforts. This research indicates that for current perpetrators of partner abuse, the modelling effects of partner abuse begin early in life. It is important that intervention efforts focus on identifying those at risk and intervene before partner abuse becomes a well established mode of conduct.

As suggested previously, this study's finding of recanted partner abuse reports challenge current methodologies that rely on single waves of data with no method of corroborating reports given. Recanted reports of partner abuse may be a factor associated with the high rates of case collapse (20%) experienced by prosecuting lawyers (Sinclair, 1993). The reliance upon uncorroborated data to direct program development and policy making is also of concern. Until accounts of perpetrated partner abuse can be validated through third party reports or official records, it is possible that efforts designed to alleviate the problem of partner abuse may be misdirected. The results of this study indicate that researchers' earlier concerns about the reliability of couple reports of partner abuse need to be extended to include the reliability of self reports of partner abuse as well.

Limitations and Suggestions for Future Research

This study has supported some research findings while refuting others. Much of the strength of this research lies in the methodology employed. In spite of the problems associated with attrition and recanted reports of partner abuse, this is the first study conducted in the general population to examine longitudinal data on the socio-demographic and individual risk factors involved in the perpetration of current partner abuse by males and females. Nevertheless, it should be remembered that additional measures were added to Wave 2, and as a consequence,

the models tested in each phase of this research cannot be directly compared. Thus, any conclusions about longitudinal trends should be considered cautiously.

In the past, the stability of partner abuse has been estimated by comparing rates of reported partner abuse in unrelated studies conducted at different points in time (eg., Straus and Gelles, 1986). This research, on the other hand, assessed the prevalence of perpetrated partner abuse by analyzing partner abuse data collected at two points in time. Yet in spite of this contribution to the family violence literature, a number of limitations (beyond the ones already discussed) have also been identified.

Earlier it was stated that self defence was not a motive of partner abuse perpetrated by males and females. Because of this, it was suggested that cases of perpetrated partner abuse occurring in the general population may differ from those that occur in clinical populations. While this appears to be a reasonable premise, the likelihood of differences existing between general population and clinical samples with respect to the predictors of perpetrated partner abuse have not been empirically evaluated. In order to investigate the link between perpetrated partner abuse reported in clinical and general populations, future research conducted on general population based samples might consider investigating whether incidents of partner abuse have ever been reported to police, social services or other agencies. Administering identical survey instruments to samples drawn from general and clinical populations would also provide an opportunity to investigate the possibility of common factors. Through these research strategies individuals at risk for partner abuse can be appropriately targeted by policy makers and other helpers.

Although the sampling strategy employed in this study enables generalizations to be made to the general population, there are a number of restrictions inherent in the approach used. In

an earlier paper (Sommer, 1990), it was noted that individuals who were institutionalized, transient, or did not hold an MHSC number were excluded from this study. Because of this, rates of perpetrated abuse within this segment of the population remain unknown, and any generalizations made must take this limitation into account.

Although not a limitation of the sampling technique, the sexual orientation of the respondents was not established by this research. Having conducted this research under the assumption that the sample was heterosexual, the findings reported in this study do not reflect rates of partner abuse perpetrated by gays and lesbians. In order to fully estimate the rates and patterns of perpetrated abuse occurring in the general population, these groups should be included and identified in the sample surveyed.

This study has restricted the testing of the CTS to six of its more severe conflict tactics items. As stated previously, had the full scale been employed, the prevalence and incidence rates of male and female perpetrated partner abuse would most likely have been higher. Because this study employed an abridged version of the CTS, the risk factors derived from the analyses conducted can only be generalized to other studies testing the same items. Because the full CTS was not tested in this research, it is not known whether the predictors of psychological or emotional abuse (included in the full version of the CTS) would be the same as those found here. In order to make this determination and assess the full extent of partner abuse, future research should consider including the entire Conflict Tactics measure.

The instability of a number of measures employed in this research provides yet another reason to be cautious when interpreting results and when making generalizations. In particular, the low Cronbach's Alpha coefficients obtained by the EPQP and the MacAndrew scales suggest

that respondents may not be responding consistently to the items contained in these measures. However, the test-retest coefficients computed for these measures (.60 or greater) suggests that respondents have responded consistently across time. What may be observed as low reliability based on obtained alpha levels may actually reflect the multidimensional nature of these particular measures.

Aside from the issue of generalizability of findings, there still exists a number of concerns left unaddressed by this research. For example, this study did not distinguish between the following subgroups: former drinkers and current abstainers (with respect to partner abuse), partner abusers who drank during a partner abuse incident and those who did not, partner abusers whose spouses required medical attention following a partner abuse incident and those whose spouses' did not and partner abusers who perpetrated partner abuser in self defence and those who did it for other reasons. These issues provide the basis for a number of testable hypotheses in future research.

The reliability of reports of perpetrated partner abuse has already been addressed. It was suggested that in order to overcome this problem, the use of corroborative data would be useful. In addition to the third party sources named before, collecting partner abuse data from the respondents' partner would be useful. The use of couple data within a longitudinal design would not only provide the means to assess the reliability of reports, but it would also provide the opportunity to examine "couple" risk factors for partner abuse. This latter issue has not yet been investigated.

Given the evidence supporting the salience of violence observed in the family of origin and past perpetrated partner abuse on the perpetration of current partner abuse, it might be useful to

broaden the age categories to be surveyed. By including teenagers at one end and elders at the other, the full spectrum of partner abuse (ranging from courtship violence to elder abuse) can be examined and its developmental sequence can be evaluated.

