

Physical Aggression and Controlling Behaviours Within Relationships

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Abstract

This thesis investigated the proposition by Johnson (1995; 1999) that there are distinct patterns of physical aggression within relationships, characterised as common couple violence and intimate terrorism. To investigate Johnson's theory, a stratified sample containing students ($n=113$), women from a domestic violence refuge ($n=43$), and male prisoners ($n=108$). Participants completed measures of physical aggression, escalation of physical aggression, controlling behaviour, fear of injuries, and actual injuries. Results of chapters 3 and 5 provided broad support for the view that there are distinct patterns of aggressive relationships corresponding to those identified by Johnson (1995; 1999). Chapter 4 found however, that the use of physical aggression was predicted by instrumental beliefs for both intimate terrorism and common couple violence, and analysis at the individual level (chapter 6) did not support the distinction between controlling and non-controlling partner aggression, but instead indicated that the use of physical aggression was associated with controlling behaviours in all relationship categories. To investigate Johnson's (1999) classification procedure in a non-stratified sample, a second sample was collected which consisted of 399 men and 951 women. In chapters 8 and 9 analysis was conducted separately for victim and perpetrator reports. Results were broadly supportive of Johnson's categories (though not the earlier findings regarding sex composition of the categories), but not the controlling noncontrolling dichotomy. Chapter 11 sought to investigate the ultimate aim of such behaviour and found that both men and women use more control when the woman was fecund, and more control and physical aggression when an individual had lower mate-value. The findings of this thesis are discussed in relation to sampling strategies, the control and physical aggression relationship and the effect of reporting-

bias. The conclusions from this thesis are that Johnson's dichotomy may not represent a qualitative difference, but instead may be one of quantity.

Chapter 1: General introduction

Violence within the family has until recently been regarded as a normal part of life. Indeed it has been often regarded as an obligation to those who head a household to use violence as a means of chastisement, the saying 'spare the rod and spoil the child' derives from this legacy. However changes in the ideology of western society during the 1800s led to a reduction in tolerance towards the use of physical violence generally and more particularly violence perpetuated by individuals. The latter half of the 19th century saw legislation being enacted which sought to control the use of violence. Within a relatively short space of time laws were passed setting down permissible limits to injurious assaults on animals, children, and wives. The presence of laws alone cannot hope to eradicate such acts and current research evidence reveals relatively high rates of family aggression.

In the 1970s the feminist movement brought the issue of domestic violence into the public spotlight. This led to a considerable amount of psychological, sociological, and criminological research being conducted. This research tended to fall into two categories, gender-neutral, for example the work of Straus and colleagues, and feminist, for example the work of Walker and colleagues.

Section 1.1: Feminist theory & analysis

Feminist analysis of domestic violence places female victims within a patriarchal family and societal structure. The research tools utilised tend to be qualitative and descriptive in nature. The context of relationship aggression against women was seen as crucial to understanding domestic violence (R.P. Dobash & Dobash, 1979). At the relationship level physical aggression was placed within a general framework of power and control. Abusers were reported to use a range of

control tactics such as intimidation, threats, isolating the victim from friends and family, and preventing their partner from having access to money (Pence and Paymar, 1993; Stets, 1988). The physical aggression within this context could be seen as an event among many events which all lay on the same continuum of control. Victims of domestic violence “criticised theories that described battering as cyclical rather than as a constant force in their relationship; that attributed the violence to men’s inability to cope with stress; and that failed to fully acknowledge the intention of batterers to gain control over their partners’ actions, thoughts, and feelings” (Pence and Paymar, 1993: 2). Feminist theorists believe that phenomena such as family violence cannot be studied without applying a gendered lens (Yllö, 1994). It is believed that men and women live gendered lives and therefore a failure to take into account their differentiated experiences would result in research that lacks ecological validity.

Using a feminist lens to study relationship aggression has lead many feminist researchers to adopt what has been termed an inclusive view of relationship aggression (Hamby & Gray-Little, 2000). This inclusive perspective views all acts of male physical aggression as battering and women’s aggression as self-defensive. Some leading figures have even broader criteria for applying the batterer label to men: for example Walker explains, “it is clear that Paul had been battering her by ignoring her and working late, in order to move up the corporate ladder.” (1979: 67). Such criteria are of questionable practical use for empirical researchers and academics. Few researchers would go as far as Walker: however there is a clear tendency within feminist literature to try and distinguish men and women’s behaviours, even when such attempts seem forced and contrived. Dasgupta (1999) is an example of this - she lists the controlling behaviours used by men and women. These behaviours appear to a non-feminist reader as equivalent: however Dasgupta seeks to separate them on the

grounds that men are better at such tactics than women, although no research evidence is cited to support such claims.

The use of an inclusive perspective may not only minimise the seriousness and obscure the meaning of women's use of aggression, but also may deter women who need assistance from seeking it. Hamby and Little-Gray state the belief that "clients of shelters and other services may find it difficult to integrate their own beliefs with the ideology of shelters, which tend to be based on ideas that developed from Western forms of feminism, and which may be seen as anti-male or anti-marriage" (2001: 184). Victims of relationship aggression may not be able to relate to the image of a passive, victimised woman. Stark criticises such stereotypes for failing to represent many women who find themselves in contact with the criminal justice system. The need for female victims to appear to be 'classic' victims, "respectable relatively passive and middle-class women" (Stark, 1995: 1019) may result in 'rough' women being denied a legal defence to their own violence when they do not fit Walker's (1979) traditional 'battered woman syndrome' profile.

This need for women to be viewed as innocent results in a tendency for feminist researchers not to report women's use of physical aggression (for example R.P. Dobash, Dobash, Cavanagh, & Lewis, 1998). However some researchers have reported shelter women's use of physical aggression. Giles-Sims (1984) asked a sample of 32 shelter residents about both their partner's and their own use of physical aggression. She found that their partners used high levels of physical aggression, but the majority of the women reported that they also used physical aggression. Okun (1986), Saunders (1988) and Stacy, Hazlewood & Shupe (1994) report similar findings. All of these authors stress that the use of physical aggression, although mutual, was not equivalent. Failure of much feminist research to address women's

own aggression has resulted in an absence of credible feminist theory to explain the dynamics of the majority of violent relationships.

Section 1.2: Societal beliefs about partner aggression

Central to understanding such an inclusive perspective lies in understanding macro-level analysis of feminist political beliefs. At the societal level, Dobash and Dobash comment that “although domestic chastisement of wives is no longer legal, most of the ideologies and social arrangements which formed the underpinnings of this violence still exist... Wives may no longer be the legitimate victims of marital violence, but in social terms they are still the ‘appropriate’ victims” (1977: 439). Traditional feminist theory sees society as male dominated (patriarchal), in which men work together to control women. Therefore men, and hence society, are seen as supporting men’s aggression towards women, as this serves to subjugate women, all women to all men (Dasgupta, 1999; Lloyd & Emery, 1994). Although historical evidence supports a patriarchal ethos of western society there is less support from contemporary empirical research. A meta-analysis of patriarchal ideology and wife assault found that only a man’s attitude towards violence predicted wife assault, with no consistent support for any link with traditional gender attitudes or gender schema (Sugarman & Frankel, 1996). Straus, Kantor and Moore (1997) investigated changes in societal attitudes to partner violence in the US from 1968 to 1994. Four survey data sets were used: the 1968 National Violence Survey (n = 1176), the 1985 National Family Violence Survey (n = 6002), the 1992 National Alcohol and Family Violence Survey (n = 1970), and the 1994 Gallup Survey (n = 524). All four surveys asked the same questions regarding approval for a wife slapping a husband and a husband slapping a wife. Straus et al found that approval of husbands slapping their wives

dropped from 20 % of the population in 1968 to 10% in 1994. Approval for a wife slapping her husband however remained constant at 20% between 1968 and 1994. This differential effect is probably influenced by the success of women's advocates in condemning violence against women, but not by women.

Addressing this issue from a feminist perspective, Millar and Simpson (1991) asked a sample of undergraduates about perceived costs and societal sanctions of using physical aggression towards their partners. Contrary to predictions derived from feminist theory, they found that men perceived both informal and formal sanctions to be more problematic to their lives than did women. Many men had been brought up to 'not hit a girl'. Millar and Simpson considered that this was due to the belief, shared by both men and women in their sample, that men's aggression was more physically dangerous to women, and hence men refrained from assaulting their partners due to fear of causing her injury. Women's physical aggression in contrast, was seen as unlikely to cause injury and was generally reported as being viewed as trivial. Perhaps as a consequence of these beliefs, Miller and Simpson also found that men were far less likely to use both informal and formal interventions if they were physically assaulted than were women. Men who do use formal sanctions in the form of law enforcement have been found to be significantly less likely to press charges than women (Statistics Canada, 2000; McLeod, 1983 cited in McLeod, 1984). Migliaccio explored the narratives of 12 men who had experienced abuse from their female partners and reported that police frequently refused to arrest women abusers. One police officer stated "you gotta be kidding, buddy. Women don't beat men" (2002: 44). This type of response was common even when women admitted their assaults. The invisibility of female victims of domestic abuse before the 1970s did not reflect a lack of such victims, only a lack of awareness. With that lack of awareness,

perception of an absence of sanctions (both formal and informal) towards male perpetrators was fostered. One may propose then that society, in its failure to address female victimisation could be seen as implicitly supporting such abuse (although a lack of overt support had been evident for some time). This does not now appear to be the case. However, male victims may currently find themselves in a similar position to women victims pre-1970. The lack of a political advocacy and the strong resistance of many women's advocate groups may be obscuring the existence of male victims of women's aggression. This invisibility is then used as proof of a lack of victimised men (R.P. Dobash, Dobash, Daly & Wilson, 1992; Semple, 2001).

Society's attitudes shape, and are shaped by the media. Research that has looked at gender and the media has found a reporting bias. Naylor found that when women used violence their actions were described in terms of "emotion, madness, and irrationality" and that generally there was a reluctance to ascribe "real wickedness (and arguably real *violence*)" (2001: 189). Men's violence, however, was portrayed as rational and instrumental. If women are viewed as the 'appropriate victims' of domestic assault then men ergo are presumed to be inappropriate as victims and hence are viewed with ridicule (Harris & Cook, 1994), contempt (George, 1994) and suspicion (Mullender & Hague, 2001). Indeed George (1994) calls the abuse of men by their female partners the 'Great Taboo'. This position is supported by Gelles, Welsh and Welsh (2002) who call abused men the "missing persons" of domestic violence. It is easy to see how male victims remain missing when one looks at the way research is funded. A billion dollars were allocated for victims of domestic violence in response to The Federal Violence Against Women Act; none of this went to male victims. Requests for proposals from the U.S. Justice Department sometimes state that research on, or services for, male victims will not even be reviewed (Gelles

et al, 2002). This inequality is not confined to the US. Both the British and Irish governments have operated similar systems of funding, although the Irish government has recently been challenged by AMEN, a help group for male victims.

Section 1.3: Social Representations of Aggression

Moscovici while resisting defining 'social representations', described them as "a concept that makes it possible to study collective phenomena, phenomena resulting from a large number of interactions and revealing common features that no single individual can have" (1987: 516). Drawing on the work of Moscovici, Campbell and colleagues investigated men and women's social representations of aggression. The nature of aggression makes it an ideal topic for the study of social representations, as it is much discussed but rarely experienced (Campbell & Muncer, 1987). Campbell (1993) found that middle-class professional men and women differed in their narratives of aggression. What became apparent to Campbell was the divergent way the two sexes chose to discuss aggression. Men spoke of public displays of aggression, of rules and status and of using aggression to gain control over another person or situation. Women in contrast, related tales of private aggression where merely using aggression signified defeat, and that the use of aggression for these women was a result of a loss of control. Campbell termed these beliefs 'social representations' and she believed that these gendered representations would affect not only how men and women thought about their past use of aggression, but also such beliefs would shape their future behaviour. It was proposed that men's representations demonstrated the holding of instrumental beliefs, whereas women held expressive beliefs. This distinction would furnish support for feminist characterisations of men and women's differential use of aggression. Campbell and Muncer (1987) proposed

two models of aggression, one for men and one for women. Men's aggression was concerned with taking control of a situation, but the use of aggression to do this was mediated by the 'odds', whether a target was (like the three bears' porridge) too soft, too hard or just right. The outcome of a man's decision whether to aggress was positive. For women her choices revolved around losing control and crying, whether she chose to do nothing or aggress: however, the outcome was negative.

Classifying men's aggression as instrumental and women's as expressive based on earlier work, resulted in the development of the EXPAGG (Campbell, Muncer & Coyle, 1992). The EXPAGG was a 20-item forced choice scale. Each item consisted of a statement concerning aggression, addressing both personal experiences and general attitudes, with a choice of either an expressive or instrumental response. The scale was scored to give an overall score with higher scores denoting more expressive representations of aggression. Research that has used the EXPAGG has found that where the opponent is not specified, women report significantly higher expressive scores than men (Campbell, Muncer & Gorman, 1993; Campbell & Muncer, 1994, 1996; Campbell, Sapochnik & Muncer, 1997, Archer & Haigh, 1997a). In support of the EXPAGG measuring social representation about aggression, Campbell, Muncer, Guy and Banin (1996) asked 228 British undergraduate men and women to respond to the EXPAGG items as if answering for the opposite sex. They found that men gave an accurate response set to the items, which yielded scores that did not differ overall from women's own scores, and differed in only four of the 20 individual items. This suggests that women's attitudes towards aggression are available at the societal level. Perhaps surprisingly, women's responses were significantly different from men's both on overall scores and on 16 out of the 20 individual items. It may have been expected that women would have been more

accurate, as they would have drawn from social representations about men's aggression; which due to men's ownership of aggression, may be expected to be more accessible. However the direction of the divergence of women's accounts of men's aggression from men's own accounts reveals that women overestimated men's instrumentality. As social representations of men's aggression would depict it as a tactic of control, women's overestimate may be a direct result of the social representation of men's aggression as coercive, in effect stereotyping men's aggression.

The use of a forced-choice format for the EXPAGG was questioned by Archer and Haigh (1997a). They argued that instrumental and expressive views about aggression may be held simultaneously and so did not necessarily represent polar opposites. They developed a 40-item scale that yielded separate scores for the instrumental and expressive responses. They found that women had significantly higher scores for the expressive scale, and men for the instrumental scale, with sex differences on individual items being concentrated on those items that measured instrumental attitudes or negative feelings about aggression. Using this modified EXPAGG with an undergraduate sample, Archer and Haigh found that instrumental scores were highly correlated with self-reported physical aggression for both men and women, with anger having little effect on the strength of this relationship. Expressive scores were weakly negatively related to men's, but had no association with women's, use of physical aggression. Further investigations using prisoners (62 men and 47 women) replicated both the previous sex differences in expressive and instrumental scores (once age had been controlled for) and the finding of a strong positive association between instrumental scores and physical aggression, and a weak negative association with expressive scores (Archer & Haigh, 1997b). Campbell, Muncer and

Odber (1997) also found that in a sample of undergraduates, instrumental scores were most strongly related to actual physical aggression. These findings offer an alternative to the feminist explanation of sex-differences in physical aggression. Instrumentality, irrespective of sex, is strongly associated with physical aggression and expressive beliefs are either unrelated or negatively associated. Therefore, the sex that on average has higher levels of instrumentality will be more aggressive. Indeed even among aggressive men these dimensions are associated with the severity of aggression.

Tweed and Dutton (1998) found that male batterers who used instrumental aggression (those which were generally violent and antisocial) used significantly more physical aggression against their spouses than the expressive (called impulsive) batterers (those who were only aggressive to their spouses). On the basis of these findings support for a feminist position, that views men's violent behaviour as motivated by control can be found. However, such an effect may be driven by biological rather than cultural origins.

One important, but so far ignored, aspect of social representations of aggression is that men, but not women were found to moderate their responses to anger-eliciting situations based on the opponent. Campbell and Muncer (1987) found that men reported restraining their aggression when the target was a woman. Men's aggression was said to be characterised by a set of rules which dictated who was an appropriate target of aggression. This raises the possibility that when men are asked about aggression they will report legitimate aggression, i.e. against an equal or stronger opponent, as women did not mention target characteristics as being important the opponent may not effect her responses. Archer and Haigh (1997a) asked respondents about the sex of the opponent they had in mind when completing the revised EXPAGG scale. They found that men were significantly more likely than

women to have a same-sex opponent in mind, this result was replicated in their study of British prisoners (Archer & Haigh, 1997b). Due to group sizes only the effect of opponent sex on women's responses to the two scales could be measured. The sex of opponent was not found to significantly affect women's instrumental or expressive scores. Experimentally manipulating opponent sex in a sample of undergraduates, Archer and Haigh (1999) found that when the opponent was of the opposite-sex, men and women's scores on instrumentality did not significantly differ, although women continued to report higher expressive scores. This finding offers support for a gender-neutral position on relationship aggression, suggesting that although men may be more aggressive outside of the family, both sexes behave similarly within it. It also suggests that although social representations may be readily available for some forms of physical aggression, they may be less accessible for others, such as partner violence. This has long been regarded as a private event, and so may not provide social representations to guide individual beliefs. For this reason the terms beliefs or attitudes may be more appropriate when discussing partner aggression.

Section 1.4: Family Conflict research

Even though male victimisation is frequently ignored, evidence does exist that men are also victimised by domestic assaults. Much of this (but by no means all) comes from research conducted by family conflict researchers such as Murray Straus and Richard Gelles. Straus (1979) distinguished between 'conflicts of interest' and 'conflict tactics'. Conflicts of interest are unavoidable where family members, although sharing many common goals, ultimately have individual needs that may not be compatible with the desires of other members. Indeed many such situations are 'zero sum', in that if one person achieves an objective it is at the expense of other

members. For example if a couple with young children have no babysitter, then it is not possible for both of them to attend a dinner party, a zero sum conflict of interests arises: if the husband goes out the wife must remain at home and vice versa. The techniques used by each member of a family to forward their own self-interest are conflict tactics. These can range between calm discussion to severe assault: what identifies them as conflict tactics is not the behaviour, but the reason for the behaviour, the desire to take control of a situation. Straus (1979) distinguishes between rational tactics such as reasoning, verbally and symbolically aggressive acts such as shouting at the other, and physical force such as pushing and kicking. Family conflict researchers have been very influential in the field of relationship aggression research. Their research has paralleled the growth of feminist literature. Controversially much of it has indicated that women are as physically aggressive, if not more, than men. Most of these studies have used the Conflict Tactics Scale (CTS), developed by Straus (1979). The development of the CTS opened the door to numerical data collection, which allowed both a degree of quantification of prevalence of physical aggression and also data that could be directly compared both within and between samples.

The CTS was used in the US National Family Violence Surveys in 1975 and 1985, and indicated symmetry in the use of physical aggression by men and women against their partners. Since then many studies have been published that measure men's and women's use of physical aggression and the majority of these have used the CTS. Archer (2000) conducted a meta-analytic review of physical aggression between heterosexual partners and found that men and women used similar levels of physical aggression. In response to charges that apparent gender equality in the use of physical aggression was due to the failure of research to take into account the varying

degrees of seriousness of physically aggressive acts, Archer (2002) conducted a meta-analytic review of studies that had reported frequencies of individual acts of physical aggression perpetrated by men and women. These acts constituted the items from the physical aggression scale of the CTS (1979) with the addition of 'choke or strangle'. It was predicted that men would use acts that were believed to be more serious in terms of the potential for causing injury to the recipient, but that women would use more minor acts of physical aggression that would be unlikely to result in physical harm. Using a conservative procedure for estimating effect size, Archer found the predicted sex-differences in the minor acts of physical aggression of 'throw something at' and 'slap', but also the severe act of physical aggression of 'kick, bite, hit', with women reported to be using these more than men. The severe acts of 'beat up' and 'choke or strangle' were in the male direction as predicted. The severe acts of 'threatening with a knife or gun' and 'using a knife or gun' showed effect sizes close to zero, contrary to predictions. These findings remained consistent whether the reports of acts were derived from self, partner or a composite of both, and using any one of four different measurement techniques.

Research since Archer's meta analyses have also found similar results. Harned (2001) asked a sample of 1150 undergraduates about their own perpetration and victimisation of physical aggression within dating relationships. She found no sex differences in reported frequency. Hird (2000) investigated aggression perpetration and victimisation in a adolescent sample. She found that girls were significantly more likely to report using more physically aggressive responses than boys, but were also more likely to report being the victim of physical aggression than boys. Graham, Wells and Jelley (2002) asked respondents about all experiences of physical aggression in the previous 12 months and also found more women (68%) reported a

domestic incident involving aggression than did men (with the majority of these respondents being co-combatants). In a particularly well designed study, Moffitt, Caspi, Rutter, and Silva (2001) analysed data from the New Zealand Dunedin Study. The Dunedin study is a longitudinal study that followed an initial cohort of 1000 boys and girls from the age of 3 to 21 years of age. From self-reports from the whole sample ($n = 939$), and self and partner-reports from the couples ($n = 351$ and 349 respectively) it was found that women used significantly more physical aggression than men. The only exception to this pattern was with the couples who had levels of abuse that had led to them come into contact with medical or legal bodies. These couples showed no sex differences for physical aggression. On all other measures of physical aggression, i.e. those not involving a partner, men scored significantly higher than women. This pattern was also found by Chermack, Walton, Fuller, and Blow (2001). They sampled 126 men and 126 women who used substance abuse treatment centres and compared sexes on both received and expressed violence. Men exceeded women in both expressing and receiving violence for all categories except partner and coworker violence. This pattern underlines the need to be cautious in attempting to extrapolate the general violence propensity of one sex to expected sex-differences in partner aggression. Katz, Kuffel and Coblenz (2002) administered questionnaires to a undergraduate sample of 184 women and 103 men. They found no sex differences in frequency of partner violence although men were found to sustain more moderate violence than women. A second undergraduate sample of 78 women and 45 men again found no gender differences for frequency of partner violence, and again found men reporting being subjected to more moderate violence. Capaldi, Shortt, and Crosby (2003) found in their sample of 105 at-risk young couples that more women

used physical aggression than men and further, that women were less likely to desist in using physical aggression against their partners.

Findings such as these led researchers such as George (2003), Gelles et al (2002), and Steinmetz (1978), to call for more resources to be directed to male victims of partner abuse. However such calls have not been favourably received. Indeed Mullender and Hague (2001) suggest that men claiming to be victims of women's physical abuse may be trying to conceal their own abusiveness and recommend that police checks are carried out on them. In a similar vein, men who research male victims may also be labeled perpetrators by those who disagree with their findings (Gelles et al, 2002). Other prominent researchers, such as Lloyd and Emery (1994) although acknowledging that men can be victims of female perpetrated abuse still continue to treat relationship aggression as a male to female phenomena. They state "women's use of aggression largely occurs in the context of self-defence or in response to men's aggression" (1994: 28) paradoxically they then go on to say that "the direction of aggression as well as the issue of victimisation are notably blurred in much of the literature" (p.29). Although the findings that men can be victims of partner abuse are at odds with studies based on police files, court and hospital records, and shelter samples, there is evidence that men are underrepresented in such statistics.

Feminist researchers have tended to use such data sources uncritically in support of their worldview although the danger of using such information sources is obvious and even recognised (Dobash et al, 1998: 75). When Moffitt et al (2001) asked male participants about physical aggression within intimate relationships, they revealed much higher rates of victimisation than when they were later asked about assaults, which replicated earlier US findings of Mihalic and Elliott (1997). Moffitt et al (2001) interpret these findings as evidence that men do not view women's

aggression as assaultive, and therefore they would be unlikely to use the criminal justice system, and hence less likely to appear in criminal justice statistics. Indeed, Statistics Canada (2000) found that men's victimisation at the hands of a female partner was less likely to come to police attention than was female victimisation, with 38% of women's but only 12% of men's victimisation being reported to the police in a 5 year period. Of those reported, 81% of female victims had a charge laid against her spouse compared to only 62% of men (even though injuries were similar for male and female victims). Police were three times more likely to use their discretion to not lay charges when the victim was male. Further, when charges were not laid due to the request of the victim, men were found to be over represented (26%) compared to women (14%). Figures such as these show that a systematic bias operates in the criminal justice system, within Canada at least. Further when one looks at accessing services for victims (such as temporary accommodation and victim support) women were more likely to use these than men (48% & 17% respectively). This again adds to the invisibility of male victims in research areas that predominantly use these sources of information.

Figures have also been reported selectively, for example when using data from the US National Violence Against Women Survey (Tjaden & Thoennes, 1998), the lifetime rates of experiencing abuse are reported rather than the yearly rates. These figures show a higher proportion of women as victims. Recall error should be of concern to researchers who are (or should be) aware that time spans of a year are more accurate than lifetime rates (Moffitt et al, 2001). Another example of selective reporting is found with the frequency with which the findings of the British Crime Survey (1992) as reported by Mirrless-Black (1994) are cited although there is a more recent BCS which has an improved format. The problem for some researchers

however, is that the improved format has resulted in equal numbers of men and women being classed as victims of partner abuse. These findings should be a cause for concern to traditional feminist researchers who have previously stated “self-reports of criminal victimisation are not subject to the same reporting biases as divorce, police and hospital records” (Dobash et al, 1992: 75). When using crime data, statistics are frequently manipulated to give a false representation. For example a commonly cited statistic is that about 30% of female murder victims are killed by an intimate whereas only 12.9% of male homicide victims are killed by intimates (Campbell, Sharps & Glass, 2001). These statistics are deliberately presented together to imply that women are at greater risk of homicide from an intimate than are men. What is not explained, but is crucial to understanding proportional rates, is that men are more likely to be killed than women per se. Therefore, the proportion of men killed by their partners is a function of the number of all men killed not a function of the number of women killed. A more appropriate (and honest) statistic would be the proportion of all intimate homicides that involve a female (or male) victim. The problem with such a statistic is that when these figures are calculated the proportion of female and male victims has been found to be similar (Wilson & Daly, 1992; Mercy & Saltzman, 1989) in the US. Archer (2000) found for non-North American samples, women were the more likely victim of partner homicide, although the degree of difference differed markedly across cultures, with the highest proportion of women victims in non-western (and more patriarchal) cultures.

When research is conducted using both men and women within the criminal justice system, male victims become apparent. McFarlane, Wilson, Malecha & Lemmey (2000) interviewed 100 men and women (10 and 90 respectively) who had approached law enforcement officers to file charges of assault against their partners.

Instruments measuring threatened and actual physical aggression (Severity of Violence Against Women Scale; SVAWS, Marshall, 1992), risk of becoming a homicide victim (The Danger Assessment Scale; DAS, Campbell, 1986), Stalking victimisation (Stalking Victimisation Survey; SVS; Tjaden & Thoennes, 1998), as well as health measures, were administered to the complainants. Men and women were not found to differ on any of the instruments. McLeod (1984) using data from 6200 cases reported to the Detroit police department and a national crime survey, studied male victims of domestic assault and compared them with female victims. She found broad similarities between the situational (place and time of assault) profiles of male and female victims. The incident characteristics for victimised men show some divergence from that of women victims, however. McLeod reports that approximately 25% of incidents in which a woman is victimised involve the use of a weapon: however, where male victimisation is the case this figure is far higher. The Detroit data suggests that the figure is 86%, whereas the crime survey data puts the figure at 65%. Further, where a weapon was used, these were more likely to be deadly, i.e. a gun or knife, when there was a male as opposed to female victim. Women may use weapons to compensate for their perceived inability to harm their partners using their bodily strength alone. Indeed whereas 72% of assaults on women involved the use of bodily force only 14% of assaults on men did. When McLeod looked at severity of the assault women perpetrated, it was found that these were more likely to be judged as being more serious than men's assaults (approximately 20% versus 86% respectively). Understandably in light of the use of deadly weapons, McLeod found that in line with previous research men were found to sustain more injuries (73% in Detroit and 77% in crime survey samples compared with levels of women's injury reported to be at about 55%), and that a high proportion of these men (84% Detroit

and 32% Crime survey) required hospital care. Statistics Canada (2000) also reported that men were more likely to be victims of serious assaults, involving weapons and / or bodily harm than women (20% versus 11%). Data from law enforcement agencies and 'crime' surveys, the staple of much feminist analysis, is likely to represent only the more severe types of relationship aggression for male victims in particular. The uncritical use of such figures could lead to widely conflicting conclusions, for example that women are more victimised than men (based on frequency of accessing enforcement agencies) or that men are more victimised than women (based on the frequencies and severity of injuries sustained by male victims). Therefore interpretation of crime statistics is neither straightforward nor inherently reliable. Population surveys that have framed physical aggression and injuries within a 'family conflict' context have reported what may be thought of as conflicting findings: however, such a conflict may be more apparent than real.

Section 1.5: Reporting biases and socially desirable responding

Reporting biases have been investigated in many fields where answers may be evaluated negatively, for example medicine (e.g. Klinkenberg et al., 2003), nutrition (e.g. Lissner, 2002) the media (e.g. Zelizer, Park, & Gudelunas, 2002), and loss reporting in finance (e.g. Hoffman & Patton, 2002). Within the literature on partner physical aggression it has been found that self-reports are considerably lower than reports about one's partner (e.g. Follingstad, Wright, Lloyd and Sebastian, 1991, Makepeace, 1986, Moffit et al, 1997). Archer (1999)¹ conducted a meta-analytic review on the reliability of reports of partner aggression He concluded both sexes underestimated their own use of physical aggression compared to reports about

¹ The methodology of sample 1, chapter 2:2:1, had already been decided prior to this publication.

partners, but that such an underestimate was greater for men. In selected samples studies have found that male batterers and their partners agree on the frequency of aggression women perpetrate but differ significantly in reports of female victimization, with women reporting higher rates than men (Barnett, Lee & Thelen, 1997; Claes & Rosenthal, 1990; Dobash et al, 1998; Okun, 1986). Whether this was due to underreporting by men or inflation by women cannot be ascertained. The assumption is that men underreport which would be supported by comparisons of self versus partner reports (Archer, 1999). DeMaris, Pugh & Harman (1992), in an experimental study, found that men were more accurate in recalling violent events, whereas women were found to overestimate. Women were more accurate than men, however, when recalling non-violent events. It is therefore prudent when investigating sex-differences to investigate possible self / partner report bias within participant populations. As this was an experimental study in which the physical aggression was observed between third parties, it may not generalise to reports of actual aggression. However it this finding suggest caution against accepting assumptions that lack empirical evidence.