As noted previously, the testing of the diathesis-stress model in this research should serve as a model to guide future studies. Although not all the hypothesized relationships were supported when testing this model, it did provide the opportunity to evaluate both its strengths and limitations and to make recommendations for its improvement. Research of the future might consider incorporating the suggestions made in the previous section and replicate its testing in other general population and clinical samples.

Conclusions

The pattern of perpetrated partner abuse and its associated risk factors were assessed in this study through the testing of longitudinal data. The major contribution of this research to the literature on family violence rests in its demonstration that the experience of perpetrated partner abuse at a given point in time as well as across time is different for males and females. While some of this study's findings were expected, others were not. The discovery that many respondents recanted previous reports of perpetrated partner abuse is an example of the latter and affirms the need to employ corroborative measures in future partner abuse investigations.

At the same time, this study's findings confirm what has been reported by other writers, that the problem of partner abuse is pervasive and touches all segments of society. In light of the equivalent incidence rates reported for perpetrated partner abuse by males and females, it is

recommended that the problem of family violence be viewed as stemming from the maladaptive interactions of family members rather than the dysfunctional conduct of an individual.

The intergenerational transmission of perpetrated partner abuse reported in this study also confirms what has been suggested by many and reported by few. The differential profiles of partner abusers attest to the need for individualized programs not only to meet the distinct needs of men and women, but also to address the diversity among people in general.

The challenge that remains is to find ways of preventing partner abuse before it begins. Early identification of individuals at risk for partner abuse may be critical to providing effective intervention. Once accomplished, the means to break the cycle of violence could be in hand.

Although this study has uncovered a number of issues not reported previously by other family violence researchers, others still remain to be disclosed. As investigations into partner abuse increase, the complexity of this phenomenon continues to unfold. The findings reported in this study at best provide but one piece to an ever growing puzzle.

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Appendix A

Letter of Introduction

:E UNIVERSITY OF MANITOBA

WINNIPEG HEALTH AND DRINKING SURVEY
FACULTY OF HUMAN ECOLOGY
Department of Family Studies

Room 313D
Human Ecology Building
Winnipeg, Manitoba
Canada R3T 2N2

(204) 474-9430

Dear

The University of Manitoba, with the support of Health and Welfare Canada, is conducting a study on living patterns and alcohol use by people in Manitoba. Your name has been randomly chosen from all of the residents of the city.

In a few days a caller from the "Winnipeg Health & Drinking Survey" will telephone you, will explain the project in more detail, and will request to interview you. We hope that you will agree to participate. If you decide to participate, your answers are kept confidential, and the results are only reported in statistical form.

Alcohol use is an important factor which affects health in Canada. The federal government has made a large investment in Manitoba for this project, in an effort to get an accurate view of the attitudes and behavior of Manitobans towards drinking. In order to get this accurate view we have to question a broadly representative sample of the population. For the project to be successful it is important that a high percentage of the people we contact agree to participate. It doesn't matter whether you drink or don't drink your participation is important to provide us with the most accurate picture possible. If you have any questions about the research please give us a call.

Sincerely,

David Patton, M.A.
Project Manager
Winnipeg Health & Drinking Survey
Faculty of Human Ecology
474-9430

Gordon Barnes, Ph.D.
Professor
Department of Family Studies
Faculty of Human Ecology
474-8050

Appendix B

Independent Measures

Part 1: Demographic Information

Please describe the following characteristics about yourself.

1. When were you born?
   - day ..... ____
   - month ..... ____
   - year ..... 19__

2. What is your gender?
   - Male ..... [ ]
   - Female ..... [ ]

3. What is your marital status?
   - Single ..... [ ]
   - Married ..... [ ]
   - Living with partner ..... [ ]
   - Widowed ..... [ ]
   - Separated ..... [ ]
   - Divorced ..... [ ]
   - Married, but previously divorce ..... [ ]

4. How many times have you been divorced?
   - number of times ..... ____

5. Has there been any change in your marital status in the past two years?
   - Yes ..... [ ]
   - No ..... [ ]

6. What has been the change to?
   - Married ..... [ ]
   - Remarried ..... [ ]
   - Separated ..... [ ]
   - Divorced ..... [ ]
   - Widowed ..... [ ]

7. What is the highest grade you attended or degree/diploma you received?
   - some grade school ..... [ ]
   - completed grade school ..... [ ]
   - some high school ..... [ ]
   - completed high school ..... [ ]
   - some college or technical diploma ..... [ ]
   - university graduate ..... [ ]
   - some post graduate work ..... [ ]
   - master's degree or doctorate ..... [ ]

8. What is your current employment status?
   - working full time . . . . . [ ]
   - working part time . . . . . [ ]
   - unemployed, but looking for work . . . . . [ ]
   - full time student . . . . . [ ]
   - part time student . . . . . [ ]
   - retired . . . . . [ ]
   - other . . . . . [ ]

9. In your most recent job, what was/is your title?

   _____

10. What is your spouse/partner's employment status?
   - working full time . . . . . [ ]
   - working part time . . . . . [ ]
   - unemployed, but looking for work . . . . . [ ]
   - full time student . . . . . [ ]
   - part time student . . . . . [ ]
   - retired . . . . . [ ]
   - other . . . . . [ ]
   - do not have a spouse/partner . . . . . [ ]

11. So that we can compare this study with the whole population by broad income groups, indicate your income for the past year (that is, total income before taxes, including wages, welfare income, farm income, interest, dividends, etc.) of all members of the family presently residing in this household by circling one of these income categories.
   - Under $10,000 . . . . . [ ]
   - $10,000-$20,0000 . . . . . [ ]
   - $20,000-$35,0000 . . . . . [ ]
   - $35,000_$50,0000 . . . . . [ ]
   - Over $50,000 . . . . . [ ]
   - Don't know . . . . . [ ]

12. What is your religion?
   - Catholic . . . . . [ ]
   - Protestant . . . . . [ ]
   - Jewish . . . . . [ ]
   - Other . . . . . [ ]
   - No religious preference . . . . . [ ]

13. What is your racial background?
   - White . . . . . [ ]
   - Black . . . . . [ ]
   - Asian . . . . . [ ]
   - Native . . . . . [ ]
   - Other . . . . . [ ]

14. To which ethnic or cultural group do you feel you belong?

_____

Screening for alcohol consumption:

1. Did you yourself drink any alcohol in the last 12 months?
   [Any wine, beer or liquor - even a taste]
   Yes . . . . . [ ]
   No . . . . . [ ]

If NO,

2. Was there <u>ever</u> a time when you drank wine, beer or liquor or anything containing alcohol even once?
   Yes . . . . . [ ]
   No . . . . . [ ]
   [SKIP TO Q. 68]

Part 2: Volume Variability Index (VVI)

THE NEXT QUESTIONS ASK ABOUT YOUR USE OF BEER, WINE AND LIQUOR OVER THE PAST YEAR.

1. First of all, how often do you usually have **wine?**
   - Three or more times a day . . . . . [ ]
   - Two times a day . . . . . [ ]
   - Once a day . . . . . [ ]
   - Nearly everyday . . . . . [ ]
   - Three or four times a week . . . . . [ ]
   - Once or twice a week . . . . . [ ]
   - One to three times a month . . . . . [ ]
   - Less than once a month but at least once a year . . . . . [ ]
   - Less than once a year . . . . . [ ]
   - I have **never** had wine . . . . . [ ]

2. Now, think of all the times you have had **wine** recently. When you drink wine, how many glasses do you usually have?
   - One or two glasses . . . . . [ ]
   - Three or four glasses . . . . . [ ]
   - Five or six glasses . . . . . [ ]
   - More than six glasses . . . . . [ ]

3. About how many times during the past 12 months did you have **eight or more glasses** of wine at a sitting?
   - Nearly everyday . . . . . [ ]
   - One to three times a week . . . . . [ ]
   - One to three times a month . . . . . [ ]
   - Less than once a month . . . . . [ ]
   - Never . . . . . [ ]

4. How often do you **usually** have beer?
   - Three or more times a day . . . . . [ ]
   - Two times a day . . . . . [ ]
   - Once a day . . . . . [ ]
   - Nearly everyday . . . . . [ ]
   - Three or four times a week . . . . . [ ]
   - Once or twice a week . . . . . [ ]
   - One to three times a month . . . . . [ ]
   - Less than once a month but at least once a year . . . . . [ ]
   - Less than once a year . . . . . [ ]
   - I have **never** had beer . . . . . [ ]

5. Now, think of all the times you have had beer recently. When you drink beer, how many glasses do you usually have?
   - One or two glasses . . . . . [ ]
   - Three or four glasses . . . . . [ ]
   - Five or six glasses . . . . . [ ]
   - More than six glasses . . . . . [ ]

6. About how many times during the past 12 months did you have eight or more glasses of beer at a sitting?
   - Nearly everyday . . . . . [ ]
   - One to three times a week . . . . . [ ]
   - One to three times a month . . . . . [ ]
   - Less than once a month . . . . . [ ]
   - Never . . . . . [ ]

7. How often do you **usually** have drinks containing liquor (such as Martinis, Manhattans, or straight drinks)?
   - Three or more times a day . . . . . [ ]
   - Two times a day . . . . . [ ]
   - Once a day . . . . . [ ]
   - Nearly everyday . . . . . [ ]
   - Three or four times a week . . . . . [ ]
   - Once or twice a week . . . . . [ ]
   - One to three times a month . . . . . [ ]
   - Less than once a month but at least once a year . . . . . [ ]
   - Less than once a year . . . . . [ ]
   - I have **never** had liquor . . . . . [ ]

8. Now, think of all the times you have had **liquor** recently. When you drink liquor, how many drinks do you usually have?
   - One or two drinks . . . . . [ ]
   - Three or four drinks . . . . . [ ]
   - Five or six drinks . . . . . [ ]
   - More than six drinks . . . . . [ ]

9. About how many times during the past 12 months did you have **eight or more drinks** of liquor at a sitting?
   - Nearly everyday . . . . . [ ]
   - One to three times a week . . . . . [ ]
   - One to three times a month . . . . . [ ]
   - Less than once a month . . . . . [ ]
   - Never . . . . . [ ]

Part 3: Michigan Alcoholism Screening Test (Short Form) (SMAST)

HERE ARE SOME MORE QUESTIONS ABOUT EXPERIENCES YOU MAY HAVE HAD BECAUSE OF YOUR DRINKING. INDICATE YOUR RESPONSE TO EACH STATEMENT BY A "YES" OR "NO".

YES [ ]
NO [ ]

1. Do you feel you are a normal drinker? (By normal we mean you drink less than or as much as most other people).

2. Have you ever gotten into trouble at work because of drinking?

3. Have you had delirium tremens (DT's), severe shaking, heard voices, or seen things that weren't there after heavy drinking?