Reporting bias may be motivated by a desire to stage manage impressions others have of us. Therefore, one would expect negative behaviours, such as self-reported physical aggression to partners, to be minimised. People motivated to impression manage are trying to manipulate their social desirability, and scales to measure this trait have been developed. Sugarman & Hotaling (1997) conducted a meta-analytic review of the effect of socially desirable responding on reports of partner physical aggression. They found that being involved in intimate partner aggression was related to less socially desirable responding. Neither respondent sex nor relationship status were significant moderators of effect size, although role in

aggression was. Sugarman & Hotaling found that, irrespective of sex, socially desirable responding was related to status, with perpetrators ($r = -.21$) having a stronger relationship than victims ($r = -.12$). Therefore both perpetrator and victim accounts are subject to socially desirable responding, although not to the same degree. Correlation does not necessarily equal causation - social desirability may result in underreporting - but equally it may actually inhibit socially proscribed behaviours such as partner aggression. Caution should also be exercised as the effect sizes, which were weak to moderate, were regarded as likely to overestimate any relationship due to the file-drawer problem.

Section 1.6: Motivations for, and consequences of, physical aggression

Studies that sought to investigate the consequences of partner violence have consistently found that females were more likely to incur injury than males. Archer (2000) conducted a meta- analysis of 17 studies reporting some type of injury (this analysis was based on my findings from analysis of sample 1; see chapter 3). This analysis revealed that 62% of those injured were women. The margin of increased risk varies considerably between studies. For example, Morse (1995) found that a half to two thirds of those injured by partners were women. Foshee (1996) found that 70% of females were injured at least once during their lifetime by a dating partner whereas 52% of men reported sustaining injury. However, when one looks at the percentage of injuries sustained that required medical attention then the significant disparity between female and male injury rates disappears (9% female and 8% males). Nazroo (1995) found that that 56% of females and 25% of males reported sustaining any injury, when looking at only severe injury 25% of females and only 2% of males reported these. Straus, Hamby, Boney-McCoy, & Sugarman (1996) found that male

violence towards a partner was highly correlated to partner injury ($r = .87$) whereas female violence towards a partner was found to correlate only weakly ($r = .29$).

Cantos, Neidig, and O'Leary (1994) in their study of clinic couples in which both partners had reported similar use of aggressive acts found that wives reported more injuries, particularly injuries resulting in the need for medical attention, than did their husbands. It was not possible to report injury rates for shelter populations as only female injuries are typically reported (see for example Dobash and Dobash 1984; 1998; Giles-Sims, 1983).

Research published after Archer's analysis reveals similar patterns. Statistics Canada (2000) found that 40% of women and 13% of men reported some physical injury, with 15% of women and 3% of men requiring medical attention. These studies highlight the need to include items which seek to address the consequences of being the victim of violent assaults for both females and males in both clinical and community samples. Harned (2001) found, that sex and physical victimisation interacted to predict physical injury. Men were found to sustain more injuries at lower levels of physical aggression whereas women's reported injury rates were higher once physical aggression had become more frequent. Figures drawn from doctor and hospital samples provide further information regarding rates of partner assault and injuries. Porcerelli et al (2003) investigated incidents of violent victimisation in a population drawn from family practice clinics. Eight hundred and fifty-five women and 468 men were approached to take part. Porcerelli et al found that 30% of women and 25% of men reported being the victim of partner violence. It is interesting to note that women constituted 65% of the potential sample. This may be due to the fact that women have been shown to report more physical and psychiatric complaints than men generally. Therefore if prevalence rates for injuries resulting from domestic violence

are calculated on the bases of accessing medical services, women would be found to account for twice as many cases of partner abuse as men if men and women reported equal rates of victimisation by their partners. Therefore figures drawn from medical agencies may be confounded by sex differences in service utilisation. Figures need to be calculated in such a way that unequal gender distribution is controlled for.

As much of the empirical research behind the findings of male victims has used the Conflict Tactics Scales (Straus, 1979) feminist researchers have sought to negate the CTS findings by criticising the methodology. The CTS, it has been argued, is unreliable and invalid: “confining self-report data to a checklist of acts, devoid of motives, meanings and consequences cannot insure objectivity, validity or an adequate development of theory to explain violence” (Dobash et al, 1992: 71), although the same critics have since used a checklist (Dobash et al, 1998). A major weakness was seen as the inability of the CTS to take into account the context of the violence, e.g. whether violence was in self-defence (Morse, 1995) or even joking (Dobash et al, 1992).

Although the CTS clearly states that the scale is to be completed in relation to conflicts and disagreements, indicating behaviours used to resolve such conflicts, Dobash et al (1992) have suggested that the high rates of female to male aggression could be due to women reporting playful acts as aggression. They give no indication as to why this misinterpretation should affect female respondents more than men, however it is implied. As evidence for this tendency they cite Margolin’s study, who reported that a couple who had been scored as perpetrating severe physical aggression using the CTS, when questioned further explained that the behaviours had been used in a “more kidding, than serious, fashion” (1987: 82). It is not clear what ‘more kidding, than serious’ actually means, although it does imply covert as well as overt

motivations. Moreover, both the man and woman had reported this kicking episode as physical aggression so it does not suggest that sex is a confounding variable. The use of anecdotes, though interesting, does not allow conclusions to be drawn regarding how representative such a problem was. Arriaga (2002) investigated the use of physical aggression during conflicts and physical aggression reportedly used as a joke among undergraduates. It was found that conflict and joking physical aggression were moderately associated, suggesting caution should be exercised in taking at face value articulated explanations of aggression. There were also no sex differences in the reported use of both 'joking' and 'serious' aggression or in the associations between them. This does not support the view that reported conflict aggression is confounded by sex of the respondent.

The claim that women mainly use physical aggression in self-defence as a result of assault by a partner has received mixed support. In mutually violent relationships it is often difficult to establish whether violence was used in self-defence. In one-sided assaults there is no such ambiguity and therefore claims of self-defensive violence are less tenable. Morse (1995), Riggs (1993), DeMaris (1987), Gray and Foshee (1997), O'Leary, Barling, Arias and Rosenbaum (1989) found that in one-sided assaults females were more likely to be the sole perpetrator than were males. Fewer studies report a higher prevalence of one-sided male assaults (e.g. Roscoe & Callahan, 1985). Again it is difficult to comment on shelter populations as only male perpetration of violence is generally reported, although Giles-Sims (1983) did report both shelter women's accounts of both their own and partners aggression. She found that many more males perpetrated one-sided violence than did females.

Moffitt et al (2001) found that personality characteristics (such as approval of the use of aggression and poor self control) identified three years prior to the onset of

partner abuse were significant predictors of which women would later use physical aggression against partners and others. These personality traits were the same for the men in the sample. It was also found that for both men and women in their study, a history of antisocial behaviour was predictive of partner violence regardless of their partner's use of physical aggression against them. Chermack et al (2001), however, found that childhood conduct disorders were related to partner aggression for men only (although received aggression was not controlled). Magol, Moffitt, Caspi, Newman, Fagen & Silva (1997), in a sample of 941 twenty one year olds, found that among perpetrators of severe partner violence, men had significantly higher levels of poly-drug use, antisocial personality disorder, and depression, all characteristics which are linked to criminality.

Other studies have asked perpetrators of relationship aggression why they used it. Research has found that women give self-defence as one of their motives (e.g. Makepeace, 1986): however both men and women give a variety of reasons including anger expression and coercive control (Hamberger, Lohr, Bonge, and Tolin, 1997; Follingstad et al 1991). Foo & Margolin (1995) studied predictors of dating aggression in a sample of 111 male and 179 female undergraduates. Attitudes towards justified use of physical aggression were used as predictors of actual aggression. They found that self-defence did not predict men or women's own use of physical aggression, although humiliation did. Indeed Giordano and Cemkevich (1999) found that women's anger self-concept was a significant predictor of their perpetration of relationship aggression, and that it held greater predictive power for women than men. This finding appears to contradict the unitary explanation of female physical aggression being self-defensive. Fiebert and Gonzalez (1997) asked a sample of undergraduate women who had initiated physical aggression against their partners

why they had done so. They found that the most frequently endorsed items were due to their partners' insensitivity and to get their partners' attention. The women also expressed the belief that their aggression was not likely to hurt their partners and that their partners would not retaliate. Harned (2001) asked undergraduates who had used physical aggression against a dating partner for their motives. She found no gender differences in citing self-defence, however women were significantly more likely to cite anger/jealousy than were men, the effect size for this difference was moderate.

Carrado, George, Loxam, Jones, & Templar (1996) asked a nationally representative sample of 1978 British men and women about their attributions for the reason and context for both inflicting and sustaining physical aggression. Self-defensive reasons behind perpetrating physical aggression were cited by the following percentages of men and women: 21% of women and 27% of men identified retaliation, and 17% of women and 21% of men identified pre-emptive aggression. These self-defensive options were the least frequently cited for female aggressors. The most commonly endorsed item for both men (64%) and women (53%) was to get through to the other, showing similarity between men's and women's attributions. When examining a partner's use of aggression, self defensive options were less frequently selected, which may indicate a bias operating in that a person's own behaviours are seen as more accepted than partner behaviours. For a partner's use of pre-emptive aggression, 7% of men and 10% of women cited their partner using this and 8% of men and 12% of women reported their partner's aggression as being retaliatory. Women most frequently cited to 'make me do something' (51%) and men most frequently cited 'in response to something said or threatened' (44%) as the reason for their partner's physical aggression.

Dasgupta (1999) reported on a sample of 32 women who had been either self or court-ordered to attend a treatment program for abusers. When asked about motivations for their use of physical aggression several themes became apparent including wanting to stop abuse by their partners, which would support a self-defensive explanation, but also retaliating for past abuse, which Felson (2002) argues would be viewed as vigilantism in other contexts. However, many of the women reported using aggression to make their partners pay attention to them or take control of a situation, as a result of sexual jealousy, or revenge for transgressions, or to show that they were 'tough'. These motives are, as Dasgupta states, instrumental. Although Dasgupta tried to play down the similarities between these motivations and the motivations of violent men (Pence & Paymar, 1993), she said "Women shouldn't be able to hit men. It is still abuse and can't be tolerated" (1999: 211).

Another measure of motivation of partner violence could be the fear experienced by a partner during conflicts. It could be argued that using physical aggression because one is afraid would place those acts in a different contextual, and legal, framework from physical aggression used for other purposes, such as losing one's temper. Physical aggression resulting from fear could conceivably be viewed as motivationally defensive (Archer, 1989/1990). O'Leary et al (1989), Nazroo (1995), Morse (1995), Romkeins (1997) Statistics Canada (2000) all found that females are far more likely to feel in physical danger than males during a fight. This is understandable in light of the greater risk of sustaining injury. Heyman, Feldbau-Kohn, Ehrensaft, Langhinrichsen-Rohling, & O'Leary (2001) using a community sample of 74 couples combined both questionnaire and interview data from both members of the dyads. They found that women reported experiencing more substantial fear than men, and they recommended that this (along with injury) be used

in conjunction with physical abuse to classify couples as involving physically abusive behaviours. This would result in more women being labelled as victims of physical abuse, although consistent with previous studies the men in their sample were subjected to more minor and severe physical assaults than were their partners.

‘Reported fear’ may not actually be a true test of the experience of fear. Many studies outside partner aggression research have reported the expected sex differences in fear, for example fear of crime research (Alvi, Schwartz, DeKersedy & Maume, 2001, Ferraro, 1996; Gilghirst, Bannister, Ditton & Farrall, 1998; Hale, 1996; May, 2001; Smith, Torstensson & Johansson, 2001). Women have even been found to be more afraid of large carnivorous mammals (Roskaft, Bjerke, Kaltenborn, Linnell & Andersen, 2003). However it is possible that differences in reports of fear may be an artefact of sex differences in brain lateralisation, which could have the effect of “making it more difficult for men to verbalise essentially nonverbal experiences and abilities” (Campbell, 1993: 73). Another possible explanation is that of a female response bias. It has been found that women report more physical and psychological symptoms of illness. In fact women are over-represented compared to men for all nonfatal conditions, as well as visits to health professionals and hospital admittance (see above for discussion of Porcerelli et al, 2003). However men have higher mortality rates and higher rates of most fatal diseases at all ages (Verbrugge, 1986). This has led some to suggest that as measures of ill health become more objective, rates of men increase, suggesting women’s reports are biased compared to those of men. However, others have interpreted these findings as evidence that women suffer more sub fatal conditions. Mirowsky & Ross, (1995) studied response bias in men and women and found that women are more expressive than men, and that they report more happiness and sadness: however neither of these effects were found to fully

explain sex-differences in distress (although they did reduce the size of the effect). Therefore women's reports of fear may be affected by response bias, but this is unlikely to fully explain sex-differences.

Campbell (1999) suggested an evolutionary explanation for women's higher (when compared to men) levels of fear. Campbell suggested that women had evolved to avoid situations where serious injury or death may result, the reason for this being the importance of maternal investment for child survival. Maternal investment is not limited to gestation and lactation, but extends to the provision of solid food stuffs, protection from other people, particularly non-related men, and animals, and from environmental hazards such as fast rivers. At a psychological level avoidance of dangerous situations is enacted by the experience of fear. Men invest less in their offspring due to biological reasons (they do not gestate or lactate): however they continue to invest less even after the gestation and lactation phases have ended and more frequently abandon offspring than do women. Men have evolved to compensate for paternity uncertainty, and high order potential reproductive losses and gains, by maximising their access to resources, including women, by competing with other males. Therefore men who avoided situations where injury may result would need to relinquish resources when challenged by another male. Men would therefore be expected to have evolved to be less risk averse and so feel less fear.

Migliaccio (2002) reported that fear both during an attack, and of future attacks were commonly reported by the men in his sample, and that this fear was the reason that they did not overpower their partner (even though all except one said they were physically able to). Another theme apparent with those who had used physical aggression in self-defence was the fear of being labelled the abuser and of being

arrested. This may be a fear that is sexually specific and may be the result of societal stereotypes of domestic abusers (see above).

Fear resulting from partner violence is not only a situational state, but can result in generalised anxiety. Magol et al (1997) found that women who had experienced severe partner physical aggression scored significantly higher on a measure of anxiety (NIMH Diagnostic Interview Schedule) than did their male counterparts. The women's scores on average were 2.9, where a score of 3 would result in a diagnosis of Generalised Anxiety Disorder (DSM-IV, American Psychiatric Association, 1994).

Section 1.7: Interim summary of literature reviewed

In summary, much of the research on partner aggression has originated from either feminist or family conflict scholars. These two different theoretical perspectives, although studying the same phenomena, have reported conflicting findings and interpretations. Feminist researchers have tended to study men's physical aggression towards women using qualitative analysis from battered women or data derived from the criminal justice system. Such research has provided vivid and coherent accounts of extreme male violence used to control female partners. Where women have been reported to use physical aggression, it has been explained as self-defensive or retaliatory. Feminists conclude that men use physical aggression to control women, and that the use of physical aggression towards this end is supported by the patriarchal structure of society. So pervasive is this norm of male violence believed to be, that a failure to make it central to the understanding of not only men's, but also women's partner violence leads to flawed and misleading conclusions.

Family conflict and other non-feminist research however, have challenged not only the findings of feminist researchers, but also the very assumption upon which such research is based. Using quantitative data analysis of non-selected samples, family conflict researchers have found that men and women use physical aggression against their partners equally, although women largely appear more likely to sustain injuries and report experiencing higher levels of fear. The motivation to use physical aggression has not generally found to be amenable to a neat dichotomous classification of coercive male and self-defensive female aggression. Instead men and women have been reported to use aggression for a variety of reasons, with no clear sex differences. Within non-selected samples, there has been little empirical support for the contention that there is societal support for violence against women: on the contrary there appears to be more tolerance for women using physical aggression against men.

Although research which has sought to empirically investigate many feminist claims has failed to find support for them, one cannot discount the central findings of feminist research, that there exists a population of severely abused women and severely abusive men. These women and their male partners appear to be involved in a qualitatively different type of experience to the men and women studied in non-selected samples. The problem with any attempt to integrate these two types of relationship lies with the lack of any coherent theory to explain their parallel existence. Lloyd & Emery (1994) believed that aggression within relationships was not a unitary phenomenon. They cited several studies that had sought to create typologies, but concluded that such attempts both clarified and complicated the understanding of aggression within relationships. The existence of physically aggressive relationship typology research offers a framework for understanding

different types of relationship aggression, but what was apparent from earlier studies was the lack of consistency. Each study detected subgroups but then sought to explain the dynamics of these subgroups based on post hoc comparisons of typology differences (e.g. Riggs, 1993; Rouse, 1990; Vivian & Langhinrichsen-Rohling, 1994).

Section 1.8: Johnson's Typology of partner aggression

In 1995 Michael Johnson published a timely paper in which he sought to reconcile the findings of the feminist and family violence researchers. He proposed that the apparently conflicting findings of the feminist and family violence perspectives were due not to the methodology used by each perspective but by the populations sampled. He argued that there were actually two distinct forms of aggressive relationship, which he termed 'patriarchal terrorism' and 'common couple violence'. Common couple violence could be understood in that "the dynamic is one in which conflict occasionally gets 'out of hand', leading to 'minor' forms of violence, and more rarely escalating into serious, sometimes life-threatening, forms of violence" (p.283). Patriarchal terrorism was defined as "... a product of patriarchal traditions of men's right to control 'their' women, is a form of terroristic control of wives by their husbands that involves the systematic use of not only violence, but economic subordination, threats, isolation, and other control tactics" (p.282). The heart of the distinction Johnson sought to make was that patriarchal terrorism was not merely a more extreme form of common couple violence, but instead a qualitatively different phenomenon. Patriarchal terrorism was believed to be evident in data from police and hospital records, and from women's accounts of men's violence taken from shelters. These accounts converged to paint a picture of frequent male physical aggression towards women, who in turn were at substantial risk of injury. Common

couple violence was apparent in the responses obtained from non-selected samples such as general population surveys and undergraduate populations. These respondents told of low frequency aggression perpetrated by men and women, which rarely resulted in injury.

These two types of relationship aggression differed on dimensions other than frequency of physical aggression. Johnson identified escalation of physical aggression as an area of contention between family violence and feminist researchers. Walker (1989) encapsulates the feminist position on escalation when she wrote "violence between intimate partners always gets worse..." (p.697). However, this is not consistent with family violence research which finds no such pattern of escalation: indeed there is some evidence from longitudinal studies that violence actually decreases over the course of a relationship (see for example Morse 1995, O'Leary et al 1989). Another area Johnson considered would discriminate between patriarchal terrorism and common couple violence was the use of controlling behaviours. Johnson stated "It is important not to make the mistake of assuming that this pattern of general control [characteristic of patriarchal terrorism] can be indexed simply by high rates of violence" (p.287). Johnson predicted that the patriarchal terrorist would use a combination of controlling behaviours, of which violence is but one tool, to control his partner. Partners in the common couple violence groups in contrast, were not believed to use physical aggression within a general control framework. Therefore Johnson argued that this type of physical aggression would not form part of a general pattern of control. Common couple violence was evident in survey samples which Johnson proposed were not as representative as many believed. He highlighted the 'representative sample fallacy' which views all people as equally likely to be included. Johnson suggested that several biases could distort the nature of physical

aggression within relationships. Nonresponders may systematically differ from responders, with patriarchal terrorists and their victims potentially being less likely to respond. Although it is clear why victims may be reluctant to take part (for fear of reprisals), it is not altogether clear why perpetrators would be. If these men's aggression is due to patriarchal ideology, as Johnson and feminist scholars contend, they would be more likely to view their aggression as justified and even sanctioned by society. Therefore, one could equally well argue, they would be more, rather than less, likely to take part in such surveys. Evidence for Johnson's position is provided by comparing figures based on projections from US shelters and the US National Family Violence Survey (NFVS).

Johnson compared extrapolated figures from the NFVS and shelter records to investigate whether these figures were compatible. He concluded that the survey data taps only 1/6th to 1/3rd of patriarchal terrorist couples. Johnson may have inadvertently however, attributed methodological to sampling differences. Therefore, before further discussion of these figures, it is appropriate to mention that the shelter data consists of self-reports, which are known to be consistently lower than partner-reports by a factor of approximately three (Heyman & Schlee, 1997). Therefore as 50% of the NFVS is self and 50% partner-reported one would immediately expect a discrepancy.

Johnson bases his estimate not on the number of women who are in shelters and hence eligible to take part in research (and from whence such estimates of frequencies of assault of between 35 and 65 are derived) but all those who contacted shelters and were either housed *or turned away*. Unless the chance of being turned away from a shelter is purely random then one would expect there to be differences between those who were admitted and those who were not. Although other research has identified selection based on whether the victim represents the stereotype passive

victim (e.g. Pizzey and Shapiro, 1982), let us presume that the victims that are admitted are chosen at least partly because of their severe victimisation. If this is the case, we would expect such victims to report higher frequencies of aggression than those turned away. Therefore we would not expect all, or even most, of Johnson's 491,659 extrapolated victims to have suffered such high frequency physical aggression. This in itself may not be seen as problematic until one remembers that the frequency of assaults has been used as the criteria for whether the NFVS adequately accessed severely aggressive couples. If the average number of assaults within this 491,659 is only 7 per year, the effect that this would have on the projected number of such people sampled via the NFVS may be dramatic and explain the apparent discrepancy.

There are further problems with Johnson's comparisons of those who have ever contacted a shelter as reported by the NFVS and reported by shelter providers. The NFVS asked each respondent whether they had 'used the services of a women's shelter' whereas the shelter providers tell us only the number of domestic violence contacts. This figure is likely to include many women who have repeatedly contacted these services due to the ongoing nature of relationship aggression, or even contacted them on behalf of someone else. Also the term 'used the services of a women's shelter' may be interpreted as meaning actually resided in a shelter rather than just contacting one. For example if I was intending to buy an exhaust for my car I would contact several garages including garage X, Y, and Z, and chose one to use, say Y. If I was then asked in a survey whether I had contacted garage X, I would indicate that I had, whereas if I was instead asked if I had used the services of garage X I would indicate that I had not. Both questions relate to garage X but the two sources would yield data that would appear to be contradictory. These problems stem from trying to

directly compare related but distinct phenomena. It highlights the need to use the same measures when attempting to compare across samples, to avoid attributing measurement differences to sample differences.

Even if patriarchal terrorism is accessible in general population research, it is possible that such relationships form only a minority of those that are physically aggressive and so may be not be picked in nonselected sample surveys or may be removed as outliers. Therefore research is needed to investigate the dynamics of relationships found in general and selected populations, using the same measures, to allow direct comparisons to be made.

Johnson's (1995) typology is compatible with authors from both feminist and family conflict perspectives, who have recommended adopting a differentiating approach to studying aggressive relationships. Hamby, Poindexter & Gray-Little (1996) urged researchers to adopt a classification system that took into account not just whether violence occurred in a relationship but also the level of physical aggression used. Dasgupta (1999) states "to understand battering only in terms of incidence of violence is to misconstrue its full implication" (p.199). This feminist scholar recommends the term battering be reserved for physical aggression used in conjunction with control. Whereas Hamby & Little-Gray (2001) criticised sample selection strategies that accessed only severe aggression, because they tended to present such dysfunctional relationships as typical of all partnerships where physical aggression has been used. Applying such findings to relationships where only minor aggression occurs ignores the context in which such acts are perpetrated. Hamby & Little-Gray recommended a differentiating, rather than inclusive, approach be adopted that encompasses not just severely abusive and dysfunctional men, but also lower levels of physical aggression that is used by partners in relationships which have

many positive features. There is a need to investigate the possibility of clearly delineated typologies. The real strength of Johnson's distinction was that he set out a priori dimensions of divergence, dimensions that could be operationalised and investigated empirically. Central to his distinction is control.

Section 1.9: Control

Psychologically manipulating behaviours have been referred to by many different terms that include psychological abuse, emotional abuse, verbal aggression, and dominance motives. Feminist researchers such as Pence and Paymar (1993; 1986) have placed these behaviours under the umbrella term of 'controlling behaviours'. The term controlling behaviours places the emphasis on the perpetrator's motivation rather than the impact such behaviours have on the victim. For example, although monitoring a partner's whereabouts may be placed within a wider context of abusive behaviours (Toleman, 1989), the motivation is to prevent or detect infidelity. "Controlling behaviours" has advantages over terms that require behaviours to be abusive. The term abusive is appropriate for some samples, such as shelter women, and for some behaviours, such as insulting or swearing at ones partner. However it is inappropriate for some of the items included under this term in nonselected samples. For example jealousy is often a central component of scales that measure psychological/emotional abuse, but this fails to address the meaning of jealousy for individuals. Relationship research has found that jealousy is positively correlated with love, which may indicate that a certain amount of jealousy is not only 'normal' but may even be seen as healthy for relationships. Indeed a lack of jealousy could be seen as a lack of commitment to the other person (and in extreme cases could even be abusive in itself). The abusiveness of some behaviours may be dependent upon their

context and frequency. A partner's jealousy in response to an attractive colleague's flirtatious behaviour has a different contextual meaning to a partner's jealousy in response to a casual hello from a neighbour. And although occasional jealousy is normal for many relationships, constant jealousy is destructive for both parties. Terms that encapsulate an element of aggression can also suffer from similar problems. Terms such as verbal aggression often include items that are not verbally aggressive such as 'sulked or refused to talk about it' and even 'cried'. Straus et al (1996) recognised this when they revised the CTS, renaming the subscale psychological abuse. However, although such behaviours may not be particularly constructive means of conflict resolution, they are not inherently abusive. The term controlling behaviours is appropriate for abusive acts such as insulting or swearing at one's partner, where such behaviour can be seen as motivated by a desire to undermine a partner's self-confidence. But it is also appropriate for acts such as sulking. These acts are used to influence another person's actions, to control or constrain their behaviours.

Controlling behaviours encapsulate the interpersonal, rather than a structural level, analysis of control. Behavioural acts of control are most frequently investigated although some research has looked at the need for control (Petrik, Olson & Subotnik, 1994). Controlling behaviours within this conceptualisation include economic deprivation, jealous and possessive behaviour, insults and name calling, and threats and intimidation. Control is central to feminist understanding of men's use of physical aggression against their partners (e.g. R.E. Dobash & Dobash, 1979; Okun; 1986, Walker, 1979, 1987; Yllö, 1994). A feminist analysis would predict that men would use more controlling behaviours and that such behaviours would be associated with their use of physical aggression. Women would not be expected to use controlling behaviours, nor should the use of control be associated with using physical

aggression. Research that has studied selected samples of male abusers and female victims has found support for the link between control and physical aggression, which would support a feminist position and Johnson's (1995) theory.

Research that has studied men's use of controlling behaviours in selected samples has found that those relationships that report physical aggression also report high rates of controlling behaviours. Follingstad, Rutledge, Berg, Hause, & Polek (1990) found that controlling behaviours were reported by almost all (97%) of their sample of physically abused women as being used by their assaultative partners. Shepard & Campbell (1992) used the Abusive Behaviour Inventory (ABI) to measure psychological as well as physically abusive behaviours used by men attending a chemical dependency unit. They found that those men identified as being physically aggressive towards their female partners used higher levels of controlling behaviours than did the nonassaultive men, with scores being on average 26% higher for known physically abusive men. This suggests that physically abusive men are more controlling than are nonabusive men in selected samples. Research using nonselected samples has also found a link between men's control and aggression. Follingstad, Rutledge, McNeill-Harkins, & Polek (1992) found that undergraduate women who had experienced physical aggression from their partners reported significantly higher frequencies of controlling behaviours than women who were not in a physically aggressive relationship. Indeed, they concluded that from a variety of other measures, controlling behaviours emerged as the most important predictor of men's aggression towards women. These studies demonstrate that physical aggression and frequent controlling behaviours co-occur. However, it is not only the presence or frequency of controlling behaviours that differentiates physically aggressive men from nonviolent ones (or men who use severe physical aggression from those who use more minor

aggression), the breadth of different types of control have also been found to be important.

Stacey et al (1994) reported the diverse range of controlling behaviours used by a sample of male batterers. They reported that “isolating of the woman; control of her relationships, resources, and activities; and ghettoising her emotionally: were all frequent forms of male abuse toward female victims” (p.53). These actions were seen as an important part of the physical violence and were often antecedent to a physical assault. Follingstad et al (1990) also found that a range of controlling behaviours were used with 72% of their abused women sample reporting being subjected to four or more types of control. Dutton & Starzomski (1997) used the Psychological Maltreatment of Women Inventory (PMWI: Toleman, 1989) to assess the relationship between psychological abuse, physical abuse, propensity for abusive behaviour and personality. They interviewed 120 men, both court and self referred, and 76 of their partners, and as controls they included a sample of 45 men who worked for a Union. The PMWI was grouped into categories that corresponded to the power and control wheel (PCW) development by Pence & Paymar (1986). Results indicated that ‘emotional abuse’, ‘minimize/deny’ and ‘using children’ all differed significantly between the study and control men. The pattern of intercorrelations was also investigated. For the study men all of the octants of the PCW were interrelated with an average effect size of $r = .44$, however this pattern was not found for the control sample. For these men only emotional, coercion (threats), intimidation and economic significantly interrelated. This suggests that abusive men use a broad range of such behaviours together and this may add support to the belief that physical aggression by these men represents an attempt to control the woman’s life (Johnson, 1995). Dutton & Starzomski also studied the relationship between psychological abuse categories

and the propensity for abusiveness. The study men showed significant relationships for intimidation, emotional, and male privilege. For the control men only minimize/deny was significantly related to abusiveness. These findings provide support for Johnson's (1995) proposal that severely abusive men (patriarchal terrorists) would use a range of controlling behaviours.