4. Do your friends or relatives think you are a normal drinker?

5. Have you ever attended a meeting of Alcoholics Anonymous?

6. Have you ever lost a boy/girl friend because of your drinking?

7. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?

8. Have you ever gone to anyone for help about your drinking?

9. Have you ever been in a hospital because of your drinking?

10. Does your wife, husband, a parent or other near relative ever worry or complain about your drinking?

11. Do you ever feel guilty about your drinking?

12. Are you able to stop drinking when you want to?

13. Has your drinking ever created problems between you and your wife, husband, a parent, or other near relative?

Part 4: Alcohol Dependence Data Schedule (SADD)

THE FOLLOWING QUESTIONS COVER A WIDE RANGE OF TOPICS TO DO WITH YOUR CURRENT DRINKING PATTERNS. USE THE RESPONSE CARDS TO INDICATE YOUR ANSWER TO THE QUESTION.

NEVER	[ ]
SOMETIMES	[ ]
OFTEN	[ ]
NEARLY ALWAYS	[ ]

1. Do you find difficulty in getting the thought of drink out of your mind?
2. Is getting drunk more important than your next meal?
3. Do you plan your day around when and where you can drink?
4. Do you drink in the morning, afternoon and evening (i.e., during the same day)?
5. Do you drink for the effect of alcohol without caring what the drink is?
6. Do you drink as much as you want irrespective of what you are doing the next day?
7. Given that many problems are caused by alcohol, do you still drink too much?
8. Do you know that you won't be able to stop drinking once you start?
9. Do you try to control your drinking by giving it up completely for days or weeks at a time?
10. The morning after a heavy drinking session, do you need your first to get yourself going?
11. The morning after a heavy drinking session, do you wake up with a definite shakiness of your hands?
12. After a heavy drinking session, do you wake up and retch or vomit?
13. The morning after a heavy drinking session, do you go out of your way to avoid people?
14. After a heavy drinking session, do you see frightening that you later realize were imaginary?
15. Do you go drinking and the next day find you have forgotten what happened the night before?

Part 5: Diagnostic Interview Schedule (DIS III R)

THE FOLLOWING QUESTIONS ASK ABOUT YOUR DRINKING HABITS. PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOU.

People differ in their reactions to alcohol. So it is important that we ask you first about your experience with wine, beer or other alcoholic drinks, and then about the problems some people have with alcohol.

1. How old were you when you first had any wine, beer, or liquor at least once a month (for 6 months or more)?
   year . . . . . 19____
   month . . . . . _____

2. What is the largest number of drinks that you've ever had in one day?
   number of drinks . . . . . _____

3. When did you first have as much as 20 drinks in one day?
   year . . . . . 19____
   month . . . . . _____

4. Has there ever been a period of two weeks when everyday you were drinking at least 7 drinks --- that could include beers, glasses of wine, or drinks of any kind?
   YES . . . . . [ ]
   NO . . . . . [ ]

5. When did you first have a period of two weeks when you drank at least 7 drinks everyday?
   year . . . . . 19____
   month . . . . . _____

6. Has there ever been a couple of months or more when **at least one evening a week** you drank 7 or more drinks or bottles of beer or glasses of wine?
   YES . . . . . [ ]
   NO . . . . . [ ]

7. When was the first time that at least one evening a week you drank 7 or more drinks?
   year . . . . . 19____
   month . . . . . ____

NEVER [ ]
SOMETIMES [ ]
OFTEN [ ]
NEARLY ALWAYS [ ]

8. Have you ever gone on binges or benders where you kept drinking for a couple of days or more without sobering up?

9. Did you neglect some of your usual responsibilities then?

10. Did you do that several times or go on a binge that lasted a month or more?

11. Did you ever get tolerant to alcohol, that is, **you needed to drink a lot more** in order to get an effect, or found that you could no longer get high on the amount you used to drink?

12. After you had been drinking for a while, did you find that you **began to be able to drink a lot more** before you would get **drunk** (before your speech got thick or you were unsteady on your feet)?

13. Did your ability to drink more without feeling it last for a month or more?

14. Have there been many days when you drank **much more than you expected to when you began,** or have you often continued drinking for more days in a row than you intended to?

15. Have you more than once **wanted to stop drinking but couldn't?**

16. Some people **try to control** their drinking by making rules, like not drinking before 5 o'clock or never drinking alone. Have you ever made rules like that for yourself?

17. Did you make these rules because you were having trouble limiting the amount you were drinking?

18. Did you try to follow those rules for a month or longer or make rules for yourself several times?

19. Has there ever been a period when you spent so much time drinking alcohol or getting over its effects that you had little time for anything else?

20. Did the period when you spent a lot of time drinking last a month or longer?

21. Have you ever **given up or greatly reduced** important activities in order to drink --- like sports, work, or associating with friends or relatives?

22. Did you give up or cut down on activities to drink for a month or more?

23. Has your drinking or being hung over often kept you from working or taking care of children?

24. Have you often worked or taken care of children at a time when you had drunk enough alcohol to make your speech thick or to make you unsteady on your feet?

25. Have you ever had **fits or seizures** after stopping or cutting down on your drinking?

26. Did you ever **need a drink** just after you had gotten up (that is, before breakfast)?

27. Did you take a drink right after you got up to keep from having a hangover or the shakes?

28. Have you ever taken a drink to keep from having withdrawal symptoms or to make them go away?

Part 6: Eysenck Personality Questionnaire -Revised (EPQ-R)

PLEASE ANSWER EACH QUESTION BY PUTTING A TICK IN THE BOX UNDER THE "YES" OR THE "NO" FOLLOWING THE QUESTION. WORK QUICKLY AND DO NOT THINK TOO LONG ABOUT THE EXACT MEANING OF THE QUESTIONS.

	YES	NO
	[ ]	[ ]

1. Do you have many different hobbies?
2. Do you stop to think things over before doing anything?
3. Does your mood often go up and down?
4. Have you ever taken praise for something you knew someone else had really done?
5. Do you take much notice of what people think?
6. Are you a talkative person?
7. Would being in debt worry you?
8. Do you ever feel "just miserable" for no reason?
9. Do you give money to charities?
10. Were you ever greedy by helping yourself to more than your share of anything?
11. Are you rather lively?
12. Would it upset you a lot to see a child or animal suffer?
13. Do you often worry about things you should not have done or said?
14. Do you dislike people who don't know how to behave themselves?
15. If you say you will do something do you always keep your promise no matter how inconvenient it might be?
16. Can you usually let yourself go and enjoy yourself at a lively party?

17. Are you an irritable person?

18. Should people always respect the law?

19. Have you ever blamed someone for doing something you knew was really your fault?

20. Do you enjoy meeting new people?

21. Are good manners very important?

22. Are your feelings easily hurt?

23. Are **all** your habits good and desirable ones?

24. Do you tend to keep in the background on social occasions?

25. Would you take drugs which may have strange or dangerous effects?

26. Do you often feel "fed-up"?

27. Have you ever taken anything (even a pin or button) that belonged to someone else?

28. Do you like going out a lot?

29. Do you prefer to go your own way rather than act by the rules?

30. Do you enjoy hurting the people you love?

31. Are you often troubled by feelings of guilt?

32. Do you sometimes talk about things you know nothing about?

33. Do you prefer reading to meeting people?

34. Do you have enemies who want to harm you?

35. Would you call yourself a nervous person?

36. Do you have many friends?

37. Do you enjoy practical jokes that can sometimes really hurt people?

38. Are you a worrier?

39. As a child did you do as you were told immediately and without grumbling?

40. Would you call yourself happy-go-lucky?

41. Do good manners and cleanliness matter much to you?

42. Have you often gone against your parents' wishes?

43. Do you worry about awful things that might happen?

44. Have you ever broken or lost something belonging to someone else?

45. Do you usually take the initiative in making new friends?

46. Would you call yourself tense or "highly-strung"?

47. Are you mostly quiet when you are with other people?

48. Do you think marriage is old fashioned and should be done away with?

49. Do you sometimes boast a little?

50. Are you more easy-going about right and wrong than most people?

51. Can you easily get some life into a rather dull party?

52. Do you worry about your health?

53. Have you ever said anything bad or nasty about anyone?

54. Do you enjoy co-operating with others?

55. Do you like telling jokes or funny stories to your friends?

56. Do most things taste the same to you?

57. As a child were you ever cheeky to your parents?

58. Do you like mixing with people?

59. Does it worry if you know there are mistakes in your work?

60. Do you suffer from sleeplessness?

61. Have people said you sometimes act too rashly?

62. Do you always wash before a meal?

63. Do you nearly always have a "ready answer" when people talk to you?

64. Do you to arrive at appointments in plenty of time?

65. Have you often felt listless and tired for no reason?

66. Have you ever cheated at a game?

67. Do you like doing things in which you have to act quickly?

68. Is (or was) your mother a good woman?

69. Do you often make decisions on the spur of the moment?

70. Do you often feel life is very dull?

71. Have you ever taken advantage of someone?

72. Do you often take on more activities than you have time for?

73. Are there several people who keep trying to avoid you?

74. Do you worry a lot about your looks?

75. Do you think people spend too much time safeguarding their future with savings and insurance?

76. Have you ever wished that you were dead?

77. Would you dodge paying taxes if you were sure you could never be found out?

78. Can you get a party going?

79. Do you try not to be rude to people?

80. Do you worry too long after an embarrassing experience?

81. Do you generally "look before you leap'?

82. Have you ever insisted on having your own way?

83. Do you suffer from "nerves"?

84. Do you often feel lonely?

85. Can you on the whole trust people to tell the truth?

86. Do you always practice what you preach?

87. Are you easily hurt when people find fault with you or the work you do?

88. Is it better to follow society's rules than go your own way?

89. Have you ever been late for an appointment or work?

90. Do like plenty of bustle and excitement around you?

91. Would you like other people to be afraid of you?

92. Are sometimes bubbling over with energy and sometimes very sluggish?

93. Do you sometimes put off for tomorrow what you ought to do today?

94. Do other people think of you as being very lively?

95. Do people tell you a lot of lies?

96. Do you believe one has special duties to one's family?

97. Are you touchy about some things?

98. Are you always willing to admit it when you have made a mistake?

99. Would you feel very sorry for an animal caught in a trap?

100. When your temper rises, do you find it difficult to control?

Part 7: MacAndrew Alcoholism Scale (MAC)

THE FOLLOWING SECTION CONTAINS A NUMBER OF STATEMENTS. READ EACH STATEMENT AND DECIDE WHETHER OR NOT IT DESCRIBES YOU. IF YOU AGREE WITH THE STATEMENT AND DECIDES IT DESCRIBES YOU, CHECK THE BOX UNDER THE "TRUE" COLUMN. IF YOU DISAGREE WITH THE STATEMENT AND FEEL IT DOES NOT DESCRIBE YOU, CHECK THE BOX UNDER THE "FALSE" COLUMN. PLEASE TRY TO ANSWER EVERY STATEMENT. REMEMBER TO GIVE YOUR OPINION OF YOURSELF.