It is not only male batterers who are reported to use controlling behaviours. George (1994) provides some rare data on male victims accounts of their victimisation. He states that two thirds of his sample cited bullying and control as the most important reason for their wives' use of physical aggression. George also reports on data from Australia, Canada, The United Kingdom and the US that have found similar findings. Migliaccio (2002) found similar relationships with both emotional abuse and isolating behaviours being present in the narratives of abused men, and that they were both antecedents and consequences of physical aggression directed at these men by their spouses. These studies support Johnson's contention that patriarchal terrorists (and their female equivalents) would use controlling behaviours in conjunction with physical aggression. However, research has found that female victims of these men report using control as well (Stacey et al, 1994) as do both physically aggressive men and women in nonselected samples.

Using non-selected samples, researchers investigating control and physical aggression have found that associations are apparent for both men's and women's perpetration and victimisation. One of the earliest researchers to investigate interpersonal control used by both men and women was Stets. Using qualitative accounts of control from her previous work (Stets, 1988) she devised a six-item control scale. In 1990 Stets & Pirog-Good investigated control and physical aggression in a US sample of undergraduates. Stets found that control and minor

physical aggression were related for both men and women, but not related to severe aggression, which suggests a different causal pathway for minor and severe aggression, which would be consistent with Johnson's (1995) proposed distinction between common couple violence and patriarchal terrorism. Other researchers have also found controlling behaviours are frequently reported in nonselected samples. Rouse (1990) found that 76% of her undergraduate (both male and female) respondents reported that they had monitored their partners' time, discouraged their partners from having same-sex (16%), and opposite-sex (52%) friends; 37% had been rude to their partner's friends, 60% had been overtly critical, and 40% had ridiculed their partners in front of others. Further, the use of these behaviours was significantly related to using physical aggression against their partners. This relationship has also been found in US adolescent couples (Molidor, 1995).

When comparing men and women's use of controlling behaviours, research using non-selected samples has found that there are no differences in their overall use (e.g. Hamby & Sugarman, 1999; Statistics Canada, 2000; Stets, 1991) and that control is an important predictor of physical aggression for men and women in non-selected samples (e.g. Follingstad, Bradley, Helff and Laughlin, 2002). Indeed, White, Merrill & Koss (2001) found that in their sample of US Navy recruits, controlling behaviours explained three times as much variance as background factors (such as child abuse). The authors comment on the 'remarkable similarity' of men and women's models. Other researchers have commented that control may be pivotal to the understanding of relationship aggression (Follingstad et al, 2002).

However, sex differences have been reported on different types of controlling behaviours used by men and women in nonselected samples. Hamby and Sugarman (1999) found that men more frequently called their partners fat or ugly, destroyed

partner's property, and made fun of their ability to do things. Women more frequently insulted and swore at their partners, stomped off during a disagreement and shouted or yelled at them. Statistics Canada (2000) found that women were more likely to report being subjected to emotional, threatening, intimidating and economic control. The rates for isolating control (which constituted 3 out of the 7 items) were similar for men and women. Harned (2001) found in her mixed-sex undergraduate sample that men were more likely to be subjected to psychological victimisation ($d = .21$), isolation ($d = .15$), intimidation/threats ($d = .26$) and economic abuse ($d = .35$) than were women. The only consistent pattern emerging from these studies is that men are more likely to use emotionally abusive controlling behaviours than are women.

Overall, the research suggests that there is a relationship between controlling behaviours and physical aggression in both selected and non-selected samples. Johnson (1995) suggested that patriarchal terrorists would use a range of controlling behaviours, and that this range would differentiate patriarchal terrorism from common couple violence. Indeed there is some evidence that minor and severe aggression may be differentially related to control (Stets & Pirog-Good, 1990). Johnson (1995) explains the use of controlling aggression using a feminist framework, however, such a perspective has not received a great deal of support from empirical research (see above). Neither have family conflict researchers presented a coherent explanation of the motivation behind controlling aggression. Therefore the reason for the association between controlling behaviours and physical aggression is still unclear as noted by Figueredo & McCloskey (1993) when they commented "what feminist and interpersonal power theories do not adequately specify is precisely why most men are so desirous of controlling women" (p. 374).

Section 1.10: Evolutionary theory and partner aggression

Both feminist (control) and family violence (conflicts of interest) perspectives have offered valuable insights into proximate causes, but fail to furnish an explanation of ultimate causation. Evolutionary psychologists seek to explain the ultimate as well as proximate causes of social behaviour. Evolutionary psychologists begin with the assumption that many modern day behaviours have been shaped by our ancestral past. Behaviours that increased an individual's fitness were transmitted via heritable traits. Selection acted in such a way as to reward fitness-enhancing traits (adaptations) and penalise detrimental ones. Evolutionary psychology's contribution to the study of family systems is that it can be used not only to evaluate existing theories of proximate causes of behaviour, but crucially it offers a framework within which ultimate causes can also be explored.

Mate guarding is a term used by evolutionary theorists to describe activities engaged in by one member of a reproductive dyad. Such behaviours are enacted in the animal world to control and restrict the potential mating opportunities available to a sexual partner. Mate guarding is often found in species that have internal fertilisation and require parental investment by the male, such as humans. Men who guard their mates increase their paternity certainty, whereas women who guard their mates increase the resources available to them and their offspring. For a man to maximise his reproductive potential he needs to invest only in his own biological offspring and hence avoid being cuckolded. He can also benefit from multiple sexual partners by increasing the number of offspring he produces. For a woman to maximise her fitness she needs to secure adequate provisions for herself and her offspring, which usually means monopolising the father's resources. She can additionally benefit from extra-pair copulations with men who have higher gene quality and/or resources, although

this potential needs resource investment from either the father or a stepfather to actualise this. Therefore, we would expect both men and women to mate-guard but that such behaviours would be used for different proximate, although not ultimate, aims. Mate guarding can take the form of controlling behaviours, verbal and physical aggression (Wilson & Daly, 1993; Flinn, 1988).

Evolutionary theory has been used to explain the phenomenon of the controlling and violent husband identified through feminist research (Figueredo & McCloskey, 1993, Wilson and Daly, 1993) and male attempts to control women generally (Smuts, 1995). Figueredo & McCloskey (1993) sampled battered women residing in a shelter, female victims of partner violence in a community sample, and a community sample of women who had children aged between 6 and 12 years old. They were testing the premise that men's violence against their partners forms part of a coercive sexual strategy, where men dominate women's sexuality by the threat or actual use of physical force. Such a strategy can be an alternative within a population or conditional within members of a population, contingent upon individual and environmental cues. Evolutionary theorists have suggested that men would be more likely to use such strategies if they were competitively disadvantaged in comparison to other men, as such men are known to be less desirable as long-term mates for women (Landolt, Lalumière, and Quinsey, 1995). As these competitively disadvantaged males (CDMs) have low reward power and mate value they would be more likely to use physical aggression to control their partners. Figueredo & McCloskey (1993) identified men who were 'competitively disadvantaged' (CDM) financially, as most likely to use physical aggression as a coercive sexual strategy.

Flinn (1988) studied human mate-guarding and found men spent more time with, and were more agonistic towards their female partners and other males when

their partners were having menstrual cycles. When their partners were pregnant or postmenopausal these behaviours lessened. Flinn found no association between female fecundity and female aggression. Flinn also investigated female mate-guarding and relative land wealth of males and found no association.

Buss and Shackelford (1997) found in a sample of married couples that men's controlling behaviours were more strongly related to their partner's age and physical attractiveness than were women's. Age and physical attractiveness were used by Buss and Shackelford as an indirect indication of the woman's fecundity. Women, but not men, were found to use more controlling behaviours when their partners had higher income. Women also had a stronger relationship between their spouses' status striving and their use of controlling behaviours than men. Income and status striving were considered to be measures of a husband's fitness.

These studies suggest that the use of controlling behaviours may be conditional, at least in part, upon fitness cues. The real strength of evolutionary theory to the understanding of controlling behaviours and physical aggression is that it presents the researcher with a logical and parsimonious theory from which testable predictions can be derived. Evolutionary theory may also allow an integration of feminist and family violence research as both can be viewed as different facets of the same phenomenon. Evolutionary theory however, is incompatible with Johnson's (1995) theory, as he suggests a qualitative difference between what Johnson terms patriarchal terrorism and common couple violence. An evolutionary analysis would suggest that any differences would be quantitative as they share the same ultimate aim.

Section 1.2: Methodological issues: Scales

There are many published scales within the partner aggression literature, therefore in this section I will discuss the literature on published scales that measure physical aggression, controlling behaviours and beliefs about aggression.

Section 1.2.1: Measuring physical aggression with The Conflict tactics Scale (CTS, Straus 1979)

The Conflict Tactics Scale (CTS, Straus, 1979) is the most widely used instrument in the partner aggression literature. The CTS is an act-based measure of tactics family members use to resolve conflict. The scales can be used to measure physical aggression towards partners, children and siblings, however for the present purpose only partner physical aggression will be considered. There are three versions of the CTS. Form A was the original and was used by Straus in a small-scale study of undergraduates (1973, 1974). Form N included additional acts of aggression and was used in the 1975 National Family Violence Survey (Straus, 1979). The addition of two acts, 'choke' and 'burn/scald' created the third version, form R. The present study uses form N and henceforth when the CTS is referred to it is version N. The CTS grew out of a conflict approach to studying family violence. It orientates the respondent to the items by asking them to respond to them within the context of disagreement or because they or their partner was in a bad mood. This approach, although criticised (Hird, 2000; Dobash et al, 1992), yields higher rates of reported aggression than measures that place acts within a violence framework. This may be due to the conflict approach being closer to many people's experience of physical aggression than are acts of outright violence (Walby & Myhill, 2001). Lloyd and Emery (1994) conceptualise physical aggression as a conflict negotiation strategy as it

usually occurs during overt or covert conflict, it is an effective way of getting one's own way, and it can be used when other conflict strategies have proved ineffective.

The use of a conflict framework provides two major advantages, first to legitimise responses to what are generally viewed to be negative behaviours (in the case of the physically aggressive acts), and second to eliminate the possibility that respondents would include playful acts of aggression. Two potential problems to this approach have been discussed by Dobash et al (1992): one of these is that purely malevolent acts that occur independently of any conflict may not be reported. R.E. Dobash & Dobash (1984) found that in a sample of battered women two thirds of violent episodes began with an argument. The remaining third began without any open conflict, although the reason for it was usually made known either during or after the assault. This suggests that even malevolent acts are often perpetrated within a conflict context. For those acts that are perpetrated for no known reason, Straus reported that a number (though he does not state how many) of respondents included acts used by their partners that appeared to be unrelated to conflict. The second problem is that acts of 'play fighting' would be included. Dobash et al (1992) cite Margolin's (1978) report that some couples had reported physical aggression which upon further investigation had been used playfully (see chapter 1.4 for fuller discussion of this issue). Although such reports do cause some concern, in the absence of systematic research into the prevalence of such responding it is not possible to quantify the scale of this problem. The fact that the CTS is generally found to be positively related to other negative aspects of relationships and inversely related to many positive aspects suggests that even if there is a problem it is limited in its effect and does not negate the utility of a conflict based approach. An approach that puts such behaviours within an assault or criminal context, although eliminating

ambiguity, produces data that is believed to be unduly conservative (see discussion in chapter 1.1 of data from criminal justice sources and crime surveys).

The format of the CTS consists of a list of acts to which the respondent has to indicate the frequency that they or their partner had used each act. These acts can be grouped into four subscales: rational problem-solving (three items), verbal aggression (six items), minor (three items) and severe aggression (five items). The use of predetermined, clearly defined behavioural categories yields results that can be compared across people and samples. A specific list increases the objectivity of the responses, the data being 'objective insider' categorisation (Olson, 1977). By asking about specific acts, the researcher has defined the behaviour they believe to be relevant. It is evident that without this format many less severe acts of physical aggression, such as slap and push, would not be identified as aggressive or abusive. Hamby et al, (1996) found that respondents that had indicated on the CTS that they had been the recipient of minor aggressive acts (pushed, grabbed, or shoved) also indicated on other measures that they had not sustained violence. Hamby et al found that all but 2% of physical aggressive acts were covered by the CTS categories. However, weaknesses of using predetermined behavioural categories were also highlighted, in their study behaviours such as "being shaken", "being dropped on cement" or being "thrown across the room" which were rated as severe by judges did not have categories on the CTS. The point that many acts of male aggression are not included is a major concern of many feminist researchers. Such acts as being lifted and shaken are likely to be used more frequently by men due to their greater strength. Straus (1990) measured the increase in rates of aggression from form N to form R and found no increase in the frequency of any husband-to-wife or wife-to-husband aggression. This is probably due to the fact that the additional acts are used in

conjunction with other acts of aggression, therefore failure to include all possible types of physical aggression is unlikely to affect relative rates of physical aggression, only absolute ones. More recent analysis has suggested that composite acts such as 'kick, bite, punch' should probably be listed separately and that additional items should be included such as 'choke or strangle', 'holding down', 'shaking', 'throwing' and 'scratching' (Archer, 2002). The revised CTS (CTS2, Straus et al, 1996) included additional items, although with the exception of 'choke', which had an item-total correlation of .61, the additional items correlated at .56 or less with the whole scale.

The psychometric properties of the CTS are not frequently reported, although there are some studies that have investigated them. Straus (1990) reported the findings from four studies that included alpha reliability coefficients for partner aggression as reported by one partner. The internal consistency for the physical aggression scale ranged from .69 to .86, suggesting some variability, though generally good reliability. Barling, O'Leary, Jouriles, Vivian, & MacEwen (1987) reported alphas for overall physical aggression of .76, .78, .88. Factor analysis of the CTS produced statistical support for a three-factor solution corresponding to Straus's distinction between rational, verbal and physical aggression. Straus (1990) reported a three-factor solution for an undergraduate sample, and a four-factor solution for a reanalysis of the 1975 National Family Violence Survey, with the additional factor appearing to represent severe physical aggression. Straus also reports on the findings of three further studies two of which found a three-factor solution, and the third a four-factor solution that again encompasses severe physical aggression. Barling et al (1987) investigated the factor structure of the CTS across three samples, 187 couples from a clinic for marital discord (divided into men and women for analysis), and 398 couples who were taking part in a longitudinal study on marriage. The factor structure for the clinic men

showed a two-factor solution, with factor one representing physical aggression (which included an item of verbal aggression 'threatened to hit or throw') and factor two representing verbal aggression (with the exception of 'cried'). The factor structure was similar for the clinic women, with the exception of 'cried', which loaded onto verbal aggression. A two-factor solution was also apparent for the marriage sample. This suggests that a two-factor solution is the best fit statistically for both men and women across each of the samples. A more stringent test of factor structure is confirmatory factor analysis. Schafer (1996) conducted confirmatory factor analysis on the physical aggression items, selecting either a uni or bi dimensional model. For women the one-factor model represented the best fit for the data (270 undergraduates) but not for men (263 undergraduates). The two-factor model did not fit either men or women. Schafer suggests that men and women may differ in their interpretation of the physical aggression items. Further analysis did find support for Straus's ordering of physical aggression items. Using item response theory Schaffer found that with the exception of the first two items (which were reversed), all the other items showed an incremental increase with each associated level of violence.

Where possible it is preferable to have reports about physical aggression from both the perpetrator and the victim. However the CTS is often used to provide data on perpetration and victimisation from one member of a relationship dyad only. Studies that have investigated differential reporting effects suggest that caution should be exercised when using such data. Browning & Dutton (1986) compared self-reported physical aggression of a group of 30 men who were identified as assaultive husbands with their wives' reports. They found that wives reported their husbands using significantly more aggression than the husbands reported using. Wives also reported that their husbands used significantly more aggression than they did, whereas

husbands rated their own and wives' aggression as similar. Wives' and husbands' accounts of the husbands' use of physical aggression were significantly related, with the strength of association increasing as the acts became more severe. For wives' and husbands' accounts of wives' use of physical aggression the pattern was less clear. The acts 'threw', 'kick' and 'hit' were significantly associated but the remaining items were not.

In 1999 Archer conducted a meta-analytic review of the agreement between self and partner reported physical aggression. Correlational analysis found weak to strong effect sizes for men's and women's aggression, suggesting that self-reports and reports from a partner are significantly associated. Archer also found that overall both men and women underreport their own use of physical aggression in comparison with the reports from their partners. This effect was attenuated in women by sample population, with community women reporting significantly lower levels of physical aggression than their partners reported they used, whereas in undergraduate samples and samples of assaultive husbands women's self-reports tended to be higher than partner reports. Patterns of response bias are so frequently found that correction factors for different samples have been calculated (Heyman & Shee, 1997). The issue of underreporting by perpetrators needs to be addressed in research using only one partner, particularly in single-sex populations. Failure to do this can result in partner report effects being attributed to sex-differences. Schafer, Caetano, & Clark (2002) investigated agreement between 1,599 couples on the occurrence of physical aggression within their relationships. They classified individuals on the basis of partner reports and found accuracy rates of 95% for classifying non-violence but 43% for classifying violence (where 50% represents the chance level). They suggest that

their findings do not support the use of one member of a dyad providing information for both parties.

The CTS asks about behaviours carried out by the respondent and their partner during the last year, it therefore provides information on both of perpetration and victimisation by psychological and physical aggression. The time period of one year is recommended for research into spouse assault as a pragmatic compromise between recall error on the one hand and excessive skew on the other (Straus, 1990). In practice however, the specified time frame may not actually make much difference to rates of reports of perpetration and victimisation. Hilton, Harris & Rice (1998) found that variations in the time frame of reference, either between 1 month and 6 months or 6 months and 12 months, had no significant effect on the proportion or frequency of physical aggression. This would suggest that extrapolations from such data to wider populations where yearly numbers of assaults are calculated, as is the case with many surveys such as the BCS and the NVAWS, are unwise. The effect this has on relative rates is unknown, although no consistent patterns of reporting were found.

1.2.2: Controlling Behaviour Scales

There are a variety of scales that measure controlling behaviour (this term includes emotional, psychological and verbal abuse). However, the scales available in published sources were problematic for the purposes of the present studies. The following criteria were used to evaluate the suitability of pre-existing scales for the present analyses. Johnson (1995) identified a range of controlling behaviours including isolation, threatening, intimidation, emotional, and economic, which were derived from the Power and Control Wheel (PCW, Pence & Paymar, 1993). The broad range of these behaviours was found to be important in distinguishing clinically-identified assaultive men from a control sample (Dutton & Starzomski,

1997). Each act had to be appropriate for men and women, who may or may not co-reside, and may or may not have children. The items had to be of specific acts of control rather than more general statements. The rationales for using specific acts were: that controlling behaviours were defined by the researcher not the respondent; listing specific behaviours acts as a prompt to aid recollection and to increase validity and reliability. Therefore any scale used must include a broad range of specific acts of control, which are applicable to both men and women, dating and living together, with or without children. The scales available to measure controlling behaviours are discussed below and are evaluated in terms of the above criteria.

Of the published scales that measure controlling behaviours, one of the most frequently used is the Psychological Maltreatment of Women Inventory (PMWI, Toleman, 1989). The PMWI is probably the most extensive measure of psychological abuse of women. It is a 58-item scale developed through modification of earlier scales (such as the verbal aggression scale of the CTS, Straus, 1979). Toleman excluded items that involved 'a direct physical component' such as interrupting sleep, although it is not clear why. He also excluded items that carried an implicit or explicit threat, such as damaging objects, as he believed that these were part of the CTS physical aggression scales (which they are not). New items were also generated to encompass a range of behaviours conceptualised as psychologically abusive. The response-format for the items was the relative frequency of each of the behaviours (never, rarely, sometimes, frequently, very frequently), rather than absolute frequencies (such as once, twice, three to five times). The rationale for this type of response option was that many of the abusive behaviours occurred on a continuous basis rather than being discrete events. The PMWI appears to be a good measure of psychologically abusive behaviours used by men who cohabit and have children with their partners, and who

are known to use physical aggression in such a way that they come in contact with the justice system. Its use for non-selected samples of dating and cohabiting people, where both male and female use of such behaviours is the focus of interest is not appropriate, however. Many of the items involve cohabiting and use of shared resources (such as the telephone). Other items are not necessarily abusive such as, 'stingy with money', 'acted irresponsibly with money' and 'used money without consultation' and may have a different meaning to members of a relationship who are not living together. Some items are also ambiguous when taken within the context of a 'normal' as opposed to battering relationship; for example 'told could not manage', and other items may be examples of emotional ineptitude rather than being abusive - for example 'acted insensitive to feelings', 'acted insensitive sexually' and 'withholding feelings'. Of those items that can be categorised according PCW protocol most are isolation (9 items) or emotional (16 items), with few threatening or intimidating control.

Similarly, other scales available in published sources were problematic. Many contained items of physical aggression (e.g. Follingstad et al, 1992; Foshee, 1996; Laner, 1985; Shepard and Campbell, 1992; Stacey et al, 1994). Some also contained items that were unsuitable for non-cohabiting or childless couples (Rodenburg and Fantuzzo, 1993; Shepard & Campbell, 1992), or suitable for women only (Follingstad et al, 1992). Others contained ambiguous items (Dobash et al, 1998; Laner, 1985), or assessed feelings rather than behaviors (e.g. Smith, Earp, & DeVellis, 1995), or were not broad enough for the present analyses (e.g. Shepard and Campbell, 1992; Stets, 1991). Therefore, the scales reviewed from the published literature were not found to be suitable for the present analyses, therefore a scale was developed (see chapter 2.1.3).

Section 1.2.3: The EXPAGG

It is the motivation behind the use of violence that Johnson (1995) believed lay at the heart of the distinction between common couple violence and patriarchal terrorism. The use of control tactics can shed light on the behavioural component of this motivation: however it does not inform as to the conscious motivation of the perpetrator for using violence. The EXPAGG arose from the work of Campbell and Muncer (1987) who qualitatively analysed the content of the narratives of single-sex groups of men and women to explore the meaning they attached to their aggression and aggression in general. They found that men tended to view aggression instrumentally and women expressively. Instrumental and expressive beliefs were apparent in both the behaviours and the feelings about them. Instrumental aggression was public and expressive was private. Instrumental aggression was believed to be used in a calculated way and so would not show the same physiological arousal as expressive aggression, which results from anger. Instrumental aggression would not result in guilty feelings as it was used in a controlled and situation-sanctioned way, whereas expressive aggression is not goal orientated but involves a loss of control, resulting in feelings of guilt.

The EXPAGG was found to have good internal consistency with alphas of .75 (Campbell et al., 1993), .81 (Campbell & Muncer, 1994), .91 (Campbell et al., 1996), .76 (Campbell, Sapochnik & Muncer, 1997), and .79 (Campbell, Muncer & Odber, 1997). The EXPAGG's validity is demonstrated by its meaningful associations with sex, agentic and communal personality styles, gender identity (Campbell et al., 1993), and aggression (Campbell, Sapochnik & Muncer, 1997; Campbell, Muncer & Odber, 1997).

Archer and Haigh (1997a) questioned whether instrumental and expressive 'beliefs' were alternative responses. Factor analysis had previously revealed one factor (Campbell et al, 1992) however there was doubt about the appropriateness of using such a technique on items measured on a nominal scale. Therefore Archer & Haigh revised the EXPAGG by using each of the 20 original cue lines that preceded a forced-choice instrumental or expressive alternative, as the first part of two new items. Each item pair consisted of a separate instrumental and expressive item. The revised scale contained 40-items, 20 instrumental and 20 expressive, which were randomly distributed in the scale. In order to conduct factor analysis on the revised EXPAGG, the response format was changed to a five-point scale, ranging from strong agreement to strong disagreement. The two scales were separated for analysis and both found to have coherent factor structures and acceptable internal consistencies (instrumental scale = .85 and expressive scale = .72). The two scales were found to be only weakly related, offering further support for a separation of expressive and instrumental items.

Section 1.2: Research problem and research questions

This review of the literature on partner violence has highlighted several problems. A major area of concern for potential researchers of partner aggression is the conflicting conclusions regarding the use of physical aggression drawn by feminist and family conflict theorists. These conflicting conclusions are undoubtedly partly explained by the different theoretical perspectives from which they arise. However, the data used by the two perspectives at times appears to be contradictory. For example, it is not possible for men to be the sole or primary perpetrators of

relationship aggression (a feminist finding) while simultaneously being equally likely to be victim of partner aggression by their female partners (a family conflict finding).

Johnson (1995) suggested that the two perspectives were actually sampling qualitatively different types of partner violence. He considered that feminists studied patriarchal terrorism, which was accessible through women's shelters and those who come into contact with the criminal justice system. Family conflict researchers studied common couple violence, which was accessed through non-selected samples.

Although Johnson (1995) identified dimensions upon which patriarchal terrorism and common couple violence could be distinguished he did not test his theory empirically. The analysis in chapter 3 sought to empirically investigate Johnson's theory, using stratified sampling. A population of women from a domestic violence shelter and men attending domestic violence treatment programs were sampled to represent feminist research populations. An undergraduate population was also sampled to represent the non-selected samples typically used by family conflict researchers. The research question to be investigated was whether shelter women, and men from the domestic violence treatment programs would be involved in patriarchal terrorism and undergraduate men and women would be involved in common couple violence.

Research into social representations of aggression has found that men tend to view their own aggressive behaviour as instrumental, whereas women have been found to hold expressive beliefs about their use of aggression. However, instrumental beliefs have been found to be positively associated, and expressive weakly or unrelated, with actual use of physical aggression for both men and women in both non-selected and clinical populations. The sex of the target of physical aggression has been found to affect instrumentality, however, with instrumental beliefs being similar for both men and women when the target was a member of the opposite sex. The

analysis in chapter 4 sought to extend earlier research by investigating the holding of expressive and instrumental beliefs about partner, rather than general, aggression by men and women who had actually used physical aggression against their partner. The association between controlling behaviours and beliefs about aggression was also investigated. This analysis further sought to investigate the holding of beliefs about partner aggression within populations that may contain qualitatively different types of partner aggression. Three rival alternative research questions relating to beliefs about aggression were investigated. The first, derived from feminist analysis, is that instrumental beliefs are linked to partner aggression and controlling behaviours in men but not for women, for whom expressive beliefs are expected to be more closely associated with partner aggression. The second derived from research on general measures of aggression, is whether instrumental beliefs are linked to aggression to partners whatever the sample or the sex of the individual concerned. The third research question, derived from Johnson (1995), was whether instrumental beliefs are associated with patriarchal terrorists who use violence to control their partners, and only to a weaker extent among community samples characterized by lower levels of physical aggression, who will also show some association between aggression and expressive beliefs.

The relationship between controlling behaviours and physical aggression was investigated in chapters 5 and 6. Previous research has found either associations between control and aggression, or that high levels of control are present in physically aggressive men and women. Of the research that has used a measure of controlling behaviours that includes a broad range of controlling behaviours, most has studied only men's use of control and aggression. Research that has investigated control and aggression in mixed-sex samples has tended to use instruments that do not include a

broad range of controlling behaviours, such as Stets' control scale. Such research may have failed to explain more severe physical aggression due to the lack of breadth of items included. The analysis in chapter 5 sought to investigate whether there was a relationship between physical aggression and controlling behaviours in both selected and non-selected samples, for both men and women, using a gender-neutral scale that covers a broad range of controlling behaviours. There are two alternative research questions to be investigated relating to the association between controlling behaviours and aggression. The first derives from a feminist perspective and would lead to the expectation that men's, but not women's physical aggression would be positively associated with the use of controlling behaviours. The second derives from Johnson's theory and would lead to the expectation that patriarchal terrorists' physical aggression would be positively associated with controlling behaviours, but that the use of common couple violence would be unrelated to controlling behaviours.

In 1999 Johnson presented analysis that allowed relationships to be categorised according to the frequency of controlling behaviours and the use of physical aggression (see chapter 8 for a discussion). Therefore, the stratified sample (sample 1 see chapter 2.1) was used to categorise relationships. A replication of Johnson's analysis, with additional analysis where appropriate was conducted, to further investigate Johnson's (1999) findings.

In order to investigate Johnson's categories in a nonselected sample, a second sample was collected (sample 2, see chapter 2.1) and the preceding analysis repeated. It was expected that although Johnson's categories would again be distinguishable from one another there would be differences in the sex composition. The effect of the type of report (whether self- or partner-reports) was also investigated. The

associations between controlling behaviours and physical aggression were also analysed, again separately for category and sex.

The traditional patriarchal explanation of partner aggression proffered by feminist scholars, and social explanation proffered by family conflict scholars both fail to adequately explain why heterosexual partners would use physical aggression against one another, at rates that far exceed the use of violence outside the home. Previous research has found that cues to men and women's fitness are associated with controlling behaviour and physical aggression in sexually specific ways. Therefore the present study sought to investigate the effect of men and women's fitness upon their use of controlling behaviours and physical aggression. The research question under investigation in chapter 11 was whether cues to fitness would explain the use of controlling behaviours and partner aggression differentially for men and women.

Chapter 2: Samples and Measures

This chapter will introduce the measures used and the two samples used in this thesis to investigate the research problems identified in chapter 1.1.1.

Section 2.1: Measures

Johnson's theory (1995) sought to differentiate between patriarchal terrorism and common couple violence, and identified several dimensions upon which these two apparently qualitatively different types of relationship aggression should differ. These dimensions were the frequency and severity of physical aggression used, the frequency of a broad range of controlling behaviours, whether the physical aggression was escalated, the motivation to use physical aggression, and the mutuality of physical aggression, and fear and injuries.