	True	False
	[ ]	[ ]

1. I have a cough most of the time?
2. I pray several times a week?
3. Christ performed miracles such as changing water into wine.
4. Everything is turning out just as the prophets of the Bible said it would.
5. I do many things which I regret afterwards (I regret things more or more often than others seem to).
6. I am embarrassed by dirty stories.
7. I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
8. I like to cook.
9. I like to read newspaper articles on crime.
10. Evil spirits possess me at times.
11. My soul sometimes leaves my body.
12. As a youngster I was suspended from school one or more times for cutting up.
13. I am a good mixer.
14. I have not lived the right kind of life.

15. I think I would the kind of work a forest ranger does.

16. I enjoy a race or a game better when I bet on it.

17. In school I was sometimes sent to the principal for cutting up.

18. I know who is responsible for most of my troubles.

19. The sight of blood neither frightens me nor makes me sick.

20. I have had periods in which I have carried on activities without knowing later what I was doing.

21. I frequently notice my hands shake when I am trying to do something.

22. My parents have often objected to the kind of people I go around with.

23. I have been quite independent and free from family rule.

24. I have few or no pains.

25. I sweat very easily even on cool days.

26. If I were a reporter I would very much like to report on sporting news.

27. I seem to make friends as quickly as others.

28. I deserve severe punishment for my sins.

29. I played hooky from schools quite often as a youngster.

30. I have at times had to be rough with people who were rude or annoying.

31. I was fond of excitement when I was young (or in my childhood).

32. I enjoy gambling for small stakes.

33. If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than give them away.

34. While in trains, buses, etc., I often talk to strangers.

35. I readily become one hundred percent sold on a good idea.

36. I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them.

37. I would like to wear expensive clothes.

38. The one to whom I was most attached and whom I admired the most as a child was a woman (mother, sister, aunt, or other women).

39. I am certainly lacking in self-confidence.

40. My table manners are not quite as good at home as when I am out in company.

41. I have never vomited blood or coughed up blood.

42. I used to keep a diary.

43. I liked school.

44. I am worried about sex matters.

45. I have felt that strangers were looking at me critically.

46. I have never been in trouble with the law.

47. Many of my dreams are about sex matters.

48. I cannot keep my mind on one thing.

49. I have more trouble concentrating than others seem to.

50. I do not like to see women smoke.

51. Police are usually honest.

Part 8: Rosenberg Self Esteem Scale

PLEASE READ THE FOLLOWING STATEMENTS AND INDICATE HOW MUCH YOU AGREE OR DISAGREE WITH EACH STATEMENT BY PLACING A TICK IN THE APPROPRIATE BOX.

STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
[ ]	[ ]	[ ]	[ ]

1. I feel I am a person of worth, at least on equal plane with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

Part 9: Trait Anxiety Scale

A NUMBER OF STATEMENTS WHICH PEOPLE HAVE USED TO DESCRIBE THEMSELVES ARE GIVEN BELOW. READ EACH STATEMENT AND CIRCLE THE NUMBER OF THE RESPONSE WHICH DESCRIBES HOW YOU GENERALLY FEEL. THERE ARE NO RIGHT OR WRONG ANSWERS. DO NOT SPEND TOO MUCH TIME ON ANY ONE STATEMENT WHICH SEEMS TO DESCRIBE HOW YOU GENERALLY FEEL.

Almost Never	Sometimes	Often	Almost Always
[ ]	[ ]	[ ]	[ ]

1. I feel pleasant.
2. I tire quickly.
3. I feel like crying.
4. I wish I could be as happy as others seem to be.
5. I am losing out because I can't my mind soon enough.
6. I feel rested.
7. I am "calm, cool and collected".
8. I feel that difficulties are piling up so that I cannot overcome them.
9. I worry too much over something that doesn't really matter.
10. I am happy.
11. I am inclined to take things hard.
12. I lack self-confidence.
13. I feel secure.
14. I try to avoid facing a crisis or difficulty.
15. I feel blue.
16. I am content.
17. Some unimportant thoughts run through my head and bother me.
18. I take disappointments so keenly that I can't put them out of my mind.
19. I am a steady person.
20. I get a state of tension or turmoil as I think over my recent concerns and interests.

Part 10: Barron Ego-Strength Scale

THE FOLLOWING SECTION CONTAINS A SERIES OF STATEMENTS. READ EACH STATEMENT AND DECIDE WHETHER OR NOT IT DESCRIBES YOU. IF YOU AGREE WITH THE STATEMENT AND DECIDE THAT IT DESCRIBES YOU, CHECK THE BOX UNDER THE "TRUE" COLUMN. IF YOU DISAGREE WITH THE STATEMENT AND FEEL IT DOES NOT DESCRIBE YOU, CHECK THE BOX UNDER THE "FALSE" COLUMN. PLEASE TRY TO ANSWER EVERY STATEMENT. REMEMBER TO GIVE YOUR OWN OPINION OF YOURSELF.

True	False
[ ]	[ ]

1. During the past few years I have been well most of the time.
2. I am in just as good physical health as most of my friends.
3. I have never had a fainting spell.
4. I feel weak all over most of the time.
5. My hands have not become clumsy or awkward.
6. I have a cough most of the time.
7. I have a good appetite.
8. I have diarrhoea once a month or more.
9. At times I hear so well it bothers me.
10. I seldom worry about my health.
11. I feel sympathetic toward people who hang onto their griefs and troubles.
12. I brood a great deal.
13. I frequently find myself worrying about something.
14. I have met problems so full of possibilities that I have been unable to make up my mind about them.
15. I get mad easily and then get over it soon.

16. Whenever I leave home, I do not worry about whether the door is locked and the windows are closed.

17. Sometimes some unimportant thought will run through my mind and bother me for days.

18. Often I cross the street in order not to meet someone I see.

19. I dream frequently about things best kept to myself.

20. I go to church almost every week.

21. I pray several times a week.

22. Christ performed miracles such as changing water into wine.

23. Everything is turning out just like the prophets in the Bible said it would.

24. I have had some very unusual religious experiences.

25. I believe my sins are unpardonable.

26. I would certainly enjoy beating a crook at his own game.

27. When I get bored I like to stir up some excitement.

28. I can be friendly with people who do things which I consider wrong.

29. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.

30. I like to flirt.

31. I am attracted by members of the opposite sex.

32. I never attend a sexy show if I can avoid it.

33. I like to talk about sex.

34. Sometimes I enjoy hurting people I love.

35. I have had very peculiar and strange experiences.

36. I have strange and peculiar thoughts.

37. When I am with people, I am bothered by hearing very queer things.

38. At times I have fits of laughing and crying that I cannot control.

39. I have no difficulty in keeping my balance in walking.

40. Parts of my body often have feelings like burning, tingling, crawling or like "going to sleep".

41. My skin seems to be unusually sensitive to touch.

42. In my home we have always had the ordinary necessities (such as enough food, clothing, etc.).

43. I am easily downed in an argument.

44. I find it hard to keep my mind on a task or a job.

45. My way of doing things is apt to be misunderstood by others.

46. I sometimes feel that I am about to go to pieces.

47. I feel tired a good deal of the time.

48. If I were an artist I would like to draw flowers.

49. If I were an artist I would like to draw children.

50. I like collecting flowers or growing houseplants.

51. I am made nervous by certain animals.

52. Dirt frightens or disgusts me.

53. I am afraid of finding myself in a closet or in a small closed space.

54. I have often been frightened in the middle of the night.

55. I like science.

56. I very much like horseback riding.

57. The man who had most to do with me when I was a child (such as my father, stepfather etc.) was very strict with me.

58. One or more members of my family is very nervous.

59. My sleep is fitful and disturbed.

60. When someone says ignorant things about something I know about, I try to set him/her right.

61. I feel unable to tell anyone all about myself.

62. My plans have frequently seemed so full of difficulties that I have had to give them up.

63. I am not afraid of fire.

64. Policemen are usually honest.

Part 11: Stress

1. Have you lost a job or been unemployed in the past two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

If yes,

2. Exactly, how long ago?
   number of years ago . . . . . ____
   number of months ago . . . . . ____

3. Has your spouse/partner started working within the past two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

4. Has your spouse/partner lost a job within the last two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

5. Have you had any financial problems in the past two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

6. Have you quit or retired from work in the last two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

7. Have you stopped going to school in the past two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

8. Have you moved in the past two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

9. Has someone moved in with you during the past two years?
   Yes . . . . . [ ]
   No . . . . . [ ]

10. Do you have any children?
    Yes . . . . . [ ]
    No . . . . . [ ]

11. Have you had a baby in the past two years?
    Yes . . . . . [ ]
    No . . . . . [ ]

12. Has someone moved out of your home in the past two years?
    Yes . . . . . [ ]
    No . . . . . [ ]

Part 12: Family Background

1. Are you currently married or living with your partner?
   Yes . . . . . [ ]
   No . . . . . [ ]

If yes,

2. How old is your partner?
   number of years . . . . . _____

3. How old were you when you married or started living with your partner?
   number of years . . . . . _____

4. How long have you been married to (or living) with your partner?
   number of years . . . . . _____

5. Did you ever see your mother hit your father?
   Yes . . . . . [ ]
   No . . . . . [ ]

6. Did you ever see your father hit your mother?
   Yes . . . . . [ ]
   No . . . . . [ ]

Appendix C

Dependent Measure

Partner Abuse

WE ARE INTERESTED IN HOW COUPLES DEAL WITH CONFLICT IN RELATIONSHIPS. THIS INFORMATION IS CONFIDENTIAL AND WE WOULD LIKE TO REMIND YOU THAT YOUR RESPONSES WILL BE REPORTED IN STATISTICAL FORM ONLY.

THE FOLLOWING QUESTIONS RELATE SPECIFICALLY TO HOW YOU AND YOUR **CURRENT OR MOST RECENT PARTNER** RESOLVE CONFLICTS. PLEASE PLACE A TICK BESIDE THE ANSWER THAT BEST DESCRIBES YOU.