Section 2.1.1: The Conflict tactics Scale

To measure the frequency of physical aggression the Conflict Tactics Scale (CTS, Straus, 1979) was chosen and the items and their subscale membership are presented below in Table 2.1. A response format of 0 to 4 with anchor points of never, rarely, sometimes, often, and always was used for the analysis presented in this thesis, as opposed to the more usual quantifiable scale (Straus, 1979, Straus et al 1996). Archer and Ray (1989), following Deal and Wampler's (1986) earlier studies, instead used a Likert scale with the CTS. However, '0' still equals never (same as Straus' method) and '1' and above indicate that the person used that act. For the present analyses I was interested in the frequency with which physical aggression occurred during conflict. Straus' method quantifies the number of times acts from the CTS occur within a specified time-frame as an absolute value which in itself is problematic (see above); however the Likert scale gives an indication of the frequency with which

these acts occur during conflicts. Straus' method would tell us that an act occurred for example once a month, independently of how often a couple argue. The Likert scale tells us how often physical aggression is used during conflict situations. I believe that for the present purposes the Likert scale gives a better indication of the use of physical aggression within the context of conflicts than does Straus' original method.

Section 2.1.2: Severity of aggression: Fear and Injuries

As the CTS version N does not measure the consequences of physical aggressive acts, three items addressed fear of being physically hurt, and inflicting and sustaining injuries. They were from additional questions concerning injury included in the modified CTS used by Morse (1995). Respondents answered on a 5-point scale from "never" (0) to "always" (4). The items were introduced by the following sentence "Regarding the past year with your partner, or the last year you were with your partner, please answer the following questions"

- 1) During disputes with your partner, how often have you felt that you were in danger of being physically hurt?
- 2) How many times were you (your spouse/partner) physically injured e.g. knocked down, bruised, scratched, cut, choked, bones broken, eyes or teeth injured?
- 3) In how many of these fights in which you (your spouse/partner) were physically injured did you (he/she) go to the doctor, clinic, or hospital for medical treatment?

The first item response was coded as the respondent's fear, the second item responses were coded actual physical injury (self and partner's), and the third severe physical injury (self and partner's).

Table 2.1: The Conflict Tactic Scale

Item	Subscale membership
k. threw something at the other one	Minor physical aggression
l. pushed, grabbed, or shoved the other one	
m. slapped the other one	
n. kicked, bit or hit with a fist	Severe physical aggression
o. hit or tried to hit with something	
p. beat the other one up	
q. threatened with a weapon (e.g. a knife)	
r. used a weapon (e.g. a knife)	

Section 2.1.3: The Controlling Behaviours Scale

To establish the use of control tactics by each partner I developed a scale, using literature from the Domestic Abuse Intervention Project (DAIP) (Pence and Paymar, 1993). The DAIP literature cites examples of power and control tactics used by violent men against their partners. The PCW is divided into octants, each of which related to a different type of controlling behaviour. The categories are ‘using economic abuse, using coercion and threats, using intimidation, using emotional abuse, using isolation, minimising, denying and blaming, using children, and using male privilege. Three categories were not applicable for the present purposes. Using male privilege was excluded as the respondents were to be male and female. Using children was excluded as many relationships do not involve children and so this would be inappropriate for these respondents. Minimising, denying and blaming were also not included as items relating to these categories could only be answered by respondents who had been the victim of physical aggression from their partner.

Four or five items were developed for each of the remaining five categories of controlling behaviours. These items were behavioural acts based upon the specific illustrative examples given in each of the PCW octants. For example the economic abuse octant included the following examples: 'Preventing her from getting or keeping a job, making her ask for money, giving her an allowance, taking her money, not letting her know or have access to family income'. From this the following items were derived: 'Did you/partner disapprove of the other working or studying', If yes, did you/your partner try to make it difficult for the other to work or study?' 'Did you/partner feel it was necessary to have control of the others money?' 'If yes did you/your partner require the other to ask for money?' 'Did you/your partner have knowledge of each others income?' The final scale consisted of 24 items: five economic, four threat, five intimidation, five emotional, and five isolation (see Table 2.2). The items were scored by adding up the frequencies of each of the subscale items, or in the case of the overall controlling behaviours score, all 24 items.

Respondents were told that the scale related to relationship styles, this term was used as it was possible that labelling the behaviours as controlling would result in underreporting. A time frame of the past year, or the last year of their relationship if it had since ended, was used to be consistent with the CTS format. The response format was the same for both self and partner reports and consisted of a five-point scale with the following anchor points: 0 'never', 1 'rarely', 2 'sometimes', 3 'often' and 4 'always'. This format was chosen rather than a quantifiable format such as once, twice, three times etc because, as noted by Toleman (1989) the CBS behaviours are often continuous rather than discrete events. A fuller discussion of this response format has already been provided in relation to the CTS.

Table 2.2: The Controlling Behaviours Scale items and subscale membership.

CBS items	Subscale
1. Did you/your partner disapprove of the other working or studying?	Economic
2. If yes to Qu.1, did you/your partner try to make it difficult for the other working or studying?	
3. Did you/your partner feel it was necessary to have control of the others money?	
4. If yes to 3, did you/your partner require other to ask for money?	Threats
5. Did you/your partner have knowledge of each other's income?	
6. Did you/your partner make or carry out threats to do something to harm the other?	
7. Did you/your partner threaten to leave the relationship or commit suicide?	Intimidation
8. Did you/your partner threaten to report the other to welfare?	
9. Did you/your partner encourage the other to do illegal things he/she would not otherwise have done?	
10. Did you/your partner use looks, actions or gestures to change the each other's behaviour?	Emotional
11. If yes to Qu10, did you/your partner make the other afraid when this was done?	
12. Did you/your partner smash property when annoyed/angry?	
13. If yes to 12, was it the others property?	Isolation
14. When angry did you/your partner vent anger on household pets?	
15. Did you/your partner put the other down when they felt the other was getting 'too big for their boots'?	
16. If yes to 15, was this done in front of others (e.g. friends, family, children)?	
17. Did you/your partner try to show each other up in front of others?	
18. Did you/your partner tell the other that he/she was going mad?	
19. Did you/ your partner call the other unpleasant names?	
20. Did you/your partner restrict the amount of time the other spent with friends and/or family?	
21. When you/your partner went out did the other want to know where the other went and who the other spoke to?	
22. Did you/your partner limit the amount of activities the other engaged in outside the relationship?	
23. Did you/your partner feel suspicious and jealous of the other	
24. If yes to question 23, was this used as a reason to monitor the other activities?	

The CBS was used in chapters 3-6. However, following comments from reviewers on published versions of these chapters (Graham-Kevan & Archer, 2003a;

2003b) the CBS was revised. The revised CBS (CBS-R) eliminated items that were in effect follow-up items, for example item 23: Did you/your partner feel suspicious and jealous of the other? Was followed up by item 24: If yes to question 23, was this used as a reason to monitor the other activities? These items were not independent, which is problematic when scores are derived from adding these items, as was the case in the analysis in chapters 3-6. These items were collapsed and simplified in the CBS-R and read: Did you or your partner check up on the other's movements? Other items of the CBS contained behaviours, which although combined in DVIP literature, may occur independently of one another. An example of this is item 7 of the CBS was: Did you/your partner threaten to leave the relationship or commit suicide? In the CBS-R this was changed into: item 6: Threaten to leave the relationship and item 7: Threaten to harm self. Ambiguous items such as item 10 of the CBS: Did you/your partner use looks, actions or gestures to change the each other's behaviour? were changed in the CBS-R to: item 10: Use nasty looks and gestures to make the other one feel bad or silly? Additional items were added to ensure at least four items per subscale. All the items were changed to remove the 'self/partner' references and to make them clearer and more concise.

The CBS-R, like the CBS, uses behavioural categories. The CBS-R can be scored to derive a mean overall controlling behaviours total, or five subscores, each of which is a particular type of control tactic (see Table 2.3). The Cronbach alphas were: economic coercion partner reports .58 and self reports .45; threats partner reports .72 and self reports .70; intimidation partner reports .74 and self reports .62; emotional abuse partner reports .81 and self reports .75; and isolation partner reports .88 and self reports .84.

Table 2.3: The revised Controlling Behaviours Scale items and subtype membership

CBS-R items	Subscale
1. Made it difficult to work or study	Economic
2. Control the others money	
3. Keep own money matters secret	
4. Refuse to share money / pay fair share	Threats
5. Threaten to harm the other one	
6. Threaten to leave the relationship	
7. Threaten to harm self	Intimidation
8. Threaten to disclose damaging or embarrassing information	
9. Try to make the other do things they didn't want to	
10. Use nasty looks and gestures to make the other one feel bad or silly	
11. Smash the other ones property when annoyed/angry	
12. Be nasty or rude to other one's friends or family	Emotional
13. Vent anger on pets	
14. Try to put the other down when getting 'too big for their boots'	
15. Show the other one up in public	
16. Tell the other they were going mad	
17. Tell the other they were lying or confused	Isolation
18. Call the other unpleasant names?	
19. Try to restrict time one spent with family or friends	
20. Want to know where the other went and who they spoke to when not to together	
21. Try to limit the amount of activities outside the relationship the other engaged in	
22. Act suspicious and jealous of the other one	
23. Check up on others movements	
24. Try to make the other feel jealous to keep a check on the others activities?	

Section 2.1.4: The EXPAGG

To investigate beliefs about aggression, a third scale, an adapted version of the EXPAGG (Archer and Haigh 1997a), was included within the questionnaire (see chapter 1.2.3 for details about the original scale). The original EXPAGG concerned beliefs about physical aggression in general and so it required modification to make it appropriate for partner aggression. Some items were removed for example, 'After a physical fight I tend to tell lots of my friends', and 'I am more likely to hit out

physically when I am alone with the person who is annoying me.’ As the scale was to be completed by the respondent for their own and partner’s beliefs about partner aggression, further items were removed such as “When I get to the point of physical aggression, the thing I’m most aware of is how I am really going to teach the other person a lesson.” and “During a physical fight I feel out of control”. To respond to these items requires knowledge of internal feelings and therefore they could not be answered on behalf of someone else. The remaining items were modified to refer to aggression to a partner only. The final version of the instrument is shown in Table 2.4. The internal consistency for the instrumental scale was .73, and for the expressive scale .47. These values, which are lower than those reported previously, probably result from several considerations, the reduced number of items (Cortina, 1993), the heterogeneous nature of the sample, and the target of the aggression being specified.

Section 2.1.5: Summary of measures

The measures introduced in this chapter were the CTS, with additional fear and injury items, an item on escalation, the CBS and the CBS-R, and the modified EXPAGG. These measures will allow an investigation into the effect of sampling procedure upon the nature of partner aggression reported. Using a stratified sampling procedure, which includes shelter residents, men in male treatment programs for domestic violence and undergraduate men and women; the three samples can be compared on their frequency and severity of physical aggression, whether such aggression is escalated, the frequency of controlling behaviours, and the respondents’ and their partners’ beliefs about using partner aggression. Johnson’s (1995) theory would lead us to expect to find that the shelter and treatment program men were involved in patriarchal terrorism (as victim and perpetrator respectively) which would

be distinguished from common couple violence by having higher frequencies and more severe physical aggression by the (male) perpetrator which is more likely to be escalated. Perpetrators of patriarchal terrorism would also be expected to use higher frequencies of controlling behaviours and hold more instrumental views about their aggression.

Table 2.4: The instrumental (I) and expressive (E) items from the modified EXPAGG

EXPAGG Item	Type of item
1. In an argument, I would feel more annoyed at hitting my partner than crying.	E
2. I am more likely to get aggressive when I feel that my partner is trying to make me look a jerk.	I
3. I believe that my aggression comes from losing my self-control.	E
4. When a verbal argument really heats up, I am most likely to cry.	E
5. The best thing about acting aggressively is it gets my anger out of my system.	E
6. If I hit my partner, I feel guilty.	E
7. After a physical fight, I feel drained and guilty.	E
8. I believe that physical aggression is necessary to get through to my partner.	I
9. After I lash out at my partner, I would like to make sure my partner never annoys me again.	I
10. The day after a physical fight I with my partner I can't remember exactly what happened.	E
11. After I lash out at my partner, I would like my partner to acknowledge how upset and unhappy he/she made me feel.	E
12. When I get to the point of physical aggression I feel shaky.	E
13. When a verbal argument really heats up I am most likely to lash out physically.	I
14. In an argument I would feel more annoyed at crying than hitting my partner.	I
15. I am more likely to lash out if my partner shows me up in public.	I
16. The day after a physical fight I can remember every move I made.	I
17. I am most likely to get aggressive when under a lot of stress and something pushes me over the edge.	E
18. The best thing about acting aggressively is that the other gets into line.	I
19. The worst thing about physical aggression is it hurts the other person.	E
20. During a physical fight I know exactly what I'm doing.	I
21. If I hit my partner and hurt them I feel that he/she was asking for it.	I
22. I feel that my aggression comes from being pushed too far by obnoxious partners.	I

Section 2.2: Samples

In order to investigate Johnson's assertion that sampling procedure, rather than measures used, was responsible for the conflicting findings of feminist and family

violence researchers a stratified sampling procedure was used for sample 1. Sample 2 was collected in response to later work by Johnson (1999) (see chapters 1.11 and 8).

Section 2.2.1: Sample 1: Participants and procedure

Questionnaires were administered to three subsamples, women in a shelter, students, and male prisoners. The shelter sample consisted of volunteers from Women's Aid shelters. Each shelter was approached to obtain consent to distribute questionnaires. Two hundred were posted to a total of 11 shelters in the North of England, and a total of 43 respondents returned correctly completed questionnaires (no return rate can be calculated as it is not clear how many of the 200 questionnaires sent to coordinators were actually distributed). The student sample consisted of students from Higher education establishments in the North West of England (University of Central Lancashire, Furness H.E. College and Charlotte Mason Teachers Training College, Ambleside). Two hundred and fifty questionnaires were distributed and a total of 113 completed questionnaires were returned (45% return rate). The male treatment programme for domestic violence sample was obtained by approaching service providers of Merseyside and Moss Side probation services. Both services agreed to distribute questionnaires to their male clients. A total of 80 questionnaires were sent, however only 10 were returned, and of those only 4 had useable data. Therefore a fourth sample was accessed, a male prison sample. This was accessed as research has shown that a subtype of very violent male batterers are violent both within and outside of the family (Fagen, & Wexler, 1987; Tweed, & Dutton, 1998). Only the male prison sample were asked whether they had been cautioned, charged, or convicted of a crime of violence against the person. The prison samples consisted of inmates incarcerated in two prisons in the North of England;

HMP Haverigg (a category C, all male prison) and HMP Frankland (a category B, all male prison). One hundred and fifty questionnaires were delivered to the prisons and these were distributed, of which 108 were returned (72% return rate). All samples involved the respondent only, reporting on their own levels of victimisation and their own physical aggression.

Table 2.4: Means and Univariate F-ratios for demographic information presented by group

Variable	Shelter (n=43) Mean (s.d.)	Student (n=113) Mean (s.d.)	Prisoners (n=108) Mean (s.d.)	MTP (n=4) Mean (s.d.)	F
Respondent age (years)	32.1 (9.8)	29.9 ^a (9.3)	37.4 ^a (12.9)	35.3 (9.9)	9.02***
Partner Age (years)	34.2 (9.8)	32.8 (10.3)	33.7 (11.7)	31.0 (9.7)	0.24
Relationship (months)	96 (94)	107 (105)	95 (121)	94 (37)	0.18

*** $p < .001$. a = significant difference (Scheffe)

The age of the participants ranged from 16 to 65 years with mean age of 33 years (standard deviation = 11.31). The partners of the participants had an age range of 16 to 69 years with a mean of 33 years (standard deviation = 10.75). The length of relationships ranged from 1 to 504 months with a mean of 104 months (standard deviation = 109). A series of one-way ANOVA revealed that there were no significant difference between the sample groups for the partner age or length of

relationship. However, prisoners were found to be significantly older than students.

The frequency by relationship status for each group are presented in Table 2.5.

Although these frequencies could not be compared statistically (due to 30% having an expected count of less than 5), shelter women were more likely to be divorced than the other groups. Students were least likely to be divorced and most likely to cohabit.

Table 2.5: Frequency of relationship status by group

Group	Single	Casual	Steady	Married/ cohabiting	Divorced/ separated
Shelter (n=43)	23%	0%	5%	14%	59%
Students (n=113)	27%	6%	18%	44%	4%
Prisoners (n=103)	28%	7%	18%	19%	30%
MTP (n=4)	33%	0%	33%	17%	17%

Before grouping the male and female students together, they were compared statistically using series of one-way ANOVA on physical aggression, controlling behaviours, injuries and fear (Table 2.6). The results revealed that female students reported using significantly more physical aggression than did male students (although this difference would not be significant if alpha levels were corrected for multiple comparisons: $p < .01$). The students did not differ on any of the other variables. Therefore, subsequent analysis will combine male and female students.

Table 2.6: Means and Univariate F-ratios for physical aggression, controlling behaviours, injuries and fear for male and female students

	Male		Female		Univariate F-ratio	Sign.
	Mean	s.d.	Mean	s.d.	df = 2,108	
CTS self	0.21	0.73	0.99	2.10	5.18*	.025*
CTS partner	2.74	6.40	1.57	3.70	1.42	.237
Injury self	0.26	0.73	0.42	0.96	0.73	.396
Injury partner	0.03	0.17	0.17	0.55	2.26	.136
Fear self	0.29	0.96	0.61	1.09	2.01	.153
Control self	9.88	8.72	11.43	8.2	0.89	.347
Control partner	12.5	11.6	16.3	15.8	1.73	.192

* $p < .05$

Grouping procedure

In order to investigate the existence of common couple violence and patriarchal terrorism the following grouping procedure was employed. All shelter respondents were used and coded as 'shelter' group. The male prisoner group was divided into: criminally violent prisoners (CVP) who indicated that they had been convicted of a crime of violence and that they had used one or more items on the physical aggression scale (CTS) towards their partner; the remainder were coded non-criminally violent prisoners (NVP). The student sample were labelled 'student'. Unlike the other samples, which are single sex, the student sample was mixed sex. Previous research (Archer, 2000) has found that sex is a moderator of effect size when using reports from women in shelters or men selected for high levels of partner violence. However, when using accounts from student or community samples little difference was found in the proportion of men and women who used individual acts of physical aggression or their composite frequencies. Therefore both the males and females were aggregated for the student sample.

Section 2.2.2: Sample 2: Participants and procedure

To investigate the profiles and sex-distribution of Johnson's 1999 categories (see chapters 6 and 8) a large sample, not containing people selected for high rates of relationship aggression perpetration or victimisation, was collected. Participants were recruited via an email request sent to students and staff at the University of Central Lancashire. Of those that responded 5% failed to complete the questionnaire and 1350 participants provided usable data. Of those 399 were men and 951 were women. The mean age of the participants was 25 years (s.d. 9.3) with a range of 16-59, the mean age of the participants' partners was 26 years (s.d. 9.7) with a range of 16-60. The mean length of their relationships was 28 months (s.d. 21.2). Of the whole sample, 69% were students, 5% were academic staff, 5% were administration staff, 2% were in a caring profession or education, 2% were in information technology, and 2% in a service industry. The remaining 15% were a heterogeneous group of students and staff whose occupations included police officers, librarians, civil servants, and technicians.

Grouping procedure

The group procedure used for this sample is outlined in chapters 5 and 8.

Chapter 3: Sample 1, analysis 1: Discriminating between patriarchal terrorism and common couple violence²

Section 3.1: Introduction

In an attempt to reconcile the apparently conflicting findings of feminist and family violence perspectives, Johnson (1995) suggested that the divergent picture painted by them was due to sampling procedures. Johnson (1995) proposed that there are two distinct types of physically aggressive relationships, common couple violence and patriarchal terrorism (see chapter 1.8).

This chapter investigated the dynamics of relationships found in general and selected populations, using the same measures. The present analysis assessed whether there were two identifiable sub-groups conforming to Johnson's categories of "common couple violence" and "patriarchal terrorism". The CTS (with additional items relating to injury and fear) and the CBS were used (see chapter 2.1)³.

Johnson predicted that the patriarchal terrorist would use a combination of controlling tactics, of which violence is but one, to control his partner. Indeed Johnson stated that there may be cases in which the patriarchal terrorist does not need to use frequent physical aggression if other controlling behaviours prove effective in allowing the assailant to feel in control. Although it is those who use high levels of physical aggression who tend to be reported in shelter populations (see chapter 1.8) it does not preclude the existence of high control but low aggression. In contrast, partners in the common couple violence relationship were viewed as not using

² This analysis has been published, see Graham-Kevan and Archer, 2003a.

³ The modified EXPAGG was not used for the present analysis due to its poor completion rate.

physical aggression as a form of general control and so should not show a pattern of general controlling behaviours.

Three sample populations were used (see chapter 2.2.1). The first consisted of male and female students. Students have been used in dating violence research and, based on previous findings, it was expected that their aggressive relationships would conform to the profile of common couple violence. The second sample group consisted of women from Women's Aid shelters for victims of domestic violence. Shelter residents are often used in feminist research and, based on previous research, it was expected that their relationships will conform to the patriarchal terrorism profile.

The sampling of men in male treatment programs yielded only 4 useable responses and therefore an alternative population was sampled. The alternative sample group consisted of male prisoners. This was subdivided into two sub-groups, the first consisting of respondents who indicated that they had both been convicted of a crime of violence and that they had used one or more items of physical aggression against their partner. These prisoners were coded as criminally violent prisoners (CVP). Previous research identified a subgroup of male batterers who are termed generally violent and /or antisocial batterers (Fagan & Wexler, 1987; Holtzworth-Munroe & Stuart, 1994; Tweed & Dutton, 1998). These batterers are reported as manifesting high levels of aggression and hence could be viewed as similar to the partners of the shelter population. Male batterers attending treatment programs have been used in feminist and clinical research. Previous findings from these studies have produced conflicting findings. Self-reports by these men yielded levels of aggression similar to those *self-reported* by shelter women (Barnett et al, 1997). However, where information on male aggression is obtained from both the man and his partner,

research indicates that male batterers underreport their own physical aggression (Claes & Rosenthal, 1990). Therefore two alternative expectations can be explored, the first being that these men would conform to the patriarchal terrorism profile of relationship aggression. As only the male partners are being sampled, however, this prediction is unlikely to be supported since these men will underreport their own aggression. A more likely finding is that they will report aggression that resembles the common couple violence profile.

The remaining prisoners not identified as being criminally violent were coded as 'non violent prisoners' (NVP). Previous research has found no association between being a non-violent prisoner and partner battering (Hanson, Cadsky, Harris & Lalodi, 1997). Therefore, it is expected that aggressive relationships within this sample group will conform to the profile of common couple violence.

In summary, the aim of present chapter was to evaluate the utility of the relationship characteristics identified by Johnson (1995) as differentiating between common couple violence and patriarchal terrorism. Both the univariate and multivariate relationships between group membership and levels of self and partner physical aggression, injuries and fear of injuries were examined. The strength of the present study is that the same questionnaires are administered in the same way to different sample groups. This allows a direct comparison of their scores. Therefore any differences therein cannot be attributed to different methodologies.

Section 3.2: Method

Section 3.2.1: Participants and procedure

There were 43 women from Women's Aid Shelters, 113 male and female students, and 108 male prisoners. All samples involved the respondent only, reporting

on their own levels of victimisation and their own physical aggression (see chapter 2.2.1 sample 1).

Section 3.2.2: Measures

Physical Aggression:

A modified version of the physical aggression subscales of the CTS (Straus 1979) was used to assess the occurrence of physical aggression (see chapter 2). When scoring the questions, the frequencies for each item were added together to obtain a total CTS score. The Cronbach alpha for self-reports of use of the CTS was .91 (shelter = .89, students = .81, non-violent prisoners = .92, and criminally violent prisoners = .90). For partner-reported use of CTS items the alpha was .96 (shelter = .94, students = .95, non-violent prisoners = .94, and criminally violent prisoners = .86). These alphas are similar to those reported by Straus and Gelles (1990). The frequencies for items 1-3 were added together to obtain a minor CTS score. The frequencies for items 4-8 were added together to obtain a severe CTS score (Straus, 1979). These scores were calculated for both the respondent and the respondent's partner

Injuries and fear of injuries

The three items addressing fear and injuries provided the following variables: fear of injury; minor injuries to self and minor injuries to partner; severe injuries to self and partner (see chapter 2.1.1).

Controlling behaviours

The CBS was used to measure controlling behaviours and was used to produce both an overall controlling behaviours score, and five subscores: 'using economic abuse', 'using coercion and threats', 'using intimidation', 'using emotional abuse',

and 'using isolation' (see table 2.1). The subscores and the total CBS are scored by adding the frequencies for each item together. This is carried out separately for the respondent and the respondent's partner. Cronbach alpha for the CBS were .86 for self-reports (shelter .82, students .81, non-violent prisoners .87, and violent prisoners .88) and .97 for partner reports (shelter .89, students .90, non-violent prisoners .86, and violent prisoners .90).

Section 3.3: Results

Section 3.3.2: Grouping procedure

The grouping procedure (see chapter 2.2.1, sample 1) resulted in the following sample groups: the shelter group consisting of 43 women; the male prisoner group was divided into: criminally violent prisoners (CVP) who indicated that they had been convicted of a crime of violence and that they had used one or more items on the physical aggression scale (CTS) towards their partner ($n = 49$); the remainder were coded non-criminally violent prisoners (NVP) ($n = 64$); the student sample consisted of 42 men and 71 women.

Table 3.1 shows the means for self and partner-reported use of five types of controlling behaviours, and the eight individual acts that comprise the CTS, for the four samples. Looking first at controlling behaviours but ignoring their comparative rates across the subsamples, it can be seen from Figure 3.1 (self-reports) and Figure 3.2 (partner-reports) that all four groups (both self and partner reports) show similar profiles for their own and their partner's use. The most frequent type of controlling behaviour was isolation, for all groups except shelter women's self-reports, where emotional control was more frequent, with isolation being the next. The second most common form of control was (with the exception of self-reports of shelter women)

emotional. Economic was more common than intimidation in all but the self-reports of shelter women. The least common type of controlling behaviours was threatening for all groups. This suggests that if there are differences in controlling behaviour use among different types of relationship, this difference is one of quantity rather than quality. Contrary to expectations that are derived from Johnson's theory, all the groups display a broad range of controlling behaviours, the difference lying in frequency of use.

The profiles of individual acts of aggression, however, show greater divergence both between the groups and between self and partner reports. The shelter women's self-reports are similar to the CVP men's partner reports, which would be expected if these two were both victims of patriarchal men. In frequency terms, the shelter self-reports are approximately half that of the partners of CVP, which is consistent with the difference between self and partner reported frequencies. The NVP were very similar to the student sample for all acts. Among self-reports, the CVPs profile is atypical, as is the shelter women's reports about their partners.

The CVP sample was selected to represent the perpetrators of patriarchal terrorism. Therefore one would expect the partner reports by shelter women to be similar to CVP self-reports. Inspection of the means shows that CVP self-reports are approximately three times lower than shelter partner reports. Meta-analysis of self and partner reports of physical aggression (Archer, 1999) have reported d values of .27 and .34 in the direction of partner-reported physical aggression. Heyman and Schlee (1997) calculated the epidemiological sensitivity rates of the CTS for newlywed and clinical samples, to be used as a correction factor to scale up self-reports when only one partner's accounts are available. They calculated that a correction factor of 2.4 for men's accounts of severe aggression should be used in order to produce levels similar

to those reported by partners. Heyman and Schlee (1997) do not recommend researchers to multiply partner reports by this correction factor, but rather that it is a rough guide for estimating true levels of aggression. With the present data, if a correction factor of 3 for both physical aggression and controlling behaviours is employed as a guide in this analysis, the CVP self-reports of both controlling behaviours and individual acts would be strikingly similar to the rates reported by the shelter women for their partners. Using a correction factor of 3 for self-reports, Figure 3.5 shows controlling behaviours and Figure 3.6 acts of physical aggression. The main difference between the two profiles is in the use of economic control, with shelter reports yielding higher rates than CVP. For individual acts of physical aggression the main differences lay in the use of pushing, slapping, and beating-up. Shelter reports have higher rates of beating-up, whereas CVP reports yield higher rates of pushing and slapping. Using a correction factor for controlling behaviours represents an extension to Heyman and Schlee's (1997) analysis and so is exploratory. However, it could be expected that controlling behaviours would be subject to similar reporting patterns to physical aggression as both types of behaviours are negative and so attempts to respond in a socially desirable manner may be common to both. Indeed later analysis (see Table 8.1) finds this pattern. Although this correction factor will not be employed in the following analysis, its potential use does furnish some support for the rationale behind the grouping procedure.

A series of mixed ANOVAs were run to investigate whether the overall differences between the group, and whether the report was self or partner were significant for the controlling behaviours and acts of physical aggression (see Table 3.2). The overall effects were significant for both group and report for all the controlling behaviours and items of physical aggression. Which indicates that reports

differ by whether they are self or partner reported, and that the groups differed.

Subsequent analysis looks at these effects using multivariate statistics.

Table 3.1: Means (standard deviations) of controlling behaviours and individual acts for the four samples.

	Shelter (Female=43)		Students (Female= 71, Male=42)		Non violent prisoner (Male=64)		Criminally violent prisoners (Male=49)	
	Self	Partner	Self	Partner	Self	Partner	Self	Partner
Economic	2.79 (3.43)	10.16 (5.00)	1.26 (1.86)	1.71 (2.67)	1.15 (1.60)	2.49 (3.53)	1.96 (2.72)	3.13 (3.28)
Intimidation	2.64 (3.37)	12.80 (5.57)	1.86 (1.99)	2.70 (3.85)	2.14 (2.43)	2.05 (2.34)	4.21 (3.27)	3.83 (3.46)
Isolation	3.73 (3.58)	16.30 (5.40)	3.12 (3.25)	4.92 (5.41)	3.02 (3.04)	3.97 (4.00)	5.96 (4.57)	7.39 (5.84)
Threats	2.98 (2.03)	7.27 (3.49)	0.70 (1.16)	0.97 (1.82)	1.07 (1.85)	1.05 (1.85)	2.51 (2.27)	2.30 (2.10)
Emotional	4.25 (3.45)	15.00 (4.85)	2.74 (3.47)	3.58 (4.24)	2.50 (2.96)	3.04 (3.28)	5.13 (4.58)	5.67 (5.12)
Threw	0.64 (0.92)	3.07 (1.02)	0.17 (0.47)	0.40 (0.87)	0.20 (0.54)	0.52 (0.90)	1.18 (1.24)	1.08 (1.16)
Slap	0.70 (0.90)	2.98 (1.25)	0.26 (0.57)	0.53 (0.93)	0.39 (0.75)	0.50 (0.94)	1.69 (1.02)	1.31 (1.01)
Push	0.50 (0.73)	2.84 (1.26)	0.11 (0.37)	0.28 (0.69)	0.16 (0.54)	0.41 (0.88)	1.00 (1.14)	1.23 (1.17)
Hit	0.48 (0.79)	2.84 (1.35)	0.00 (0.19)	0.24 (0.70)	0.13 (0.38)	0.35 (0.83)	0.92 (1.22)	1.02 (1.06)
Kick	0.48 (0.88)	2.68 (1.43)	0.01 (0.34)	0.23 (0.72)	0.07 (0.32)	0.35 (0.85)	0.55 (0.94)	1.06 (1.19)
Beat	0.01 (0.42)	2.50 (1.53)	0.01 (0.09)	0.12 (0.53)	0.17 (0.68)	0.15 (0.60)	0.63 (1.03)	0.29 (0.74)
Threat	0.34 (0.83)	2.02 (1.59)	0.03 (0.21)	0.11 (0.63)	0.11 (0.57)	0.24 (0.69)	0.29 (0.68)	0.37 (0.82)
Weapon	0.16 (0.57)	0.98 (1.39)	0.01 (0.09)	0.07 (0.49)	0.11 (0.57)	0.06 (0.31)	0.10 (0.37)	0.21 (0.50)

Table 3.2: ANOVA comparisons of report by group for controlling behaviours and individual acts (shelter n: female=43; students n female= 71, male=42; non violent prisoner: n male=64; criminally violent prisoners n: male=49)

	Between subject effects of group	Within subject effects of report
Economic	$F(3,250)=52.6, p<.001$	$F(1,250)=118, p<.001$
Intimidation	$F(3,250)=485, p<.001$	$F(1,250)=115, p<.001$
Isolation	$F(3,250)=644, p<.001$	$F(1,250)=139, p<.001$
Threats	$F(3,250)=473, p<.001$	$F(1,250)=130, p<.001$
Emotional	$F(3,250)=484, p<.001$	$F(1,250)=163, p<.001$
Threw	$F(3,250)=50.2, p<.001$	$F(1,250)=98.1, p<.001$
Slap	$F(3,250)=39.4, p<.001$	$F(1,250)=67.5, p<.001$
Push	$F(3,250)=49.5, p<.001$	$F(1,250)=108, p<.001$
Hit	$F(3,250)=56.8, p<.001$	$F(1,250)=117, p<.001$
Kick	$F(3,250)=54.4, p<.001$	$F(1,250)=93.4, p<.001$
Beat	$F(3,250)=60.3, p<.001$	$F(1,250)=84.3, p<.001$
Threat Weapon	$F(3,250)=47.3, p<.001$	$F(1,250)=52.5, p<.001$
Use Weapon	$F(3,250)=16.7, p<.001$	$F(1,250)=16.9, p<.001$

Sex-differences were not the focus of the present analysis. The lack of sex-symmetry is a common feature of sampling strategies used by feminist researchers and therefore the present analysis, in seeking to investigate the effect sampling rather than sex differences, has thus far ignored the sexual composition of the groups. Johnson (1995) proposed that samples derived from selected and non-selected sources would yield relationship profiles that differed in levels of control and violent behaviour. His theory did not extend to discussion of the sexual composition of the samples used, his distinction instead was based only the use of controlling and noncontrolling aggression. However, to explore the affect of sex upon classification a second DFA was conducted using only students. Using prior probabilities it would be expected that 39% of men and 59% of women would be classified correctly by chance alone, 52% of the total (Table 3.3). The DFA classification found that 68% were

classified correctly which is not substantially higher than chance level (Tabachnick & Fidell, 1996). Therefore, although a classification based upon sex in the student group produced a slightly higher than chance level of classification accuracy, the were not ‘substantially higher’ and indeed are lower than the subsequent classification (Table 3.3). This suggests sample group rather than sex is a more important factor.

Table 3.3: Classification results for discriminate function derived from analysis of variables obtained from respondent reports of students only.

Actual group	No. of cases (prior p)	Predicted Group	
		1	2
Group 1 Males	32 (39%)	13 (41%)	19 (59%)
Group 2 Females	50 (61%)	7 (14%)	43 (86%)

Percent of grouped cases correctly classified: 68.3%

The student and NVP displayed very similar profiles for self and partner reports of controlling behaviours and acts of physical aggression. Since research indicates no association between being a non-violent prisoner and partner battering (Hanson et al, 1997), the student and NVP samples were combined, and then screened for respondents who indicated that they or their partners used one or more acts from the CTS. Those respondents who had reported no aggression in their relationship were excluded from the present analysis. The reasons for screening for physical aggression were twofold. First the purpose of this study was to discriminate between different types of relationships in which *physical aggression is present* (both the shelter and the CVP were selected on the basis of the occurrence of physical aggression). Second, such a procedure has been used previously (Straus et al, 1996) to minimise the skew

in distribution inherent in this type of data. The samples used in the following analysis are therefore shelter (n=43), student/NVP (n=69), and CVP (n=47).

Section 3.3.2: Discriminant Function Analysis

Discriminant Function Analysis (DFA) is a technique used to predict group membership from scores on a set of predictor variables. DFA is used for membership prediction in naturally occurring groups, although it can readily be used for experimentally manipulated groups. DFA is also tolerant of unequal sample sizes. The advantage of multi as opposed to univariate analysis is the ability to preserve a 5% Type 1 error rate while testing several variables (Tabachnick and Fidell, 1996).

A full DFA was used and to maximise power, the number of predictor variables was reduced by combining the controlling behaviours subgroups into a total controlling behaviours score and the eight individual acts into minor and severe physical aggression. The predictor variables used were therefore: total controlling behaviours both self and partner reports, fear experienced by self, minor CTS scores for self and partner and, severe CTS scores for self and partner, minor injuries to self and partner, and major injuries to self and partner. Due to at least one missing variable 17 cases were excluded from the following analysis. Direct DFA was used allowing all predictors to enter the equation at once. The cases were weighted for sample size of the groups.

Univariate Analysis

Means and Univariate ANOVAs are presented in Table 3.3. With the exception of self-reported controlling behaviours, all the predictor variables differed significantly as a function of group membership. Scheffe post hoc tests were used to investigate simple effects. CVP men used significantly more acts of minor physical

Figure 3.1: Self Reports of Controlling Behaviours

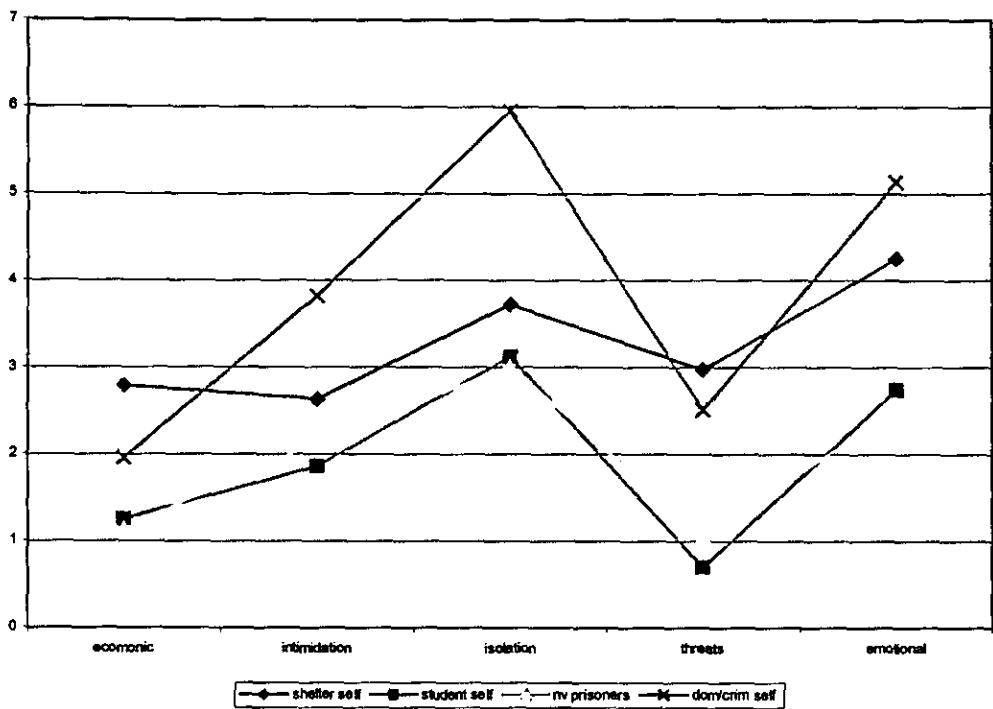


Figure 3.2: Partner Reports of Controlling Behaviours

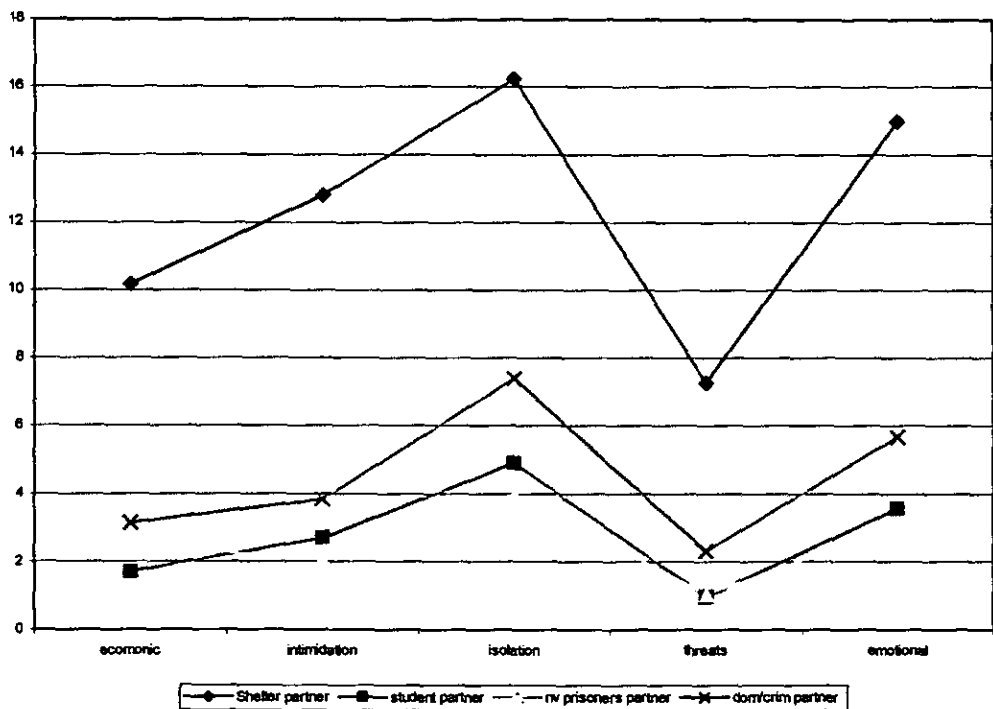


Figure 3.3: Self Reported use of Individual Acts of the CTS

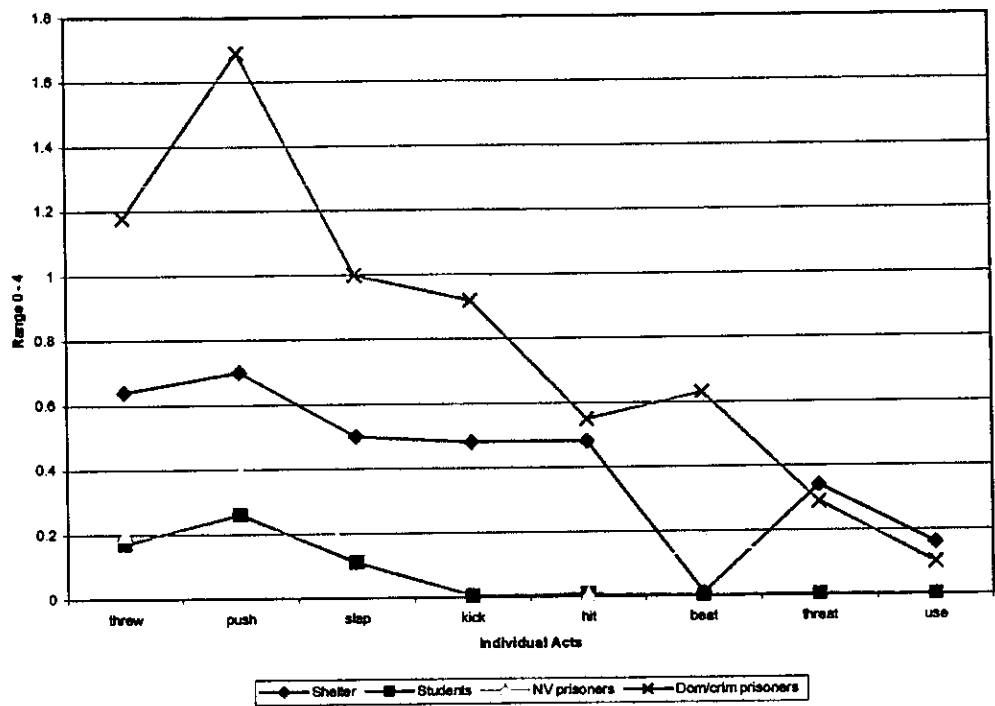


Figure 3.4: Partner Reported use of individual Acts from the CTS

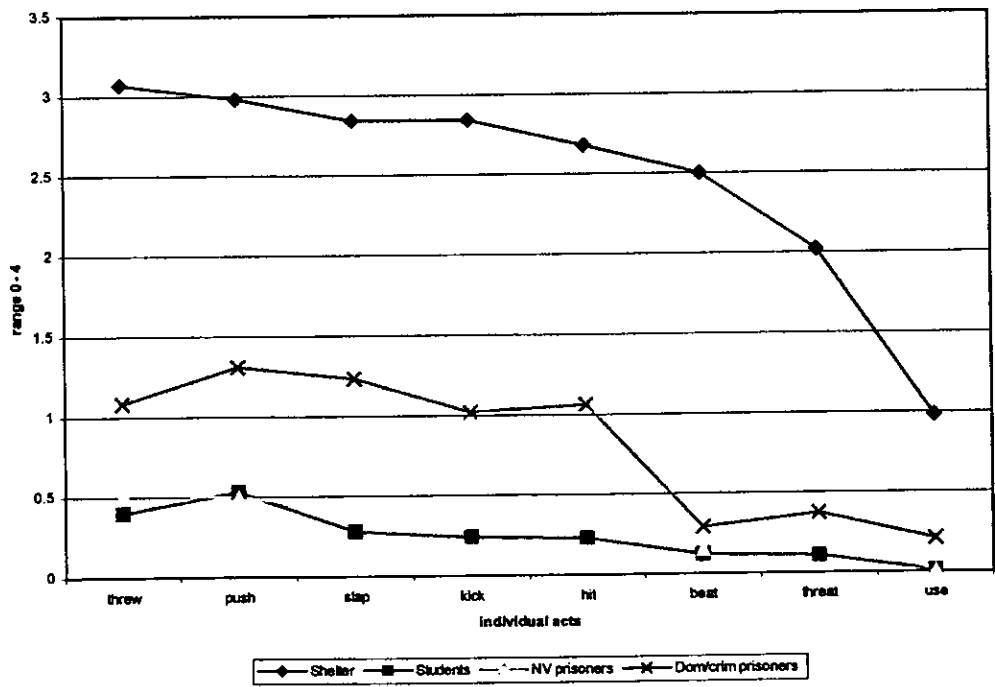


Figure 3.5: Reports of Controlling Behaviours of Patriarchal Terrorists (criminally violent prisoners' self-reports X3).

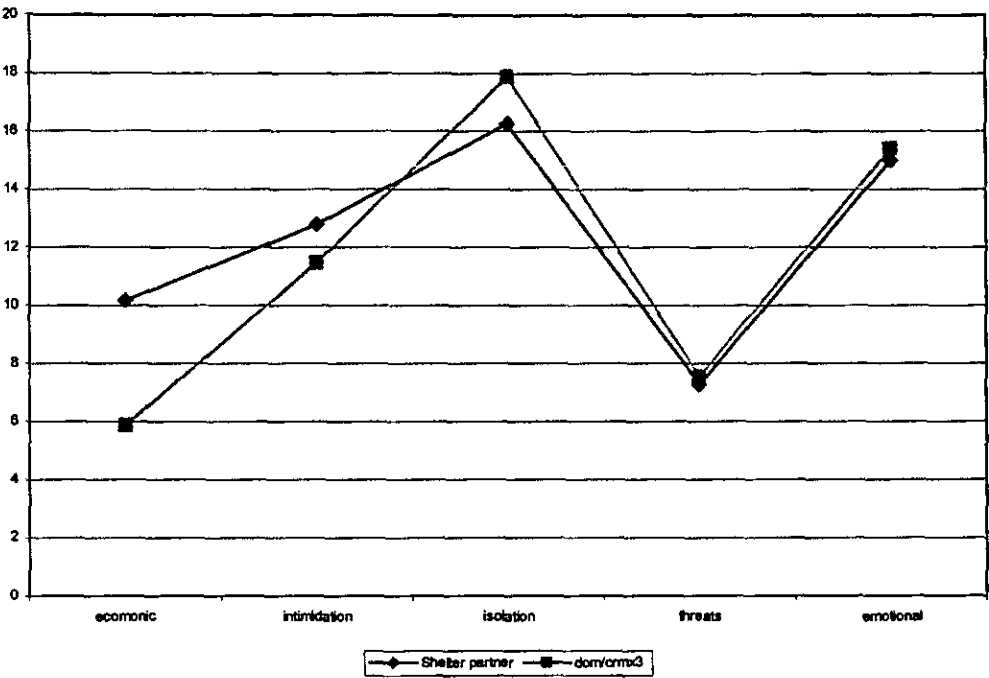
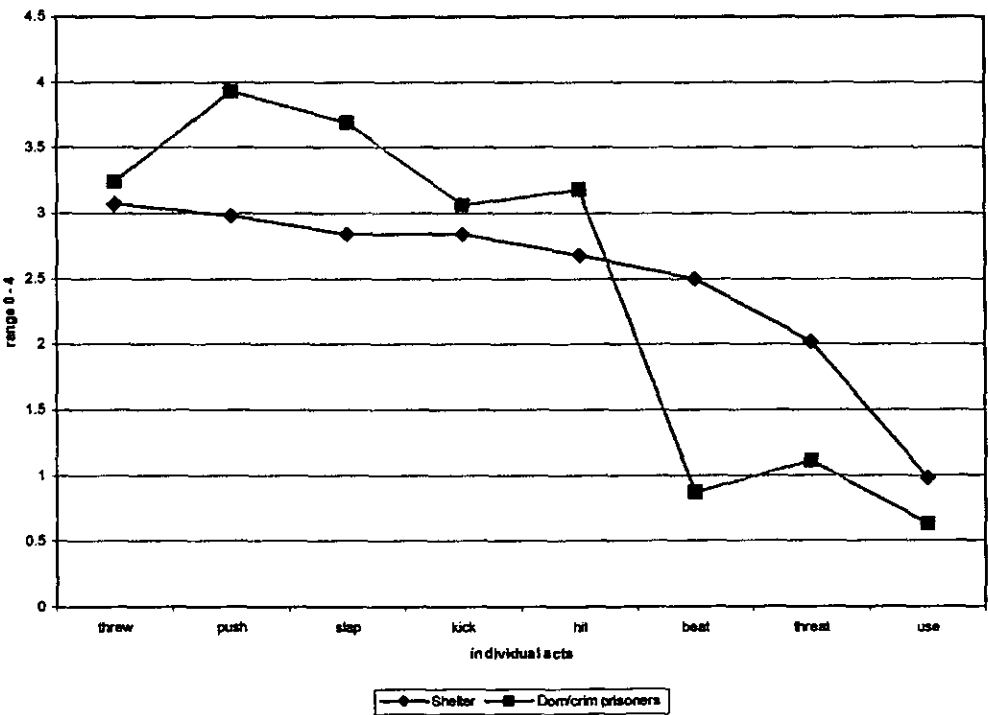


Figure 3.6: Patriarchal Terrorists use of Individual Acts from the CTS (criminally violent prisoners' self reports X3)



(but not severe) aggression than shelter women ($p = .005$) and student/NVP ($p < .0005$), and inflicted more injuries requiring ($p = .02$) and not requiring ($p = .006$) medical attention than the student/NVP ($p = .02$) group. Shelter women reported their partners using significantly more minor and severe physical aggression, sustaining more minor and severe injuries, feeling more afraid, and being subjected to more controlling behaviours than student/NVP and CVP ($p < .0005$).

Multivariate Analysis

DFA attempts to group variables into functions (similar to factors in Factor Analysis). The maximum number of discriminate functions generated with three groups is two. In the present analysis both of these significantly discriminated between the three groups (Table 3.4). The first function was composed of items relating to partner behaviours and their consequences and is termed 'Victimisation'; the second function was composed of items relating to respondent aggression and its consequences and is termed 'Perpetration'. The squared canonical correlation (R^2) indicates the degree of relationship between group membership and the set of predictors for each function. R^2 for the Victimisation function accounted for 87%, and for the Perpetration function for 13% of the variance between the groups.

The loading matrix of correlations between predictors and the two discriminant functions are presented in Table 3.5. The predictor variables with the most discriminative ability are the ones that have the largest correlations with the Victimisation function. These are (in order of importance) controlling behaviours used by a partner, fear experienced, minor injuries sustained, minor and severe violence by partner. The strongest predictors for the Perpetration function were minor violence by self, minor and severe injuries sustained by partner and severe violence by self.

Table 3.4: Means and Univariate F-ratios for the 11 predictor variables of the 3 sample groups.

	Shelter n=41		Student/NVP n=59		CVP n=41		Univariate F-ratio df= 2,138
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Minor CTS self	1.95 ^a	2.40	1.46 ^b	1.90	3.88 ^{ab}	2.85	13.47***
Minor CTS partner	9.20 ^{ab}	2.94	3.22 ^a	3.00	3.78 ^b	2.73	57.46***
Severe CTS self	1.61	2.72	0.83	2.39	2.70	2.93	4.10*
Severe CTS partner	11.34 ^{ab}	5.87	2.39 ^a	4.37	3.12 ^b	3.20	52.17***
Minor Injury self	2.85 ^{ab}	1.31	0.63 ^a	1.13	0.66 ^b	1.06	52.27***
Minor Injury partner	0.39 ^a	0.70	0.25	0.73	0.85 ^a	1.13	6.11**
Major Injury self	1.39 ^{ab}	2.48	0.10 ^a	0.55	0.20 ^b	0.60	11.35***
Major Injury partner	0.12	0.51	0.00 ^a	0.13	0.44 ^a	0.81	10.25**
Fear self	3.10 ^{ab}	1.16	0.76 ^a	1.21	0.51 ^b	1.19	61.82***
Control self	17.71	10.62	15.34	10.81	19.93	12.89	1.98
Control partner	62.63 ^{ab}	17.96	23.00 ^a	15.91	22.76 ^b	15.34	85.63***

a, b and c denote significant difference (Scheffé $p < .05$).

* $p < .05$, ** $p < .005$, * $p < .0001$

Table 3.5: Largest absolute correlations of predictor variables with the discriminate functions.

Predictor variable	Correlations of predictors with discriminate functions	
	Victimisation	Perpetration
Control partner	.79	
Fear self	.68	
Minor injuries self	.64	
Minor violence partner	.62	
Severe violence partner	.61	
Severe injuries to self	.28	
Minor violence self		.77
Severe injuries partner		.68
Minor injuries partner		.52
Severe violence self		.45
Control self		.31
Canonical R ²	.87	.13
Eigenvalue	1.95	.29

Table 3.6 shows where cases originating from each of the three groups would be placed based on their scores for the variables measured. This classification of group membership as seen in Table 3.6 indicates that, overall, 75% of grouped cases were correctly identified compared to 32% of cases overall if assigned by prior probability only. Of the shelter group 88% of cases were correctly classified, 83% of the student/NVP, but only 51% of the CVP.

Section 3.4: Discussion

The aim of this study was to assess whether subgroups selected as corresponding to Johnson's (1995) patriarchal terrorism and common couple violence categories would be distinguishable in terms of their patterns of physical aggression and controlling behaviours. Since Johnson proposed that patriarchal terrorism was accessible through clinical samples such as women's shelters, women in shelters were sampled as victims of patriarchal terrorism. Prisoners with records for violence against the person and who also used physical aggression within their relationship were also sampled as an example of perpetrators of patriarchal terrorism. The following pattern was expected in the shelter population: high levels for partner perpetration of controlling behaviours, minor and severe physical aggression by partners, high levels of fear by the respondent, and both minor and severe injuries sustained. The following would be expected in the violent prisoner profile: high levels of perpetration of controlling behaviours, and minor and severe physical aggression against their partners, and high levels of injuries inflicted upon their partners.

Table 3.6: Classification results for discriminate function derived from analysis of variables obtained from respondent reports.

Actual group	No. of cases (prior p)	Predicted			Membership
		1	2	3	
Group 1 Shelter	41 (29%)	36 87.8%	4 9.8%	1 2.4%	
Group 2 Student /NVP	59 (41%)	5 8.5%	49 83.1%	5 8.5%	
Group 3 CVP	41 (29%)	0 0%	20 48.8%	21 51.2%	

Percent of grouped cases correctly classified: 75.2%

The shelter women reported significantly higher levels of partner perpetrated minor and severe physical aggression, and controlling behaviours than either of other two groups. These women also reported sustaining significantly more injuries, both those that did not and those that did require medical attention, and experiencing the highest levels of fear during conflicts. Therefore the shelter sample fits the predicted profile of female partners within a patriarchal terroristic relationship.

The CVP sample did not produce self-reports comparable with the shelter sample's partner reports. The CVP pattern did however support the alternative prediction that they would report a profile of aggregate scores which was more in keeping with common couple violence. In comparison to the other two groups the CVP did report using significantly higher levels of minor physical aggression. They reported using significantly more severe physical aggression than the student/NVP group (discussed below) but not the shelter women, which replicates the findings of

Barnett et al (1997). The CVP group also reported experiencing lower levels of fear than the shelter but not the student sample. The CVP inflicted significantly more injuries, both minor and those requiring medical attention, upon their partners than either of the other two groups.

The results from the analysis of CVP can be interpreted in three possible ways. The first is that the sampling and grouping procedures were not successful in accessing male batterers and instead merely sampled a more violent version of common couple violence. However, differences between the CVP and a common couple violence profile would lead to a questioning of this explanation. In family violence research, respondents consistently report inflicting less physical aggression (Archer 1999; Follingstad et al, 1991; De Maris 1992) and using fewer controlling behaviours (e.g. Moffit et al, 1997) than their partners. The respondents of the CVP group, however, did not show this pattern. These respondents reported inflicting more injuries upon their partners than they reported sustaining, (contrasting with the common couple violence group discussed below), and they also reported experiencing the lowest level of fear of all respondents.

Two alternative explanations are based on the assumption that the sampling and grouping procedures used were successful and these respondents were the men from Johnson's patriarchal terrorism group. The first interpretation is that the profile they present is accurate, and that shelter women overestimate their partner's physical aggression, and the injuries they themselves experience. The second is one that Barnett et al (1997) endorses, that the male respondents have underreported their own use of these behaviours, resulting in comparatively equal reports. Research into male Batterers has consistently found this profile and concluded that they underreport their violence (e.g. Claes & Hemphill, 1990; Dutton & Rosenthal, 1992), however this was

not empirically tested. On this view the relationship profile predicted by Johnson (1995) for patriarchal terrorism is supported by the shelter reports but not by the CVP reports because of underreporting by the men. Unfortunately the present data does not allow a conclusion to be drawn regarding which of these three explanations are correct. Further research is required before it is possible to discern which, if any, of these interpretations receive support.

Johnson (1995) proposed that common couple violence relationships are accessible through general and student populations. This study found both the students and NVP reported very similar profiles and hence these groups were combined. The student/NVP reported the lowest levels of both self and partner-perpetrated minor and severe physical aggression of all the groups; and significantly lower levels of sustaining injuries, both those requiring and not requiring medical attention, than the shelter group. They also reported inflicting significantly fewer injuries, both minor and severe, than the CVP group. The student/NVP reported significantly less fear than the shelter sample. Partner-perpetrated controlling behaviours were significantly lower than in either of the other groups. As expected from previous research, self-reported use of minor and severe physical aggression was between two to three times lower than they reported for their partners. The profile predicted by Johnson (1995) for common couple violence relationships was therefore supported in that respondents reported using and being subjected to low levels of physical aggression, which rarely if ever resulted in injury and rarely made the respondent feel in fear during conflicts.

We can conclude that patriarchal terrorism and common couple violence relationships differ significantly in terms of physical aggression, controlling behaviours, fear, and injuries and that the sampling techniques used by family

violence and feminist perspectives would result in very different relationship profiles. This conclusion is based on comparison of behaviours and feelings between the groups. It does not inform us of the relative strength of each of these measures in discriminating between respondents sampled from different populations.