1. I **threw or smashed** something (but not at spouse/partner).
   - Never . . . . . [ ]
   - Once a year, or less . . . . . [ ]
   - Two or three times a year . . . . . [ ]
   - Often, but less than once a month . . . . . [ ]
   - About once a month . . . . . [ ]
   - More than once a month . . . . . [ ]

2. When was the last time this happened?
   - months ago . . . . . ____
   - years ago . . . . . ____

3. How many times did this happen in the past year?
   - number of times . . . . . ____

4. During any of these episodes were you drinking alcohol?
   - Yes . . . . . [ ]
   - No . . . . . [ ]

If yes,

5. How many times were you drinking?
   - number of times . . . . . ____

6. In these episodes, were your actions in self-defense?
   - Yes . . . . . [ ]
   - No . . . . . [ ]

If yes,

7. How many times were your actions in self-defence?
   - number of times . . . . . ____

8. I **threatened** to hit or throw something at my spouse/partner.
   - Never . . . . . [ ]
   - Once a year, or less . . . . . [ ]
   - Two or three times a year . . . . . [ ]
   - Often, but less than once a month . . . . . [ ]
   - About once a month . . . . . [ ]
   - More than once a month . . . . . [ ]

9. When was the last time this happened?
   - months ago . . . . . ____
   - years ago . . . . . ____

10. How many times did this happen in the past year?
    - number of times . . . . . ____

11. During any of these episodes were you drinking alcohol?
    - Yes . . . . . [ ]
    - No . . . . . [ ]

If yes,

12. How many times were you drinking?
    - number of times . . . . . ____

13. In these episodes, were your actions ever in self-defense?
    - Yes . . . . . [ ]
    - No . . . . . [ ]

If yes,

14. How many times were your actions in self-defence?
    - number of times . . . . . ____

15. I **threw** something at spouse/partner.
    - Never . . . . . [ ]
    - Once a year, or less . . . . . [ ]
    - Two or three times a year . . . . . [ ]
    - Often, but less than once a month . . . . . [ ]
    - About once a month . . . . . [ ]
    - More than once a month . . . . . [ ]

16. When was the last time this happened?
    - months ago . . . . . ____
    - years ago . . . . . ____

17. How many times did this happen in the last year?
number of times ..... ____

18. During any of these episodes were you drinking alcohol?
Yes ..... [ ]
No ..... [ ]

If yes,

19. How many times were you drinking?
number of times ..... ____

20. Did your spouse/partner require medical attention?
Yes ..... [ ]
No ..... [ ]

If yes,

21. How many times did your partner require medical attention?
number of times ..... ____

22. In these episodes, were your actions in self-defence?
Yes ..... [ ]
No ..... [ ]

If yes,

23. How many times were your actions in self-defence?
number of times ..... ____

24. I **pushed, grabbed or shoved** my spouse/partner.
Never ..... [ ]
Once a year, or less ..... [ ]
Two or three times a year ..... [ ]
Often, but less than once a month ..... [ ]
About once a month ..... [ ]
More than once a month ..... [ ]

25. When was the last time this happened?
months ago ..... ____
years ago ..... ____

26. How many times did this happen in the past year?
number of times ..... ____

27. During any of these episodes were you drinking alcohol?
    Yes . . . . . [ ]
    No . . . . . [ ]

If yes,

28. How many times were you drinking?
    number of times . . . . . ____

29. Did your partner require medical attention?
    Yes . . . . . [ ]
    No . . . . . [ ]

If yes,

30. How many times did your partner require medical attention?
    number of times . . . . . ____

31. In these episodes, were your actions ever in self-defense?
    Yes . . . . . [ ]
    No . . . . . [ ]

32. How many times were your actions in self-defence?
    number of times . . . . . _____

33. I **hit (or tried to hit)** my partner but **not** with anything?
    Never . . . . . [ ]
    Once a year, or less . . . . . [ ]
    Two or three times a year . . . . . [ ]
    Often, but less than once a month . . . . . [ ]
    About once a month . . . . . [ ]
    More than once a month . . . . . [ ]

34. When was the last time this happened?
    months ago . . . . . ____
    years ago . . . . . ____

35. How many times did this happen in the past year?
    number of times . . . . . ____

36. During any of these episodes were you drinking alcohol?
    Yes . . . . . [ ]
    No . . . . . [ ]

If yes,

37. How many times were you drinking?
number of times . . . . . ____

38. Did your partner require medical attention?
Yes . . . . . [ ]
No . . . . . [ ]

If yes,

39. How many times did your partner require medical attention?
number of times . . . . . ____

40. In these episodes, were your actions in self-defense?
Yes . . . . . [ ]
No . . . . . [ ]

If yes,

41. How many times were your actions in self-defence?
number of times . . . . . ____

42. I **hit (or tried to hit)** my partner with something hard?
Never . . . . . [ ]
Once a year, or less . . . . . [ ]
Two or three times a year . . . . . [ ]
Often, but less than once a month . . . . . [ ]
About once a month . . . . . [ ]
More than once a month . . . . . [ ]

43. When was the last time this happened?
months ago . . . . . ____
years ago . . . . . ____

44. How many times did this happen in the past year?
number of times . . . . . ____

45. During any of these episodes were you drinking alcohol?
Yes . . . . . [ ]
No . . . . . [ ]

If yes,

46. How many times were you drinking?
number of times . . . . . ____

47. Did your partner require medical attention?
Yes . . . . . [ ]
No . . . . . [ ]

If yes,

48. How many times did your partner require medical attention?
number of times . . . . . ____

49. In these episodes, were your actions ever in self-defense?
Yes . . . . . [ ]
No . . . . . [ ]

If yes,

50. How many times were your actions in self-defence?
number of times . . . . . ____