When all of the measures were examined it was possible to rank the order of their discriminatory ability. The measures grouped into those concerned with victimisation and those concerned with perpetration. Victimisation emerged as the most important discriminant function, with controlling behaviours used by one's partner showing the greatest discriminatory ability. This supports Johnson's distinction between physical aggression used within a control framework and physical aggression that is not. After partner-perpetrated controlling behaviours, self-reported fear was the next most important, followed by minor acts of physical aggression perpetrated by the partner, minor injuries sustained, severe acts of physical aggression by the partner, and sustaining injuries requiring medical attention. Victimisation (a collection of these measures) accounted for 87% of the variance between the groups and discriminated between the shelter sample and the student/NVP and CVP groups.

The perpetration function, although accounting for only 13% of the variance discriminated the shelter sample from the other groups, but importantly was more successful in discriminating between the student/NVP and the CVP groups than was the victimisation measures. Within the perpetration function, use of minor acts of physical aggression against one's partner showed the greatest amount of discriminatory ability, followed by severe and then minor injuries to one's partner, the use of severe acts of physical aggression, and finally controlling behaviours used by the respondent.

If one uses the measures from this study to predict individuals' membership of a group, 88% of shelter respondents would be placed correctly(chance level 29%), 83% of student/NVPs (41% chance level) and 51% CVPs (22% chance level). These figures indicate that the areas of discrepancy between feminist and family violence perspectives reflect differences of sampling strategies, as Johnson (1995) argued, rather than measurement techniques or differences in interpretation.

The present findings provide broad support for the observations of Johnson (1995), Riggs (1993), and Vivian and Langhinrichsen-Rohling (1994) that subgroups showing different patterns of physical relationship aggression exist in the general population. Johnson commented that the sample groups used by qualitative and quantitative researchers "deal with nearly non-overlapping phenomena" (p.280). This was supported by the present findings with each sample group yielding different profiles. Feminist and family violence researchers appear to be concerned with two different patterns of partner aggression. Their assumption that we can generalise from one or the other pattern to all forms of domestic violence needs to be reassessed.

The present findings also have important implications for marital therapists and persons responsible for intervention programs. Such agencies should seek to identify the type of relationship aggression a presenting couple is involved in before offering advice and / or treatment. Failure to recognise that there are at least two qualitatively different types of relationship aggression could result in misleading or even dangerous advice being given.

The present analysis investigated the behavioural acts that suggest a control motive, however, due to poor completion of the EXPAGG this analysis did not allow the cognitive component of partner aggression to be studied, with the grouping procedure employed. The partner-reported EXPAGG data was particularly poorly

completed, also due to the small sample sizes when using the EXPAGG, the prisoner group could not be subdivided into violent and non-violent, as there were too few non-violent prisoners with usable EXPAGG data. However it was still possible to investigate self-reported beliefs about aggression. In chapter 4, beliefs about aggression and their relationship with use of partner aggression and controlling behaviours were investigated. This investigation was conducted for both men and women, and across the three (student, shelter, and prisoner) sample populations. The analysis sought to build on the existing research into social representations of aggression that have found sex-differences in endorsement of instrumental and expressive beliefs, but only where the target of aggression was not specified (Campbell et al, 1993; Campbell & Muncer, 1994; Campbell et al, 1996; Campbell, Sapochnik & Muncer, 1997, Archer & Haigh, 1997a). The present analysis not only specified the sex of the target but also the relationship that the respondent had with the member of the opposite sex. Previous research has found that instrumental, but not expressive, beliefs are positively associated with the use of physical aggression (Archer & Haigh, 1997b; Campbell, Muncer and Odber, 1997). However, the analysis in chapter 4 contains a sample of women who appear to be victims of patriarchal terrorism (see chapter 3), these severely physically abused women are believed to use physical aggression to defend themselves (e.g. Dobash et al, 1998). Therefore this sample may not show the otherwise robust positive relationship with instrumental beliefs found in other samples. The violent prisoner group also appear to be similar to perpetrators of patriarchal terrorism (chapter 3) and the student group appear to be involved in common couple violence therefore the beliefs about the use of partner physical aggression across qualitatively different types of relationship could be studied.

Chapter 4: Sample 1, Analysis 2: Do Beliefs About Aggression Predict Physical Aggression to Partners?⁴

Section 4.1: Introduction

The analysis in chapter 3 found support for Johnson's (1995) typology of partner aggression. Therefore, the analysis in chapter 4 sought to investigate further the holding of beliefs about partner aggression within populations that may contain qualitatively different types of partner aggression. There were three rival predictions relating to beliefs about aggression, these predictions derived from feminist, general aggression theorists and Johnson (1995).

The instrumental use of aggression has been studied in various ways within the aggression literature. The use of physical aggression as a means of coercive control is central to feminist analysis of male physical aggression (Dobash and Dobash 1984, Dobash et al 1998, Walker 1989). Feminists have tended to reject expressive attributions of male physical aggression seeing these as "... a verbal strategy that is intended to mitigate the wrongdoer's responsibility for his actions." (Scott & Lyman, 1968 cited in Smith, 1991: 517). However there is evidence that the degree of instrumentality of men's aggression may be overestimated when women assign attributes to men's aggressive behaviour (Campbell et al., 1996). Clinical studies that have asked male batterers about their use of physical aggression towards their partners have found that they tend to be either predominantly impulsive (expressive) or instrumental, and further that instrumental batterers are the less physically aggressive of the two types (Tweed and Dutton, 1998). Barnett et al (1997) compared attributions of controlling motives (among others) for the use of physical aggression among men in male domestic violence treatment programs (MTP) and

⁴ This analysis has been published, see Archer and Graham-Kevan (2003).

women in shelters. It was found that male abusers did report using physical aggression more frequently in order to 'show who's the boss' than women which implies an instrumental motivation. Hamberger et al (1997) found a range of attributions when classifying motivations for 'domestic violence' among both males and females referred due to their own domestic violence. These attributions appear to show a mixture of expressive, instrumental and self-defensive motivations, which are similarly endorsed by both males and females and abusers and victims. These studies support a link between instrumental and expressive motivations and the use of physical aggression in selected samples.

Studies that have investigated reported motivations for physical aggression in non-selected samples have also found an association between physical aggression and both instrumentality and expressiveness as personality traits. Stets and Pirog-Good (1990) used items from the Personality Attributes Questionnaire (PAQ) to measure instrumentality and expressiveness as a personality trait: hence instrumentality and expressiveness were not directly related to aggression (although the two measures are known to weakly, but significantly, correlate, Campbell & Muncer, 1994). They found that instrumental men were less likely to be either perpetrators or victims of physical aggression than were expressive men.

If one views controlling tactics as the behavioural component of instrumentality, a different picture emerges. Stets (1993) found that women were more controlling than men and further that control was related to physical aggression for both men and women though in subtlety different ways. It was found that women's attempts at control were positively related to their use of physical aggression and their victimization at the hands of their partners. For men it was successful control that predicted both perpetrating physical aggression and being victimized by it (although

see earlier comments on this distinction, chapter 1.9). A relationship between control and physical aggression in non-clinical samples has been found consistently in studies that measure them (e.g. Foshee, 1996, Cano et al, 1998).

Another line of research is that of social representations or beliefs about aggression, which have been found to be associated with using physical aggression (see chapter 1.3). Instrumental beliefs have been found to be related to the use of physical aggression (Archer & Haigh, 1997a; Campbell et al; 1992; 1993), whereas expressive beliefs have been found to be negatively related to their use of physical aggression for men and unrelated for women (Archer & Haigh, 1997a; 1997b).

Therefore the evidence regarding instrumentality and expressiveness and their relationship to aggression is mixed. Feminists would regard male aggression as instrumental and could cite work with female victims and some studies with male perpetrators to support such a claim. Evolutionary theorists would also regard men's physical aggression towards their female partners as instrumental, as it is believed to be the result of proprietary attitudes towards women (Wilson & Daly, 1992, 1993). Gender-neutral researchers have found consistent relationships between instrumentality and aggression in both men and women, and a more mixed picture regarding expressive beliefs, and so would expect a relationship between using physical aggression and endorsing instrumental and possibly expressive beliefs about aggression. Johnson's (1995) theory, however, would lead to the expectation that patriarchal terrorist aggression would endorse instrumental beliefs, and that CCV individuals would be expressive, as physical aggression results from a loss of control rather than the patriarchal terrorist's aggression that is part of a general attempt to assert control. The motivation behind shelter women's use of physical aggression is believed to be self-defensive and so one would probably expect their aggression to be

unrelated to instrumental or expressive beliefs, as it is believed to be used to control a specific situation - their partner's physical aggression.

Having established that the populations used in the present analysis do correspond to Johnson's categories (chapter 3), a modified version of the EXPAGG was developed to use with relationship aggression perpetrators (see chapter 2.1). Unlike the scales used to measure aggressiveness as a general trait, the CTS (Straus, 1979) was used for the present study, with the target for physical aggression specified as the respondent's present or most recent partner. The association between instrumental and expressive beliefs about aggression and non-violent controlling tactics used towards relationship partners was also investigated. It would be expected that instrumental beliefs would be related to nonviolent controlling behaviours. Therefore from feminist and evolutionary analysis one would expect men's instrumental beliefs to be associated with their physical aggression, and also with their non-violent controlling tactics. Since this analysis only applies to men, any physical aggression by women would be seen as self-defensive, and therefore not associated with either instrumental beliefs about aggression or with non-violent controlling tactics. Alternatively from Johnson's theory it would lead to the expectation that instrumentality would be related to controlling behaviours in the PTM group, but not in the CCV group.

To summarize the three general research questions were investigated, the first, derived from feminist and evolutionary analysis, is whether instrumental beliefs are linked to partner aggression and controlling behaviours in men but not for women, for whom expressive beliefs are more likely to be associated with partner aggression. The second, derived from research on general measures of aggression, is whether instrumental beliefs are linked to aggression to partners whatever the sample or the

sex of the individual concerned. The third research question to be investigated, derived from Johnson (1995), is whether instrumental beliefs are associated more strongly with aggression among men who use violence to control their partners, and only to a weaker extent among community samples characterized by lower levels of physical aggression, who will also show some association between aggression and expressive beliefs.

Section 4.2: Method

Section 4.2.1: Participants and procedure

The participants were a subsample of those described in chapters 2.2.1 and 3.2.1. The present sample consisted of those who reported one or more acts of physical aggression to their partner ($N = 115$) and also completed the modified version of the EXPAGG. This subsample comprised 40 students (11 men and 29 women), 46 (male) CVP, and 29 shelter women.

Section 4.2.2: Measures

The measures used for the current analysis are self-reported beliefs about their own use of physical aggression towards their partner, self-reported use of physical aggression, respondent's fear, injuries to the respondent and their partner, and self and partner-reported use of controlling behaviours.

Section 4.3: Results

Throughout this chapter many separate tests are conducted, therefore significance levels of .05 should be viewed with caution as no correction factor was employed for multiple comparisons.

Section 4.3.1: Correlations

Instrumental (I) and expressive (E) beliefs about aggression were independent of one another, the correlation between them for the whole sample being $r = -.01$. The correlations between I beliefs and aggregate measures of physical aggression to a partner were positive and significant for the whole sample (Table 4.1). Likewise, for the whole sample there were significant positive correlations between the I scale and six of the eight CTS acts (Table 4.2). The only CTS act that showed a significant (positive) correlation with the E scale for the whole sample was “beat up”.

Table 4.1 also indicates that the student subsample showed the strongest associations between I beliefs and acts of physical aggression to a partner, the overall value being $r = .54$. The shelter sample and the CVPs only showed one significant correlation in each case, with throw and hit respectively, the correlations with the aggregate CTS values being non-significant in both cases.

Table 4.1 also shows the separate correlations for males and females. Men showed a significant positive correlation between I beliefs and aggregate CTS scores ($r = .40$), and between I beliefs and five of the eight CTS acts (the other three showing non-significant positive correlations). They also showed positive correlations between E beliefs and the eight acts, two of which (slap and hit) were significant, although the correlation with the aggregate CTS score was lower than for several of the individual acts. Women showed only one substantial and significant correlation, between I beliefs and hit, although those with expressive beliefs were all were negative (but non-significant), contrasting with the pattern for men. More importantly, the overall correlation between I beliefs and aggregate CTS scores for women was, although low, positive ($r = .23$), despite a large proportion of the women involved being from a women’s shelter.

Fisher's Z test showed that two acts showed significantly higher correlations with I beliefs for men than for women (kick: $Z = 1.80$, $p < .05$; beat: $Z = 1.83$, $p < .05$), although the difference between the correlations for the aggregate CTS acts was non-significant ($Z = 1.48$, $p < .1$). However, there were larger differences between the correlations for men and women for E beliefs and individual CTS acts (throw: $Z = 2.03$, $p < .05$; slap: $Z = 3.10$, $p = .001$; push: $Z = 1.61$, $p = .05$; hit: $Z = 2.44$, $p < .01$; kick: $Z = 2.03$, $p < .05$; beat: $Z = 1.80$, $p < .05$; threaten with weapon: $Z = 2.48$, $p < .01$). This occurred because the correlations for men were generally positive whereas those for women were generally negative. The aggregate CTS scores also showed a significant sex difference in the correlations with E beliefs ($Z = 2.17$, $p < .05$).

Table 4.2 shows the correlations between I and E beliefs, fear of being physically hurt, and both minor and severe injuries to self and partner. For the aggregate sample, fear of being hurt was not significantly correlated with beliefs about aggression, although among the shelter women there was a moderate (but non-significant) negative correlation between fear of being hurt and I beliefs. Correlations between injury to the self and beliefs about aggression were likewise low and non-significant. However, causing an injury to one's partner was significantly correlated with I beliefs, both for minor and severe injuries. Among the student sample, this correlation was highest for minor injuries, and among the shelter sample it was highest for severe injuries. For the men, I beliefs were significantly correlated with both minor and severe injuries to the partner, and for women with severe injury to the partner.

There is, therefore, a correlation for the whole sample between holding instrumental beliefs about one's aggression and actual physical aggression to the partner, in the form of aggregate CTS acts, and individual CTS acts, and also with injuring the partner. For the whole sample there was little sign that expressive beliefs were

associated with physically aggressive acts or with causing injuries, “beat up” being a possible exception.

These correlations between I beliefs and partner aggression were much stronger in the student sample than in either the other two samples. In the shelter sample, only “hit” was significantly associated with I beliefs and in the CVPs only throw was. The correlation between I beliefs and aggregate CTS values was particularly low for the shelter sample. When the two sexes were examined separately, correlations between I beliefs and partner aggression were much stronger for men than for women, although women still showed correlations between holding instrumental beliefs and injuring the partner. Men showed consistent but low positive correlations between most acts and expressive beliefs, whereas the sign was generally negative for women.

Table 4.3 shows the correlations between beliefs about aggression and controlling behaviour. I beliefs were significantly positively correlated with the overall score for controlling behaviour, whereas E beliefs were not ($r = .09$). Expressive beliefs did however show a small negative correlation with the partner’s controlling behaviour score: thus, respondents who had more controlling partners were slightly more expressive in their beliefs about aggression. The correlations between I beliefs and controlling behaviour were stronger among women than men (although the difference was non-significant using a Fisher’s Z test), and among the shelter sample than the other samples (but again the comparisons using Fisher’s Z test were non-significant).

Table 4.1: Correlations between CTS items and the Modified EXPAGG I and E scales for the combined sample and subsamples

	Overall	Throw	Slap	Push	Hit	Kick	Beat up	Threaten	Weapon
Combined I	.32**	.34**	.20*	.21*	.33**	.22*	.14	.18	.24**
(<u>n</u> = 112) E	.02	.04	.06	.15	.08	.07	.23*	-.00	-.04
Student I	.54**	.51**	.37*	.45**	.45**	.45**	.21	.25	.21
(<u>n</u> = 40) E	-.08	-.07	-.27	.05	.02	-.20	.19	-.04	
CVPs I	.31**	.38**	.19	.16	.23	.26	.20	.18	.21
(<u>n</u> = 46) E	.25	.10	.26	.26	.27	.14	.24	.12	.08
Shelter I	.11	.05	-.07	-.03	.42**	-.03	-.17	.11	.25
(<u>n</u> = 29) E	-.13	-.15	-.17	-.02	-.07	-.01	-.03	-.20	-.11
Males I	.40**	.45**	.29*	.29*	.22	.31*	.26*	.20	.24
(n = 57) E	.18	.18	.26*	.24	.31*	.19	.30	.22	.05
Females I	.23	.20	.09	.13	.44**	-.02	-.08	.15	.24
(n = 58) E	-.23	-.20	-.31	-.06	-.14	-.19	-.03	-.24	-.17

*p<.05; **p<.01

Section 4.3.2: Multiple regressions

Table 4.4 shows the results of standard multiple regressions carried out using overall physical aggression as the criterion and I and E values as predictors. These analyses indicate that when both beliefs are entered as predictors, only I beliefs significantly predicted physical aggression to partners, for the aggregate sample, and for the student, CVP and male subsamples. The adjusted R^2 values were .08 overall, .16 for the CVPs to .34 for the students.

Table 4.5 shows that instrumental but not expressive beliefs significantly predicted injuries to the partner, for the aggregate sample, for the student subsample, for women, and to a lesser extent for men. The R^2 values were .08 overall, .17 for students, and .12 for women.

Table 4.2: Correlations between fear and injuries, and the Modified EXPAGG I and E scales for the combined sample and subsamples

		Fear	Minor Injury (P)	Minor Injury (S)	Severe Injury (P)	Severe Injury (S)
Combined (\underline{n} = 112)	I	.04	.29**	.03	.31**	.03
	E	-.17	.06	-.17	.13	-.05
Student (\underline{n} = 40)	I	.17	.47*	.07	.18	.08
	E	.03	-.22	.09	-.07	-.18
CVPs (\underline{n} =46)	I	.18	.28	.06	.28	-.08
	E	-.02	.16	.02	.17	-.10
Shelter (\underline{n} = 29)	I	-.34	.17	-.18	.39*	.02
	E	.11	-.11	-.01	.06	.11
Male (n =57)	I	-.08	.34*	.06	.33*	-.04
	E	-.02	.15	.11	.15	.04
Female (n = 58)	I	.20	.25	-.03	.34*	.06
	E	.08	-.18	-.20	.01	-.06

P = partner; S = self; * $p < .05$; ** $p < .01$

Table 4.3: Correlations between Controlling behaviours and I and E scales for the whole sample and subsamples

		Controlling behaviours (S)	Controlling behaviours (P)
Combined (n = 112)	I	.38**	.07
	E	.09	-.23*
Student (<u>n</u> = 40)	I	.29	.17
	E	-.15	-.11
CVPs (<u>n</u> =46)	I	.28	.23
	E	.23	.00
Shelter (<u>n</u> = 29)	I	.50**	-.33
	E	.17	.04
Male (n =57)	I	.32*	.26
	E	.23	.01
Females (n = 58)	I	.46**	-.06
	E	-.08	-.29*

P = partner; S = self; * $p < .05$; ** $p < .01$

Table 4.4: Multiple regression of EXPAGG I and E scales onto overall CTS scores for the whole sample and subsamples.

		Beta	t	p	R^2
<hr/>					
Student	I	.66	3.64	<.001	.39
	E	.08	.45	.66	
Final statistics: $F(2,23) = 7.40$, $p < .005$, Adjusted $R^2 = .34$					
Shelter	I	.16	.76	.45	.03
	E	-.14	-.65	.52	
Final statistics: $F(2,26) = 0.37$, $p = .70$, Adjusted $R^2 = -.05$					
Prison	I	.38	2.81	.007	.20
	E	.22	1.61	.12	
Final statistics: $F(2,44) = 5.41$, $p < .01$, Adjusted $R^2 = .16$					
Men	I	.48	3.81	.000	.22
	E	.12	0.97	.34	
Final statistics: $F(2,51) = 7.38$, $p < .002$, Adjusted $R^2 = .19$					
Women	I	.21	1.41	.17	.06
	E	-.16	1.11	.27	
Final statistics: $F(2,45) = 1.36$, $p = .27$; Adjusted $R^2 = .02$					

Table 4.5: Multiple regression of EXPAGG I and E scales onto the infliction of injuries to partners, for the whole sample and subsamples.

		Beta	t	p	R ²
Student	I	.46	2.05	.05	
	E	-.07	-.33	.74	.24
Final statistics: F(2,20) = 3.23, p = .06, Adjusted R ² = .17					
Shelter	I	.38	1.92	.07	
	E	-.21	-1.04	.31	.13
Final statistics: F(2,26) = 1.91, p = .17, Adjusted R ² = .06					
Prison	I	.21	1.33	.19	
	E	.15	.95	.35	.07
Final statistics: F(2,39) = 1.49, p = .24, Adjusted R ² = .02					
Men	I	.29	2.00	.052	
	E	.09	0.64	.524	.09
Final statistics: F(2,45) = 2.14, p = .129, Adjusted R ² = .05					
Women	I	.38	2.66	.011	
	E	-.23	-1.61	.114	.16
Final statistics: F(2,43) = 4.15, p < .05; Adjusted R ² = .12					

Section 4.4: Discussion

In the Introduction, several general research questions were outlined: feminist and evolutionary theories would expect men's aggression to be strongly associated with instrumental beliefs and unrelated to expressive beliefs. Men's instrumentality would also be associated with controlling behaviours. Women's aggression would not

be associated with instrumental beliefs, and would be unrelated to controlling behaviours. Gender-neutral researchers have found consistent relationships between instrumentality and aggression in both men and women, and a more mixed picture regarding expressive beliefs and so would predict a relationship between using physical aggression and endorsing instrumental and possibly expressive beliefs about aggression. Johnson's (1995) theory however, would lead to the expectation that patriarchal terrorist aggression would endorse instrumental beliefs, but that CCV individuals would not, resulting as it does from a loss of control rather than the patriarchal terrorist's aggression that is part of a general attempt to assert control. Further, among patriarchal terrorists, but not CCV or shelter women, instrumental beliefs would be related to controlling behaviours. The motivation behind a shelter woman's use of physical aggression is believed to be self-defensive (e.g. Dobash et al, 1998) or fear motivated (Campbell, 1999) and so unrelated to expressive or instrumental beliefs.

The findings for the whole sample, that instrumental beliefs were correlated with overall physical partner aggression, and with most of the individual acts, supported the position of gender-neutral theorists, which was based on research showing an association between instrumental beliefs and behaviours (control) and general measures of aggression (e.g., Archer and Haigh, 1997a, 1997b). However, the finding that the strongest link with instrumental beliefs occurred among the student sample was inconsistent with the expectation based on Johnson's (1995) analysis, that the association should be strongest among men from a physically aggressive sample (in this case the prison sample). Although the prison men did show a positive correlation between aggression to a partner and instrumental beliefs, this was lower than for the students. Shelter women showed the lowest correlation between

instrumental beliefs and aggression, a finding that would be expected from Johnson's analysis (since they are or were recipients of controlling aggression by their partners). The absence of correlations between expressive beliefs and partner aggression for the student sample was counter to the other expectations we derived from Johnson's analysis. However, a later analysis by Johnson and Ferraro (2000, see chapter 5) suggests that control may be a motive in CCV, but that it is a form of control narrowly focused on winning a particular argument, rather than a general motive to control all the other's actions. The control measure used by them was an aggregate of several types of controlling behaviours some of which may be expected to occur during an argument, such as smashing property, whereas others are indicative of a more general pattern of control such as monitoring one's partner's activities.

One further complication to the expectations from Johnson's analysis concerns the finding that there are sub-categories of male batterers (e.g., Tweed & Dutton, 1998: see Introduction). One of these corresponds to instrumental forms of aggression in that the overall motive to control is clearer and the men are lacking in expressed emotion. Men from the other, impulsive, subtype show indications of rage and higher levels of anger (Tweed & Dutton, 1998), so that they may hold expressive beliefs. Examination of Table 4.1 indicates some support for this suggestion, in that among the prison sample both I and E beliefs were positively (but not significantly) correlated with measures of physical aggression, and to a lesser extent with injuries.

The second research question was derived from feminist analyses linking men's partner aggression to instrumental beliefs, and to controlling behaviour generally. There were substantial correlations between instrumental beliefs and overall CTS scores, and with individual acts, for men. For women, there was some indication of a positive association between instrumental beliefs and CTS acts,

although this was weaker than for men. Yet there was a significant correlation between instrumental beliefs and injuring a partner for women. There was no indication of an association between expressive beliefs and physical aggression for women. Another finding inconsistent with the male control perspective was the positive association between expressive beliefs and some CTS acts for men, but not for women. We can conclude that although there is a stronger association between instrumental beliefs and partner aggression for men, this is the extent to which the findings support the male control analysis, and that other correlations are inconsistent with it.

The positive and significant correlations between instrumental beliefs and non-violent controlling behaviour would at first sight seem to lend support to the male control perspective. However, this view would also predict that the association would be absent or much weaker among women. This was not the case: both women in general, and shelter women in particular, showed a closer link between instrumental beliefs and controlling behaviour than men did. Thus the association was found for both sexes, rather than being, as predicted, restricted to men.

When the magnitude of the correlations between men and women were compared statistically, there were few significant differences for instrumental beliefs and CTS acts, suggesting that among women there was simply a weaker link between instrumental beliefs and partner aggression. The link between instrumental beliefs and partner injury for women further supported this interpretation. In contrast, the differences in the correlations for men and women were generally significant for expressive beliefs, because those for men tended to be positive whereas those for women were generally negative. From the male control perspective, the opposite pattern would be expected.

None of the research questions outlined in the Introduction can fully explain the pattern of associations between beliefs about aggression and partner aggression found in the different samples and for men and women. The closest fit is that instrumental beliefs will be associated with physical aggression to partners, and that this applies both to men and women. However, neither this explanation, nor the one that restricts this prediction to men, can explain the higher correlations between partner aggression and expressive beliefs for men than women. Archer & Haigh (1999) found that both men's and women's expressive scores were higher for partner rather than for same-sex opponents (Astin, Redson & Campbell, 2003 did not find this, although their result may be due to the setting used i.e. public rather than private place). Archer & Haigh (1999) further found that they were also higher for physical rather than verbal aggression, although women's expressiveness scores were higher across all conditions: this was also found by Astin, et al., (2003). Archer & Haigh did comment that attitude research would have led to a prediction of higher expressive scores for men involved in partner violence. Astin et al (2003) found support for this contention with their finding that women viewed their own aggression as more morally acceptable than did men. This effect was not reflected in higher expressive scores for men, although the expected sex difference was not found. This may explain the present finding in that this effect may have been enhanced by the samples used. Shelter women's aggression may be regarded as the most morally acceptable (supported by the negative, though not significant, relationships between physical aggression and expressive beliefs) and hence their inclusion would reduce overall female expressive-aggressive relationships. Male CVPs however, would be expected to view their aggression as least morally acceptable due to masculine values regarding the appropriate target of aggression (Campbell, 1993) and so endorse expressive

beliefs (supported by the positive though not significant relationships between expressive beliefs and aggression): and hence their inclusion would inflate the expressive–aggression relationship in the male sample.

Of course the present data, derived from a cross-sectional study, cannot inform us about the direction of causality between instrumental beliefs and physical aggression to partners. One possibility is that the beliefs are part of a causal network leading to partner aggression being used when conflict arises. The other is that they come into play after the physical aggression has begun, and act as a way of justifying the actions to the self and to the partner. However, the first explanation may be both causal – rendering physical aggression a more likely response to conflict – and also a form of justification – providing legitimacy once the action has occurred.

The use of a modified version of the EXPAGG (Archer & Haigh, 1997) may have limited the generalisability of the present data set. Comparing the items used in the present study with those found by Campbell et al. (1999) to constitute separate short expressive and instrumental scales reveals that the present instrumental scale includes seven out of the eight items from their scale. The only exception is the item regarding being challenged to fight in public, which was eliminated from the present scale as it was not appropriate for partner violence. The present expressive scale contains five out of the eight from Campbell et al.'s scale. One item again was concerned with public versus private aggression and so was not appropriate for the current study. Therefore the scales used seem to be a reasonable selection of items.

The present study has a number of limitations, an important one being the use of multiple tests without alpha level adjustments. This means that the results should be viewed with caution as future research is needed to be able to ascertain how reliable these findings are. Contributing to this problem was that the sample sizes

involved in the subsamples were small. There were practical obstacles that prevented obtaining partner reports from the CVPs and the shelter women. The absence of self-reports of aggression and EXPAGG scores from the violent male partners of shelter women limited the extent to which we could assess whether a sample of men who were consistently violent to their partners would show a high correlation between instrumental beliefs and physical aggression. Nevertheless, using a sample of CVPs all of whom had been convicted of a crime of violence and had admitted one or more act of physical aggression to a partner, provided a substitute for this missing sample. We were able to detect no indication that in this sample, instrumental beliefs were any more closely linked with partner aggression than they were in student samples. We were also able to establish the absence of a link between expressive beliefs and partner aggression in the student sample, which was inconsistent with our expectations based on Johnson's analysis. We may therefore tentatively conclude that although it is possible to categorise relationships based on their patterns of physical aggression and controlling behaviour into "patriarchal terrorism" and "CCV" samples (chapter 3; Johnson, 2001), the individual-level variables associated with being physically aggressive to a partner do not vary substantially between these samples, or indeed between men and women. In general, it is people who view their aggression in instrumental terms that tend to be more physically aggressive to their partner, to injure them more and to seek to exert more control over them.

A problem with the analysis so far conducted (chapter 3 and 4) is that patriarchal terrorism and CCV may not be found exclusively in one of each of the populations sampled. Johnson (1995) himself acknowledged that some cases of patriarchal terrorism were detected in general populations. It is therefore possible that the populations sampled, although showing characteristics consistent with their

expected typology (chapter 3 and 3), may actually contain a more heterogeneous mix of relationship types. A further problem with the preceding analysis is that Johnson's typology is based upon only the perpetrator's use of physical aggression and controlling behaviours. The present dichotomy of patriarchal terrorism or CCV ignores the dyadic nature of all partner interactions including physical aggression.

In 1999 Johnson addressed these issues when he presented analysis which allowed reports about a respondent's and their partner's use of controlling behaviours and physical aggression to be used to classify relationships. Due to the dyadic nature of this classification procedure, Johnson had to expand his categories from two to four. Therefore the sample used in chapter 3 was reanalysed using Johnson's (1999) classification procedure.

Chapter 5: Sample 1, analysis 3: Intimate terrorism and Common Couple Violence: A Test of Johnson's Predictions in Four British Samples⁵

Section 5.1: Introduction

After I had completed the analyses of chapters 3 and 4, Johnson (1999) presented further work, which addressed the problems highlighted in the preceding chapter. This reanalysis allowed people to be classified in relationship to their own, and their partner's behaviours, rather than on the basis of the population from which they were drawn. The classification procedure he used was based on reports about a respondent's and their partner's frequency of use of controlling behaviours and whether they and / or their partner's used any act of physical aggression to classify relationships. Therefore the sample used in chapter 3 was reanalysed using Johnson's (1999) classification procedure.

Johnson (1999) presented analyses of data collected by Frieze in the 1970s. Frieze interviewed a sample of women known through contact with shelters or the justice system to be or have been involved in a violent relationship. She then interviewed one neighbour of each violent couple. Therefore the sample was known to contain women from relationships similar to shelter populations and women similar to those in survey samples. Johnson first classed respondents as being high or low in the use of controlling behaviours, and whether they used physical aggression or not. At this point it became apparent that the distinction he had previously made related only to one member of a relationship, and that he needed to be able to place different types of aggression within a dyadic context. He therefore classified people on the basis of their own and their partner's use of control and aggression. Common couple violence (CCV) was when one or both members of the relationship used non-controlling physical aggression, intimate terrorism (IT), was when the respondent

⁵ The analysis in this chapter has been published, see Graham-Kevan and Archer (2003b).

used controlling aggression and their partner used either no physical aggression or non-controlling aggression. Two new categories were created; violent resistance (VR) and mutual violent control (MVC). VR is when a partner of an IT uses non-controlling physical aggression. Although it is akin to self-defence, Johnson & Ferraro (2000) argued that such a term is too restrictive. Although VR can be self-defensive in the legal understanding of the word, it is not confined to this context: however the dynamics are not clear due to little research having been conducted on this group (including Johnson's work 1999; Johnson & Leone, 2000). MVC is described as essentially two intimate terrorists battling for control over one another: again this group is under-researched and so ill-defined.

Controlling behaviours were measured using questions from Frieze's interviews, which although not specifically designed for this purpose, were chosen to correspond with the PCW (Pence & Paymar, 1993). Two items were used for the category 'threats', 'threaten to use force and throwing objects', although throwing objects would be classed as intimidation using the PCW. 'Economic' was the mean of two items: who makes the decisions about how family money is spent (dichotomised as husband or wife making the final decision or having the deciding vote), and how much money a woman/man had to spend, without having to account for it (\$10 or less was classed as high control, more than \$10 was low control). 'Isolation' was the mean of two items, 'does your husband know where you are when not together?', and 'do you not go to places you'd like to because husband doesn't want you to?' 'Emotional abuse' was the mean of three items: (1) unpleasant sex due to unfavourable comparisons with other women, never or rarely praises you, (2) never/rarely smiles, (3) concerned for your feelings or calls you pet names (which was reverse scored). Johnson calls the latter two 'passive' emotional abuse.

'Physical aggression' was measured by the item 'has your husband/you ever actually slapped or pushed you/him, or used other physical force', which was dichotomised into never or once or more. 'Escalation' was measured by the item 'did he/you become more violent over time?' 'Injury' was measured by the item 'the time your husband/you were most violent, how badly were you/him hurt', and was coded as physical force but no pain, no physical injury, simple injury, severe, no trauma, severe some trauma, or permanent injury.

Using cluster analysis, Johnson categorised relationships involving physical aggression as CCV (55% male, 45% female), IT (97% male, 3% female), violent resistance (VR) (4% male, 96% female), or mutual violent control (MVC) (50% male, 50% female). These types of relationship aggression were then identified as belonging to either a general survey sample (90% CCV) or a shelter sample (74% IT / VR). Johnson then compared male (as reported by their female partner's) IT and CCV samples on measures of escalation of violence, severity of male violence (as indexed by injuries sustained by female partners), mutuality of violence, and frequency of violence. He found that relationships labeled 'IT' were more likely to have involved escalated levels of aggression, involved more injurious aggression, and to be typified by disproportionate levels of aggression between partners, than relationships classified as 'CCV'. Johnson did not, however, find that victims of IT were any less likely to aggress themselves than were partners in CCV relationships.

Johnson & Leone (2000) presented analysis of data from the National Violence Against Women Survey (NVWS) using only women's reports. The NVWS represented an improvement on Frieze's data in that physical aggression was measured using the CTS. Injury was the most recent sustained, therefore more likely to be representative of the general pattern of injuries, than Frieze's measure which

measured the most severe injury sustained. Escalation was not measured directly although time since last incident was. Unlike Johnson's previous analysis, measures of psychological well being, interference with everyday activities and help-seeking behaviours were also available. Controlling behaviours were measured using seven items from the PMWI (Toleman, 1987). Using PCW protocol, three of these items were isolation control, three were emotional, and one was economic. Johnson & Leone again used cluster analysis to create two groups based on the reports about the husbands' scores on each of the seven items. Using the same classification techniques as Johnson (1999) they classified IT and CCV only. They found a surprisingly high number of ITs, with 35% of husbands' violence being so classified, which contrasts with 10% in the previous study. This high number was attributed to the way the questions were framed, as a crime rather than conflict (see chapter 1 for a discussion of these types of data). They found that on average IT was significantly more frequent, more likely to escalate, and more severe than CCV. There was wide variation in scores, however. IT victims were significantly more likely to have suffered an injury, though not a severe injury. IT victims were also more likely to suffer post-traumatic stress disorder (PTSD), depression (although not more likely to use anti-depressants), disruption of daily activities, and to have left their partners due to violence and used a safe-house.

It is clear that the data-set necessary for distinguishing between IT and CCV must include not only rates of physical aggression for both self and partner, but also information on the use of different types of controlling behaviours. The current data, presented in chapter 3, unlike the earlier data-sets used in Johnson's (1999; Johnson & Leone, 2000) analysis, was collected specifically to discriminate between IT and CCV and hence is ideally suited for the following analysis which both replicates, and where

appropriate extends, the analysis performed by Johnson (1999). For the present analysis physical aggression was measured by the CTS, an instrument that has been used with a diverse range of samples (e.g. Giles-Simms, 1985, Laner, 1985 see chapter 2.1) and represents an improvement over the single item measure used by Johnson (1999). Severity of physical aggression is assessed by two items that relate to the frequency of injuries sustained in all conflicts during the last year, rather than Johnson's item for severity of physical aggression, which relates only to the 'most violent' episode. The most violent episode is likely to be atypical because it is identified as standing out from the more usual level of injurious aggression. Controlling behaviours were measured using a scale which classified all the controlling behaviours using DVIP protocol.

The analysis described in this chapter was a replication of that performed by Johnson (1999) with additional analysis performed where appropriate (e.g. Univariate analysis of sex by relationship type on rates of aggression). In order to test the following predictions each respondent and the respondent's partner needed to be classified as using either: 1) no violence (NV), 2) non-controlling violence (NCV), or 3) controlling violence (CV). The relationship could then be classified as 1) non-violent, where neither spouse uses violence; 2) individuals involved in CCV (non-controlling violence used by one or both spouses); 3) individuals involved in IT (individuals using CV and their partners using either NV or NCV); 4) VR (individuals who use NCV only, but whose spouse uses CV); 5) MVC (where both spouses use CV). Classification was based the on the frequency of use of controlling behaviours and whether any acts of physical aggression had been used. The initial analysis classified each member of the dyad on the above relationship characteristics, and

subsequent analysis involved only relationships where violence played a part (therefore all 'non-violent' relationships were omitted).

Johnson (1999) set out the following research questions that can be investigated using the analytic procedures he outlined:

- 1) Partner violence occurs in both high and low control contexts.
- 2) IT is primarily male and in a heterosexual context it follows that VR will be primarily female. CCV is gender symmetric
- 3) IT will result in higher levels (more frequent) of physical aggression than CCV.
- 4) IT is more likely to escalate than is CCV.
- 5) IT will result in more injuries than CCV.
- 6) Targets of IT are less likely to be violent than are targets of CCV.
- 7) IT appears almost exclusively in shelter samples, and CCV almost exclusively in survey samples.
- 8) As a result of the patterns predicted, domestic violence appears to be sex-symmetric in survey samples, and exclusively male in shelter samples.

Section 5.2: Method

Section 5.2.1: Participants and procedure

These were the same as used for the Discriminant Function Analysis in chapter 3, with 43 shelter residents, 97 prisoners, 103 students. In addition to these samples used in chapter 3, the data from the 4 men who were attending a male treatment program (MDVTP) for domestic violence were included. These men were included in this analysis as the groups were to be based on behaviours rather than the population sampled. These men were contacted via questionnaires distributed to their program users. The response however was poor in the MDVTP sample and therefore

no conclusions can be made regarding the representiveness of these men's responses to treatment programme clients generally. All participants reported on their own and their partner's behaviours.

Johnson (1999) used an "artificially constructed" (p.7) sample in which each respondent supplies information on both their own and their partner's behaviours. The reports of both members of the dyad are entered into the data set as separate cases. This technique was thus employed in the present study, producing the following sample sizes: Shelter women and their partners, $n = 86$; men in MDVTP and their partners, $N = 8$; male prisoners and their partners, $n = 194$; and students, $n = 206$. It should be borne in mind therefore that all shelter data is from reports given by women, and all prison and MDVTP data from men. The student sample was mixed-sex: hence male and female reports could be either self-reported or partner reported behaviours.

Section 5.2.2: Measures

The measures are those used in chapter 3, with addition of escalation (see chapter 2.1 for details) and the exception of fear.

Section 5.3: Results

Section 5.3.1: Cluster analysis of Controlling Behaviours Profiles

A K-means cluster analysis was conducted using SPSS version 7 in order to code individuals as either high or low on the five types of controlling behaviours: economic, threats, intimidation, emotional abuse, and isolation. Self and partner reports were treated as separate cases. A two-cluster solution was selected, using Euclidean distance as a measure of dissimilarity. The cluster membership was saved as a variable. The meaning of the two clusters is apparent by contrasting the value for

the cluster centres for both clusters on each of the five types of controlling behaviours (Table 5.1). In accordance with Johnson (1999) the two clusters have been termed 'high' and 'low' control. Using ratio data it can be seen that high controllers use economic control over 3.5 times more frequently than low controllers, threats over 5 times more, intimidation nearly 6 times more, emotional nearly 5 times more, and isolation nearly 5 times more.

Table 5.1: Control Tactics by Cluster
(Reports on both men and women from one partner, N=494)

		Economic Control	Threats	Intimidation	Emotional Abuse	Isolation
High Control (N=73)	Mean (s.d.)	2.41 (1.11)	1.67 (0.90)	2.42 (0.91)	2.81 (0.95)	3.16 (0.93)
Low Control (N=421)	Mean (s.d.)	0.65 (0.66)	0.73 (0.99)	0.40 (0.44)	0.58 (0.61)	0.74 (0.70)

Types of control are derived from subscales of the CBS.

Section 5.3.2: Two forms of physical aggression: Controlling and Non-Controlling physical aggression.

In order to investigate the first research question, that partner physical aggression occurs in both high and low control clusters, the frequencies of controlling and non-controlling physical aggression were calculated. For this purpose physical aggression was treated as a discrete variable, with those who had used *any* act of aggression being classed as physically aggressive. The frequencies in Table 5.2 show that there are individuals who have used physical aggression against their partners in both the high and low control clusters. The proportions are similar to those found by Johnson (1999). Overall there were 239 physically aggressive individuals in the present sample; of these 27% were high controllers (Johnson reported 32%).

Another way of investigating use of control behaviours and physical aggression is to compare the frequency of controlling behaviours of those that do and those that do not use physical aggression. It can be seen that physically aggressive individuals use significantly more frequent controlling behaviours than do nonviolent individuals (see Table 5.2).

Table 5.2: Means (s.d.) and t-test comparisons of physically aggressive and nonviolent individuals (Reports on both men and women from one partner, N=494)

	Economic Control	Threats	Intimidation	Emotional Abuse	Isolation
Physically aggressive (n=239)	4.96 (4.47)	3.20 (3.30)	5.56 (5.31)	7.09 (5.75)	7.94 (6.45)
Nonviolent (n=255)	2.33 (2.56)	0.77 (1.62)	1.57 (2.10)	2.26 (3.24)	3.00 (3.35)
t(490)=	8.06*	11.22*	11.08*	11.54*	10.74*

Types of control are derived from subscales of the CBS. * indicates $p < .001$.

The partner reports were likewise coded. Therefore each party in a relationship was coded as being non-violent (NV), using non-controlling violence (NCV), or controlling violence (CV). If neither party used any physical aggression the relationship was called NV. Dyads where only NCA was used (by one or both partners) were labelled common couple violence (CCV). Dyads where the respondent

used NCA and their partner used CA were labelled violent resistance (VR). Dyads where the respondent used CA and their partner used no physical aggression or NCA were labelled intimate terrorism (IT). Dyads where both the respondent and their partner used CA were called mutual violent control (MVC).

The frequency of each type of relationship was found to be: NV 52% (n=255), IT 11% (n=53), VR 6% (n=30), MVC 3% (n=16), and CCV 28% (n=140).

Table 5.3: Physical Aggression by Control Type (Data on both self and partner reports, N=494)

	Physically aggressive	Not physically aggressive	n
High Control	95%	5%	100%
	(69)	(4)	(73)
Low Control	40%	60%	100%
	(170)	(251)	(421)
n	239	255	494

Participants were classified as high or low control based on cluster membership. Participants who indicated that they had used any physical aggression during the last 12 months were classified as physically aggressive.

Section 5.3.3: Sex and Physical Aggression

The second research question relates to sexual symmetry / asymmetry. It was expected that IT would be perpetrated primarily by men and VR by women, and that CCV would be sexually symmetric. Table 5.4 presents the frequencies of each type of relationship by the sex of the individuals. IT is, as expected, primarily male (87%). Although this supports the second expectation it is not as absolute as Johnson (1999) reported (96%). VR is clearly female (90%) in the present sample, but is still slightly

lower than that reported by Johnson (96%). CCV is almost sexually symmetric (45% males and 55% females) which is consistent with expectations.

Table 5.4: Individual Aggressive Behaviour in a Dyadic Context, Classified According to relationship Category
(Physically aggressive individuals only as reported, by either Husbands or Wives, N=239)

	Husbands	Wives	n
Total physical aggression	50%	50%	239
Mutual Violent Control	50%	50%	16
Intimate Terrorism	87%	13%	53
Violent Resistance	10%	90%	30
Common Couple Violence	45%	55%	140

Mutual violent control = both partners using controlling aggression, Intimate terrorism = participant uses controlling aggression, Violent resistance = participant uses non-controlling aggression and partner uses controlling aggression, Common couple violence = one or both partners uses non-controlling aggression.

Section 5.3.4: Characteristics of intimate terrorism and common couple violence for both males and females

To investigate the remaining research questions, the subsequent analyses centred on perpetration of IT and CCV only. The third research question relates to frequency of physical aggression within the two relationship categories.

Section 5.3.5: Perpetration of minor acts of physical aggression

A sex by relationship type ANOVA was conducted on the perpetration of minor acts of physical aggression. A significant main effect was found for relationship type ($F(1,189) = 56.79, p < .0005$) with IT ($m = 8.5$) perpetrating significantly more acts of minor physical aggression than CCV ($m = 3.2$) individuals.

There was a significant main effect for sex ($F(1,189) = 6.67, p < .05$) with men ($m = 6.0$) perpetrating significantly more acts of minor physical aggression than women ($m = 4.6$). A significant interaction between relationship type and sex was found ($F(1,189) = 8.13, p < .01$). Simple effects analysis showed that male IT ($m = 8.9$) used significantly more minor physical aggression than IT females ($m = 5.6$) ($t = 2.25, df = 51, p < .03$).

Section 5.3.6: Perpetration of severe acts of physical aggression

A sex by relationship type ANOVA was conducted on the perpetration of severe acts of physical aggression. A significant main effect was found for type of relationship ($F(1,189) = 49.48, p < .0005$) with IT ($m = 10.2$) perpetrating significantly more acts of severe physical aggression than CCV ($m = 2.0$) individuals. A significant main effect was found for sex ($F(1,189) = 6.10, p < .05$) with men ($m = 6.3$) perpetrating significantly more acts of severe physical aggression than women ($m = 4.1$). There was a significant interaction between relationship type and sex ($F(1,189) = 7.84, p < .01$). Simple effects analysis found that IT men ($m = 10.8$) perpetrated significantly more severe acts of physical aggression than CCV men ($m = 1.9$) ($t = 8.74, df = 57.7, p < .01$).

To control for the possibility that sex differences were driven by sample bias (through self-reports and reports-about-partner) a further analysis was conducted. By using only respondent self-reports, and treating self-reports and reports-about-partner as a within-subjects factor, it is possible to test whether males and females differ in the extent to which they report self and partner behaviours. A significant interaction would indicate that they do. Neither Sex by (self/other report) ANOVA for minor physical aggression ($F(1,66) = 2.25, p > .05$) nor severe physical aggression ($F(1,66)$

= 0.22, $p > .05$) proved significant. This suggests that although self reports are generally found to be lower than reports about a partner (see analysis of sample 2) this effect is not significantly mediated by the sex of the respondent.

Section 5.3.7: Partner perpetration of minor acts of physical aggression

A sex by relationship type ANOVA of partner's use of minor aggression revealed no significant main effects for relationship type ($F(1,189) = 3.59$, $p > .05$) or sex ($F(1,189) = 0.69$, $p > .05$), and no significant interaction between relationship type and sex ($F(1,189) = 0.40$, $p > .05$).

Section 5.3.8: Partner perpetration of severe acts of physical aggression

A sex by relationship type ANOVA of partner's use of severe physical aggression revealed no significant main effect of relationship type ($F(1,189) = 3.58$, $p > .05$) or of sex ($F(1,189) = 2.91$, $p > .05$), and no significant interaction between relationship type and sex ($F(1,189) = 0.32$, $p > .05$).

The implication of the above analysis is that there are significant differences in the rates of physical aggression between IT and CCV individuals, but not in their partner's behaviours. ITs do perpetrate more acts of both minor and severe acts of physical aggression than CCV individuals, and whereas CCV respondents showed sexual symmetry in the perpetration of physical aggression, ITs did not. IT men perpetrated significantly more acts of minor physical aggression than IT women and IT men perpetrated significantly more acts of severe physical aggression than CCV men.

Section 5.3.9: Escalation of physical aggression

The fourth research question suggested ITs would be more likely to escalate their physical aggression than CCV individuals. To investigate the relationship

between escalation and sample group frequencies were calculated. Table 5.5 shows that ITs were more likely to escalate their use of physical aggression than CCV perpetrators ($X^2 = 32.54$, $df = 2$, $p < .0005$).

Table 5.5: Level of Escalation by Type of Relationship Category
(Perpetrators of Intimate terrorism and Common couple violence only, $N=105^*$)

	De-escalated	No change	Escalated	N
Intimate terrorism	11% (4)	11% (4)	78% (28)	100% (36)
Common couple violence	48% (33)	32% (22)	20% (14)	100% (69)
N	37	26	42	105

* Item on Escalation was not included for all participants. Participants were asked if their aggression had reduced (de-escalated), stayed the same (no change) or increased (escalated) over the course of their relationship.

Section 5.3.10: Injuries inflicted on partners

Severity of physical aggression was indexed by examining injuries to partners.

The frequencies for injuries to partners by relationship type are presented in Table 5.6. The two groups displayed discordant rates for injuries not requiring medical attention ($X^2 = 70.14$; $df = 4$, $p < .0005$) and injuries that required medical attention ($X^2 = 28.61$; $df = 4$, $p < .0005$). In both cases victims of IT were significantly more likely to sustain these than were victims of CCV.

Table 5.6: Severity of Violence by Relationship Category measured by injuries to partner (Perpetrators of Intimate terrorism and Common couple violence only, n=193)

	No Minor Physical Injury	Injury Not Requiring Medical attention	n	No Injury requiring Medical Attention	Injury Requiring Medical Attention	n
Intimate terrorism	25% (13)	76% (40)	100% (53)	57% (30)	43% (23)	100% (53)
Common Couple Violence	64% (90)	36% (50)	100% (140)	87% (122)	13% (18)	100% (140)
n	103	90	193	152	41	193

The first three columns of percentages relate to item measuring minor injury. The second three columns of data relate to injury requiring medical attention. Never injured = no physical injury, injured without the need for medical treatment = injury not requiring medical attention, or if partner saw doctor for injuries = injury requiring medical attention.

Section 5.3.11: Reciprocity of physical aggression

In order to investigate the reciprocity of physical aggression frequencies of uni and bi⁶-directional physical aggression by sex of perpetrator were calculated (Table 5.7). Chi-Square analysis revealed that targets of IT were significantly less likely to use physical aggression than were targets of CCV ($X^2 = 5.663$, $df = 1$, $p < .05$).

Table 5.7: Mutuality of Violence by Relationship Category (Intimate terrorism and Common couple violence only, n=193)

	Perpetrator Only	Both	n
Intimate terrorism	43% (23)	57% (30)	100% (53)
Common Couple Violence	26% (36)	74% (104)	100% (140)
n	59	134	

Classified as perpetrator only if participant had used any physical aggression in the past year and their partner had not used any, and classified as both if participant and their partner had both used physical aggression in the last year.

⁶ Bi-directional refers to physical aggression used at anytime in the 12 month period, as opposed to in the same episode.

Section 5.3.12: Relative rates of perpetrator and partners use of physical aggression

To investigate perpetrator and victim use of physical aggression further, the relative couple frequency of use of physical aggression, calculated by subtracting the reported self physical aggression score from the reported partner physical aggression for each dyad were calculated (Table 5.8). An unrelated t-test revealed that IT ($m = 11.8$) used significantly more physical aggression relative to their partners than CCV did ($m = 0.9$) ($t = -9.5$, $df = 59$, $p < .0005$).

Table 5.8: Difference in Frequency of Violence by Relationship Category(N=193)

	-23 to -15-	-14 to -5	-4 to +4	5 to 14	15 to 20	21 to 25 +	26 to 32	n
Intimate terrorism	2% (1)	0% (0)	13% (7)	28% (15)	21% (11)	11 (6)	26% (13)	100% (53)
Common Couple Violence	0% (0)	9% (12)	78% (109)	12% (17)	1% (2)	0% (0)	0% (0)	100% (140)
n	3	12	116	32	13	6	13	

Score calculated by subtracting participant's score on the CTS from their partner's score on the CTS. A negative difference indicates more physical aggression perpetrated by the partner of the participant and positive differences indicate more participant physical aggression than their partner.

Section 5.3.13: Sampling Strategies and the Sex Asymmetry Debate

The final analysis centres on the distribution of the four types of relationship aggression, sex and sample. The frequencies are presented Table 5.9. The seventh research question sought to investigate whether IT would appear almost exclusively in shelter samples, and CCV almost exclusively in survey samples. In this study 70% of all IT were found in the shelter sample, 13% were found in the male prisoner sample, 17% were found in the student sample, and perhaps surprisingly, none were found in

the male treatment program sample. When one looks at CCV only 6% of these were found in the shelter sample, 60% were found in the male prisoner sample, 29% were found in the student sample, and 6% were found in the male treatment program sample. Therefore, 94% of all CCV relationships were found in non-selected samples. The seventh research question is therefore supported, although the term 'almost exclusively' is overstating the distribution of IT.

The eighth research question was that as a result of patterns predicted in the second, and seventh predictions, domestic violence appears to be gender-symmetric in survey samples, and exclusively male in shelter samples.

Using Johnson's categories, Table 5.9 shows that relationship aggression appears to be predominantly sexually-symmetric in the student, male prison and male treatment samples and more, though not completely, sexually asymmetric in the shelter sample. Johnson (1999) reported 99% of men and 80% of women in the shelter sample as perpetrating some physical aggression against their partner. This study found similar frequencies for men (98%) but lower values for women (60%), the difference being statistically significant (see above). Support for the findings of research question eight is provided by the type of physical aggression utilised in the samples. In all but the shelter sample it is (using Johnson's categories) sexually symmetric. The prison sample has 80% CCV and a further 8% MVC; the student sample has 76% CCV and 2% MVC, and the male treatment program sample has 80% CCV and 20% MVC. This is in contrast to the shelter sample where 86% of males perpetrate IT but none of its females do so. The vast majority of shelter women's physical aggression is VR (81%), no males in the shelter sample are reported to use VR. The occurrence of CCV in the shelter sample is low (9%) and is

indeed considerably lower than Johnson (1999) found (24%). The same level of MVC were reported in both studies (2%).

Table 5.9: Percentages (and numbers) of participants classified each relationship category by sampling strategy and gender (all violent relationships, n=239)

Type of Relationship	Students		Prisoners		Shelter		MTP		Total
	men	women	men	women	men	women	men	women	
Intimate Terrorism*	13% (7)	4% (2)	4% (2)	9% (5)	68% (36)	2% (1)	0% (0)	0% (0)	100% (53)
Violent Resistance*	0% (0)	17% (5)	10% (3)	3% (1)	0% (0)	70% (21)	0% (0)	0% (0)	100% (30)
Common Couple Violence*	9% (13)	19% (27)	30% (42)	30% (42)	3% (4)	3% (4)	3% (4)	3% (4)	100% (140)
Mutual Violent Control*	6% (1)	6% (1)	31% (5)	31% (5)	6% (1)	6% (1)	6% (1)	6% (1)	100% (16)

All percentages relate to the percentage of violent relationships that involve each specific type of violent relationship.

Mutual violent control = both partners using controlling aggression, Intimate terrorism = participant uses controlling aggression, Violent resistance = participant uses non-controlling aggression and partner uses controlling aggression, Common couple violence = one or both partners uses non-controlling aggression.

Section 5.4: Discussion

The main objective of the analysis in the present chapter was to investigate the possible existence of subgroups within relationships reporting the occurrence of

physical aggression using methods previously used by Johnson and his colleagues. Johnson (1995) suggested that the existence of subgroups might help to reconcile the apparently conflicting findings of feminist and family violence perspective research, by challenging the belief in a monolithic model of relationship aggression.

The crux of the argument put forward by Johnson (1995, 1999) was that there exist two qualitatively different types of aggression. The first type is controlling aggression (CA) set within a general framework of relationship control. The motivation behind the use of this type of physical aggression is to maintain overall control over one's relationship. The second type of physical aggression is non-controlling aggression (NCA), which in contrast to controlling aggression, represents a reaction to particular stressors. Therefore, according to Johnson we would expect aggression to occur with both high and low controllers. Physical aggression was found amongst both high and low controllers. It was not distributed evenly, however. High controllers were far more likely to use physical aggression than were low controllers. This relationship between control and aggression supports both feminist and evolutionary perspectives which conceptualise aggression as a coercion tactic (see chapter 1.1 and 1.10 respectively).

Physical aggression and control are interpersonal behaviours and therefore, according to Johnson (1999), should be studied within the relationship dyad, although both his 1999 and the present analysis use only one member of the dyad to provide information. Therefore respondents and their partners were classified as using no physical aggression, non-controlling physical aggression (NCA), or controlling physical aggression (CA). Dyads where only NCA was used (by one or both partners) were labelled common couple violence (CCV). Dyads where the respondent used NCA and their partner used CA were labelled violent resistance (VR). Dyads where

the respondent used CA and their partner used no physical aggression or NCA were labelled intimate terrorism (IT). Dyads where both the respondent and their partner used CA were called mutual violent control (MVC).

IT was found to be, as expected, primarily male. However the 'maleness' of intimate terrorism may well be an artifact of the sampling procedure used. Indeed, if the shelter data is omitted, IT shows sexual symmetry. VR is clearly female, again reflecting the shelter sample: once this is removed, the female to male ratio changes from 9:1 to 2:1. The influence of the shelter data on IT and VR analysis must be borne in mind when attempting to draw population-wide conclusions. Johnson's analyses used either a sample containing 'battered women' (Johnson, 1999) or female respondents identified through the National Violence Against Women Survey (Johnson, 2000). Both sources are more likely to contain female victims of severe violence than male victims. Therefore, although valuable in assessing the distribution of CCV and IT in female populations, it is problematic to extrapolate to sex differences in mixed-sex populations.

As expected, CCV is almost sex-symmetric. However, as CCV is defined as one or both partners using NCA, classifying it as sex-symmetric is circular. When one examines the proportion of males to females using no violence, men are found to be over-represented by almost 3:1. Therefore although the majority of the relationships classified as CCV do involve mutual physical aggression, where this not the case women are over-represented as sole perpetrators. Morse (1995), O'Leary et al (1984), Riggs (1993) all found that in one-sided assaults women were more likely to be the sole perpetrator than were men. This suggests that further distinctions may need to be made in relation to CCV. The dynamics of relationships where only one person uses physical aggression, even if it does not appear to be control-orientated, may well

differ in important ways from truly bi-directional physical aggression. Future research that uses both quantitative and qualitative methods is needed to shed light on these relationships.

Johnson stated that IT was characterised by frequent, escalating violence that is not reciprocal. This is in contrast to CCV, which was described as being less frequent, non-escalating and more likely to be reciprocal. These patterns were found in the present study with IT using significantly more acts of physical aggression than CCV individuals. Sex differences in partner's use of physical aggression within a dyadic context were also investigated, the rationale being that women perpetrating IT might differ from their male counterparts in the level of physical aggression they receive from their partners. It would be reasonable to suppose that a man victimized by IT aggression would be less afraid, and more able to adequately defend himself than a woman, and hence be more likely to retaliate. Thus he should manifest higher levels of physical aggression than either female victims of IT or CCV. Contrary to this expectation, the partners of IT women did not differ from other partners.

Another way to examine sex differences in rates of physical aggression is by calculating a respondent's physical aggression as a proportion of all (both self and partner) physical aggression within IT relationships. The present data reveals that female ITs show proportions that are lower for minor acts (female = .79 and male = .84), but higher for severe acts (female = .98 and male = .89) of physical aggression. This leads to the conclusion that although absolute frequency of physical aggression is higher for male as opposed to female intimate terrorists, their relative rates are similar. These findings are important as they show that the dynamics of IT are consistent for both men and women. This has implications for research and practice, as an oft-repeated reason for not treating women's aggression as seriously as men's is

that men can and do defend themselves more effectively (R.P. Dobash et al 1995).

However, apart from the obvious issue of shifting the onus from the perpetrator to the victim, it appears that male victims of IT use similar levels of physical aggression to defend themselves as women, and therefore should be treated equally.

IT was found to be more likely to escalate than CCV. Caution must be exercised once again as one would expect that women would be more likely to leave a relationship and enter a shelter when physical aggression is escalating and therefore this tendency may not generalise to IT in non-selected samples. In line with previous research (e.g. Morse, 1995), physical aggression in CCV was most likely to be reported as having reduced over time.

IT was expected to be more severe (indexed by seriousness of injuries sustained by partners) than CCV. This study found that targets of IT suffered injuries, both not requiring and requiring medical attention, significantly more than targets of CCV. The vast majority of IT assaults resulted in the partner sustaining some type of injury, with almost half suffering injuries needing medical attention. However, only a minority of CCV assaults had this outcome. There were further differences. IT victims sustained both minor and serious injuries far more frequently than did CCV victims. These findings help to explain why a pattern of IT is often found in medical and therefore judicial reports, providing further support to those who urge caution in generalising from such sources (Archer, 2000; Johnson, 1995; Straus, 1990).

It was expected that targets of IT would be less likely to be physically aggressive than targets of CCV. In contrast with Johnson's (1999) findings, these findings were consistent with Johnson's proposal. Whereas almost half of targets of IT were non-aggressive, only a quarter of CCV targets were. This may be because in the present analysis that a large proportion of VR's came from the refuge sample, it may be that

many of these women seek help from outside of their relationships because they reject the use of physical aggression themselves. Alternatively these victims may have been dissuaded from using physical aggression as it resulted in their partner escalating their aggression. However, these findings still indicate that the majority of targets of IT do use physical aggression. They are in line with those of Giles-Sims (1983), which is one of the few shelter studies that reported both male and female perpetration of physically aggressive acts. She found that three quarters of female shelter respondents had used physical aggression at some time against their partner. Okun (1986) found lower levels in her sample (37%). However she reported only physical aggression that occurs sometimes, often or usually, rather than measuring acts occurring at lower frequencies. Classifying mutuality as a nominal variable is however a simplification. An isolated act is not equivalent to regular, systematic assaults. From the relative frequencies of perpetrator / target use of physical aggression it is clear that the two groups display differing profiles, with IT reporting values more than ten times higher than CCV individuals. In the present sample 85% of the IT had been aggressive five times or more than their partners, a figure higher than Johnson's (71%), whereas 13% of the CCV individuals had. The vast majority of CCV (78%) showed apparent reciprocity, whereas only 13% of IT dyads did. These findings are line with earlier research on shelter women (Giles-Sims, 1985; Okun, 1986) and general populations.

In summary, it appears that IT and CCV can be distinguished from one another along the dimensions highlighted by Johnson (1995, 1999). The fact that the attributes of IT may be due to its selected status does not detract from one of the central tenets of Johnson's proposition, that of qualitatively different types of physically aggressive relationships. This extends earlier research that found evidence of subgroups of physically aggressive relationships but failed to identify the

dimensions on which they could be differentiated (Riggs, 1993; Vivian and Langhinrichsen, 1994). In the present analysis control, rather than the population from which participants were drawn (as in chapter 3), was central to classifying physically aggressive relationships. Those who used high levels of control presented a classic 'domestic violence' profile. Controlling behaviours are therefore a crucial element in understanding the dynamics of relationships that may be likely to require intervention at many different levels (e.g. law enforcement, child protection, medical and judicial). Stark (1995) believed that it was the pattern of coercive control that was more central to understanding 'battered women' than the actual physical aggression. This pattern, at its most extreme, violates a person's human rights through the restriction of liberty. Concentrating on physical aggression alone obscures the differences between relationships, leading to inaccurate reporting of levels of classic 'domestic violence', inappropriate advice being given to people in physically aggressive relationships, and a legal system that treats domestic assaults in the same way as stranger assaults by examining acts without context.

The distribution of relationship types was also broadly in line with Johnson's proposals. The selected sample was predominantly comprised of male IT and women using violent resistance, a profile consistent with feminist research findings. The non-selected samples mainly consisted of CCV. The present findings suggest that data drawn using the same instruments and methodologies but from different populations would appear contradictory. There are several implications arising from these findings. Generalisations should not be made from shelter populations to general populations or vice versa, as these samples are likely to contain qualitatively different types of aggressive relationship. The CTS appears to be an adequate measure of physical aggression for both selected and non-selected samples. In seeking support for

a particular model of relationship aggression both feminist and family violence researchers may have inadvertently created an adversarial arena in which subsequent research is judged. Such a climate is not conducive to open debate and enquiry.

The present study provides broad support for Johnson's (1999) contention that there are two main types of physical aggression accessed by feminist and family violence researchers. However further studies are necessary before generalisations can confidently be made for wider populations. There is also a need to investigate IT in a general population to explore its sex-composition and attributes in a non-selected sample. With that qualification, it appears that controlling behaviours are a crucial element in distinguishing between physical aggression that is defined by female victims as so problematic that it warrants leaving one's home and fleeing to a Women's Aid shelter, and physical aggression which is not accompanied by frequent use of controlling behaviours. It would appear that controlling behaviours are a risk marker for high frequency, injurious, escalating physical aggression. It is therefore important that both researchers and practitioners recognise this dimension of relationship conflict. Couples that report low levels of controlling behaviours in conjunction with physical aggression may be involved in a qualitatively different experience to the high control couples.

In summary, the present analysis has enabled respondents and their partners' to be classified as being IT, CCV, VR, or MVC based on their use of a broad range of controlling behaviours. This analysis extends previous analysis (chapter 3) as it uses individual level variables (controlling behaviours) to classify respondents and their partners rather than sample population alone, which presupposes homogeneity.

Further, the present analysis has allowed partner physical aggression to be classified

according to the relationship dyad rather than only one of the individual member's behaviours, but this information was reported by only one member of the relationship. However, the present analysis has not directly investigated the relationship between controlling behaviours and the use, and consequences of using, physical aggression within IT, CCV, VR, and MVC. Therefore chapter 6 sought to investigate the relationships between control and physical aggression with Johnson's (1999) four aggressive relationship categories.

Chapter 6: Sample 1, analysis 4: Does controlling behaviour predict physical aggression and violence to partners?

Section 6.1: Introduction

Having demonstrated Johnson's (1999) categories in chapter 5, and found that beliefs about partner physical aggression are related differentially to using physical aggression in chapter 4, the aim of the current analysis is to investigate individual level associations between physical aggression and control. The role of control in the cause of relationship aggression has been discussed by feminist, family conflict and evolutionary theorists (see chapter 1). Feminist theorists have long understood men's aggression towards women in terms of coercive control enacted to maintain traditional domination of women by men (see chapter 1.1). Traditional feminist theory (e.g. Dobash & Dobash, 1979; Walker, 1979) report that women "... almost always employ violence in defence of self and children in response to cues of imminent assault in the past and in retaliation for previous physical abuse" (Dobash, Dobash, Wilson & Daly, 1992: 80). Therefore men's physical aggression can be seen as coercive and women's as self-defensive.

Traditional evolutionary theory is in agreement with feminist theory in viewing physical aggression as a means for men to control 'their' women. Where feminists cite patriarchy, evolutionists cite men's proprietary attitudes towards women (Wilson & Daly, 1992; 1993). Evolutionary psychology seeks to explain the motivation behind men's aggression to women as attempts at partner control or 'mate-guarding'. Women are believed to avoid physical aggression and favour instead indirect forms. Campbell (1999, 2002) presents evidence to suggest that due to the importance of a mother to the survival of her children, it has been adaptive for women to avoid physical aggression and hence the chance of life-threatening injury. The exception to this would be in defence of her children.

Therefore evolutionary theorists would broadly agree with feminist theory on the motivations behind men's and women's physical aggression.

For family conflict researchers, relationship aggression is best understood by exploring the sociology of the family. It is gender-neutral in its focus and seeks to identify stressors that lead to conflict (e.g. Straus, 1979; Farrington, 1980). Physical aggression is conceptualised as a conflict tactic, used to gain control of a specific situation (not of an individual) and thus further an individual's self interest. Family conflict researchers explore the structure of the family and the societal influences, e.g. socio-economic status (Stets & Straus, 1989), ethnicity (Straus & Smith, 1990b) and educational level (Straus, Gelles, & Steinmetz, 1980), which may create conflict and therefore physical aggression. Such an analysis, although not gender-blind, places the person rather than their sex, central. Family conflict researchers would therefore conceptualise physical aggression as a conflict tactic used by men and women in response to similar stressors. Crucially, men and women are expected to act from a similar motivation, to regain control of a situation (rather than of their partner).

Archer's meta-analysis of sex differences in physical aggression toward partners and its consequences found that among community and dating samples there was indeed a pattern of little difference between the sexes in the use of physical aggression to a partner (Archer, 2000; 2002). Two small-scale studies from shelter samples that provided data for both sexes (Giles-Sims, 1985; Okun, 1986), both indicated a pattern of a very large sex difference in the male direction, which is consistent with the prediction that such samples involve intimate terrorism (Johnson, 1995). Similarly, data obtained from men in a treatment programme for violent husbands showed the same pattern. These findings and the analysis from the present sample, presented in chapters 3-5, are consistent with Johnson's analysis.

This chapter describes further analyses of the data reported in chapters 3-5. It moves from assessing whether groups selected to conform to the patterns show the predicted behaviour profiles, to asking whether within such groups non-violent controlling behaviour predicts acts of physical aggression and their consequences. The expectation from Johnson's analysis is that this should be the case for men and women where intimate terrorism and mutual violent control is concerned, but not among the men and women who are identified as using violent resistance or common couple violence, since their physical aggression is associated with loss of personal control rather than a pattern of behaviour aimed to control the partner. Since feminist analyses tend not to distinguish between different categories of relationship aggression (e.g., DeKeseredy, & Schwartz, 1998; Dobash, Dobash, Cavanagh, & Lewis, 1998; White, Smith, Koss & Figueredo, 2000), and to emphasise only male violence, they should expect that physical aggression would be associated with control among men but not among women whatever the sample. The same expectation would be derived from the evolutionary position on partner violence (e.g., Daly & Wilson, 1999), which essentially views it as resulting from men's attempts to control sexual access to their female partners, as a consequence of past selective pressures for behaviour that increases the chances of paternity certainty. As in the case of a feminist analysis, but for a different reason, we should again expect to find non-violent control tactics to be linked with physical aggression to partners for men but not for women irrespective of the type of relationship.

The present analysis, therefore, uses samples not selected for violence, and those selected for high levels of male violence, to test these predictions, using correlational and regression analysis between a variety of measures of non-violent controlling behaviour, physical aggression and its consequences, for the individual concerned and his or her partner.

Section 6.2: Method

Section 6.2.1: Participants and procedure

The participants are the same as those described in subsections 2.2.1 and 3.2.1 (with 43 shelter residents, 97 prisoners, 103 students with the addition of 4 men from domestic violence treatment programs). The data set used was the same as the artificially reconstructed one used in chapter 5 giving sample sizes of: shelter women and their partners, $N = 86$; men in MDVTP and their partners, $N = 8$; male prisoners and their partners, $N = 194$; and students, $N = 206$.

Section 6.2.2: Measures

The present analysis used the following variables: economic, threatening, isolating, emotional, and intimidating controlling behaviours; physical aggression; and injuries (see chapter 2.1).

Section 6.3: Results

To investigate reporting bias in controlling behaviours a series of Report (self/partner) by Sex ANOVAs were conducted on the student data (see Table 6.1). It can be seen that with the exception of threatening control, all self reported use of controlling behaviours were significantly lower than reports about a partner's use of controlling behaviours. Neither the effect of the respondent, nor the interactions between sex and report were significant, however. Self and partner reports were significantly correlated for all controlling behaviours. This suggests that there are biases which may limit the conclusions that can be drawn from artificially constructed data such as these used in chapters 5 and 6 (see chapter 12.3 for a discussion of these). However, correlational analysis may be more robust, as indexed by the high significant interrelationships between self and partner reported controlling behaviours.

Table 6.1: Means (and s.d.) of comparison of controlling behaviours reported by self and partners students only (n = 106), Sex x Report ANOVA, and correlations of self and partner

	Economic	Threats	Intimidation	Emotional	Isolation
Self	1.22	0.72	1.85	2.69	3.14
reports	(1.84)	(1.16)	(2.01)	(3.45)	(3.29)
Partner	1.71	0.97	2.70	3.58	4.92
reports	(2.67)	(1.85)	(3.85)	(4.24)	(5.41)
Report	F(1,104)=5.18*	F(1,104)=2.98	F(1,104)=5.50*	F(1,104)=4.06*	F(1,104)=11.02**
Sex	F(1,104)=.32	F(1,104)=.00	F(1,104)=1.25	F(1,104)=2.67	F(1,104)=.17
Report x Sex	F(1,104)=1.05	F(1,104)=.10	F(1,104)=1.49	F(1,104)=.85	F(1,104)=2.32
Correlation	r=.54**	r=.60**	r=.59**	r=.60**	r=.40**

* p<.05. ** p<.005

Pearson's correlations were used to investigate the relationship between controlling behaviours and physical aggression and injuries for males and females within the four relationship types. Table 6.2 shows the correlations between the subscales of the controlling behaviours and the use of physical aggression and injuries sustained by partners for men and women separately by relationship type. Physical aggression and injuries are not independent measures (physical aggression and injuries correlate at .74) as would be expected, but are instead two measures of aggression: acts of physical aggression and consequences of physical aggression. Mutual violent control correlations are reported, but due to the small sample size will not be discussed. As there were only 3 men who were classified as using violent resistance, no analysis was conducted on this group.

Section 6.3.1: Men

Men in the intimate terrorism group showed the expected relationships between all five controlling behaviours and overall control, and physical aggression, these positive relationships ranging from moderate to strong. Regression analysis (Table 6.3) revealed 60% of the variance in the use of physical aggression was explained by controlling behaviours with emotional and isolation being the individually significant predictors. Men in the common couple violence group showed significant weak to moderate positive relationships between emotional, intimidation, threatening and overall controlling behaviours, and their use of physical aggression (Table 6.2). Regression analysis revealed that controlling behaviours explained 25% of the variance in the use of physical aggression, with intimidation being the significant predictor (Table 6.3).

For the male intimate terrorists, all five controlling behaviours and overall control were significantly associated with injuries to their partners, with weak to moderate positive relationships. Regression analysis found that control explained 35% of the variance in partner injuries, again emotional and isolation were the significant predictors (Table 6.4). The common couple violence men showed significant associations for emotional, intimidating, threatening and overall controlling behaviours, and inflicting injuries to their partners. Regression revealed 31% of variance was explained, with intimidation again being the significant predictor (Table 6.4).

In line with feminist and evolutionary theory, men's aggression and violence does appear to be associated with controlling their partners. This association is present for all five types of controlling behaviours in intimate terrorist men. This supports Johnson's assertion that a range of controlling behaviours needs to be studied to fully understand intimate

terrorism. However, contrary to Johnson's proposed distinction there is evidence that even common couple violence is significantly related to attempts at partner control.

Section 6.3.2: Women

Women in the intimate terrorism group showed the expected relationships between all five controlling behaviours and overall control and physical aggression, these positive relationships ranging from moderate to strong (Table 6.2). Regression analysis revealed that 44% of the variance was explained, with intimidation being the significant predictor (Table 6.3). Women in the common couple violence group showed significant but weak positive relationships between economic, intimidation, threatening, and overall controlling behaviours and their use of physical aggression (Table 6.2). Regression analysis found that although 13% of the variance was explained by the five controlling behaviours there were no individually significant predictors (Table 6.4). The violent resistance women showed two significant associations: between economic and overall control, and physical aggression. Regression revealed that 46% of the variance was explained, with economic being the significant predictor (Table 6.3).

For the female intimate terrorists, threatening and overall controlling behaviours were moderately significantly associated with injuries to their partners (Table 6.2) and regression analysis revealed that controlling behaviours did not significantly predict partner injuries (Table 6.4). The common couple violence women showed moderate significant associations for intimidating, threatening, and overall controlling behaviours and inflicting injuries to their partners. Regression revealed that 27% of variance was explained, with threats and intimidation being the significant predictors (Table 6.4). The violent resistance women showed two significant associations between control and partner injury, economic and

overall, which were strong; 33% of variance was explained by controlling behaviours with economic being the significant predictor (Table 6.4).

The finding that women in intimate terrorism, common couple violence and violent resistance relationships all show an association between controlling behaviours, physical aggression and violence is problematic for both traditional feminist and evolutionary theory, which would predict women's aggression to be confined to self or child defence. Johnson's typology would likewise not predict such associations outside intimate terrorist relationships. Family conflict researchers would expect similar motivations to operate on both men and women: however they have traditionally concentrated on societal rather than individual variables to explain the occurrence of physical aggression and violence.

Section 6.3.3: CCV, IT, and VR

Combining men and women for each relationship category allows a comparison of the strength of association across relationship categories. The IT group had a significantly stronger association between overall control and physical aggression than the CCV group (Fishers $Z = 5.99$) and the VR women (Fishers $Z = 2.22$). The IT group also had significantly stronger associations between overall control and injuries inflicted upon their partners than did the CCV (Fishers $Z = 3.31$) or the VR women (Fishers $Z = 1.92$). The CCV and VR groups did not differ significantly in their associations with overall control, and physical aggression or partner injury.

Table 6.2: Pearson's correlations (2-tailed) of physical aggression and partner's injuries with controlling behaviours.

	Economic		Emotional		Isolation		Intimidation		Threatening		Overall Control	
	PA	PI	PA	PI	PA	PI	PA	PI	PA	PI	PA	PI
CCV												
Male (n=88)	-.03	.05	.33**	.40**	.03	.11	.45**	.48**	.33**	.18	.34**	.45**
Female (n=88)	.22*	.09	.10	.17	.02	.17	.31**	.41**	.32**	.41**	.22*	.36**
Overall CCV	.04	.06	.21**	.29**	.03	.13	.37**	.45**	.31**	.40**	.28*** ^a	.40*** ^a
IT												
Male (n=50)	.62**	.49**	.66**	.31*	.61*	.48**	.52**	.40**	.42**	.55**	.51**	.26
Female (n=26)	.51**	.03	.35	.24	.46*	.12	.60**	.39	.42**	.39*	.75**	.57**
Overall IT	.65**	.57**	.76**	.60**	.73**	.62**	.72**	.62**	.59**	.66**	.81*** ^{ab}	.71*** ^{ab}
VR												
Female (n=27)	.63**	.45*	.26	.19	.22	.31	.18	.11	.01	-.08	.54*** ^b	.41*** ^b
Overall MVC (n = 16)	.01	-.19	.36	.09	-.02	-.07	.21	.30	.13	-.08	.23	.01

PA = physical aggression, PI = Partner's injuries

p < .05, ** p < .001

a and b denote significant difference (Scheffe p < .050). Note comparisons were made for overall controlling behaviours only.

Section 6.4: Discussion

It was possible to distinguish the groups identified in this study on the basis of their profile on the measures used (chapters 3-5). However, at an individual level the use of controlling tactics predicted physical aggression and violence both in the groups characterised as "intimate terrorism" (as predicted), and among those from the groups characterised as "common couple violence" and more surprisingly "violent resistance". The second and third relationships would not have been expected by Johnson's analysis, since among these individuals, aggressive behaviour should be associated with a loss of personal control (CCV) or self-defence / retaliation (VR), rather than the desire to control the other's behaviour. The finding is consistent with feminist and evolutionary analyses that do not make the distinction between the groups that Johnson does. However, one aspect of the present findings is inconsistent with expectations stemming from all three analyses, and that is that the relationship holds not only for all three relationship groups, but also for both men and women within these groups.

Some support for Johnson's distinction can be found, however, if the pattern across the five types of controlling behaviours is examined. The intimate terrorist men and women show the classic profile of control, physical aggression and violence with all five types of controlling behaviours being associated. They attempt to control their partners using not only more overt controlling behaviours such as intimidation and threats, but also by undermining their partners' self-image (emotional), and restricting their personal (isolation) and economic freedom. The use of physical aggression and violence to reinforce such a pervasive pattern of control violates a person's basic human rights (Stark, 1995). The violent resistance women and common couple violence individuals did not show this diverse range of associations. The only

significant relationship between physical aggression and violence for the violent resistance women was for economic control. Although this is in line with the common couple violence women, the increased strength of this association (in comparison with the common couple violence women) may be an artifact of the sampling procedure used. The majority of the violent resistance women came from the shelter sample (70%): it is therefore quite likely that these women needed to control the economics of their relationship in order to have sufficient funds to be able to leave the abusive relationship and support themselves and their children. If this is the case, it would be inaccurate to suggest that these women use “controlling” physical aggression and violence. This distinction between violent resistance and common couple violence women does not support the claims of feminists such as Dobash and Dobash (1992) who have sought to frame women’s aggression and violence as inherently defensive, although this confusion is understandable when their sampling techniques are examined. Johnson (1995) proposed that different sampling strategies employed by feminist and family conflict researchers may have led to unwarranted generalisations on both sides, and this study supports that view. More contemporary feminist theorists have found that in non-selected samples, control and aggression are associated for both men and women (Rogers, Castleton & Lloyd, 1996).

The common couple violence individuals show the strongest associations between overt controlling behaviours (intimidation and threats) and physical aggression and violence. It is possible that of the five types of controlling behaviours, these are more likely to be used in a conflict situation and so may be situation-specific rather than general controlling behaviours. This interpretation would also be in accordance with both Johnson (1995) and family conflict researchers such as Stets (1991, 1993), who adopted a conflict orientated approach to control in relationships

and concluded that "... when one controls another in intimate relationships, the goal is to maintain a certain level of control over a situation" (Stets, 1993: 683).

Although there are similarities between the common couple violence men and women there is also a difference that evolutionary theory can shed some light on. Evolutionary theory may help to explain why common couple violence men also use attacks on a woman's self image (emotional) as a means of control, whereas women use control of resources (economic). Evolutionary theorists have long argued that mate value is calculated differently for men and women (Buss, 1989, 1994). Women's mate value derives primarily from her physical appearance as this is a cue to her ability to bear children. Men's mate value derives mainly from his resources as this demonstrates an ability to provide for children (Figueredo et al, 2001). Therefore one would expect the sexes to seek to differentially control the other along these dimensions. Future research should seek to test these suggestions by measuring these attributes directly.

The implications of these findings are that the link between control and physical aggression is not just a male characteristic, as implied by traditional feminist and evolutionary analyses. It would seem to lend more support to a gender-neutral view of the causes of physical aggression among partners, in the personality of the individual concerned (e.g., Dutton, 1995). If this is to be linked to ultimate origins, whether in patriarchy or mate guarding, these positions would have to be modified to include reasons why some women, as well as some men, seek to control their partners though both non-violent and violent means.

Generally, the findings presented in this chapter are consistent with a different form of analysis of a subsample of the same data, reported in chapter 4. Among those individuals who had committed one or more acts of physical aggression, there was a

general link between the extent of this aggression and holding instrumental beliefs about aggression, irrespective of the sex or the sample (shelter, prisoners, and students) from which the data was derived. Thus a belief that aggression, especially its physical form, is necessary in social relationships also predicted a higher level of physical aggression to a partner. Instrumental beliefs about one's own aggression, which tended to justify such aggression once it has occurred, were also found to be associated with higher values on the controlling tactics scales, used in the present study. There may, therefore, be a general pattern of seeking to control the other, use of actual physical aggression, and justifying such aggression once it has occurred.

Chapter 7: Summary of chapters 3-6 and introduction to chapters 8 & 9

Section 7.1: Summary of the findings from chapters 3-6

The analyses conducted in chapters 3-6 have yielded interesting and important findings. Chapter 3 was a direct test of Johnson's theory that different sampling techniques utilised by feminist and family conflict researchers may explain the discrepancy between their respective findings and conclusions. In support of his contention, the profiles of the three samples (shelter, student/non-criminally violent prisoners, and criminally violent prisoners) were sufficiently unique to allow classification into the three sample groups based on controlling behaviours, physical aggression, injuries and fear. These findings go some way to explaining the apparently divergent findings of the two perspectives. Feminists' sampling techniques (the shelter data) would result in a picture of asymmetrical control and violence, with male perpetrators and female victims: victims who report frequently fearing afraid during conflicts with their partners. Whereas, family conflict researchers' sampling techniques (the student data) would result in partner aggression and control being used relatively equally between respondents and their partners: where neither member of the dyad were reported to suffer frequent injury, and the respondent was rarely afraid.

Moving from analysis based on mean differences, chapter 4 focused on associations between beliefs and behaviour. Chapter 4 investigated the relationships between the respondent's beliefs about their own partner physical aggression and the respondents actual use of acts of physical aggression and controlling behaviours. Chapter 3 findings led to the expectation that only patriarchal terrorists would view their physical aggression as instrumental. Feminist theory led to an alternative

expectation, that men, but not women, would endorse instrumental beliefs, whereas general aggression theory led to the expectation that partner violence would be associated with instrumental beliefs. Here contrary to expectations derived from Johnson's (1995) and feminist theories, there appeared to be a relationship between instrumental beliefs about and perpetration of partner aggression for both men and women across all the groups (although of varying strengths).

In 1999 Johnson elaborated on his theory, suggesting that use of a range of controlling behaviours would distinguish patriarchal terrorists, or Intimate terrorists (IT), from CCV individuals. Further he defined and expanded his relationship categories to allow aggressive relationships to be classified according to the behaviour of both members of the dyad. The data from chapter 3 was reanalysed and classified according to Johnson's new four-category system (intimate terrorists (IT), common couple violence (CCV), violent resistance (VR), and mutual violent control (MVC)). The analysis again found support for Johnson's theory. However, analysis of the same data in chapter 6, although still broadly in line with Johnson, did suggest that control was related to physical aggression in all of the categories analysed. Although IT were found to show strong associations between using physical aggression and all five types of controlling behaviours, CCV and VR were also found to show relationships between physical aggression and one or more types of control. This suggested that the range of different controlling behaviours, rather than just the frequency, may be crucial to understanding IT. This supports Johnson's (1995, 1999) theory.

Section 7.2: Introduction to chapters 8 & 9

In seeking to resolve the discrepant findings of feminist and family conflict researchers, Johnson's 1995 theory allowed the effect of sampling procedures to be investigated. However his extension to his original theory in 1999 led to Johnson

falling foul of his own earlier observations on the effect of sampling. Using a stratified sample consisting of both selected and non-selected samples, Johnson imposed a dichotomous distinction of high and low control. Using this distinction both Johnson (1999; Johnson & Leone, 2000) and myself found that such a dichotomy yielded results that supported Johnson's findings. These sampling methods may in themselves at least partially explain the findings. The populations sampled are likely to contain highly victimised women but unlikely to equally represent highly victimised men (since there are readily available samples of victimised women in shelters, but no comparable source of victimised men). Further an optimal two-cluster solution (chapter 5) could have been an artifact of the dichotomised sampling procedures (highly victimised women versus populations not selected for high rates of violence). As previous research into similar populations of highly victimised women have found that they also experience high levels of controlling behaviours then it could be argued that classifying on the basis of levels of control is really no different from dichotomising on the basis of high and low aggression. To then say that the distribution of the relationship categories is consistent with the sample from whence they came is tautological. Further, to extrapolate as Johnson did (1999) to conclude that IT is predominately male and VR predominately female based on a stratified sampling procedure that was extremely sex-asymmetric is scientifically unsound.

Therefore a second sample was collected where none of the participants were selected for high rates of physical aggression or control. Therefore, if Johnson was correct then the use of a broad range of controlling behaviours and the presence or absence of partner violence, should result in categories that are distinct from each other along the dimensions Johnson specified. The sample size of the second sample

was larger than those used in analyses in chapter 3-6 to allow a reasonable distribution not only of CCV individuals but also of IT, VR, and MVC.

Within this sample men and women had an equal a priori chance of being classified in either of Johnson's categories, therefore the distribution of men and women within Johnson's categories can be investigated. If this sample yields similar findings to previous work with stratified samples, then Johnson's typology may be considered reliable not only within stratified samples with asymmetric sex-distribution, but also in samples where men and women are accessed in the same manner.

As reports of partner aggression are often obtained from either the victim (in the case of shelter residents) or the perpetrator (in the case of men in treatment programs) the effect this has on Johnson's categories was investigated. Finally the associations between physical aggression and controlling behaviours, within each relationship type, was also investigated for both self and partner reports, again to replicate and extend earlier findings (chapter 6).

Chapter 8: Sample 2, analysis 1: Methodological issues in classification in a mixed-sex, non-selected sample

Section 8.1: Introduction

Previous analysis in chapters 3 and 6 has found support for the distinction between IT and CCV. However I have cautioned against generalising these findings to a general population sample. All research to date has used a sample that includes either known female victims of male violence (Johnson, 1999; Chapters 3-6) or samples drawn from crime surveys of women's victimisation (Johnson & Leone, 2000). There is therefore a need to investigate the differences (if any) between IT and CCV in a sample that is not selected for female victimisation and is large enough to access sufficient numbers of IT and CCV relationships. The sample must contain both men and women reporting on both their perpetration and victimisation, to allow a complete investigation of sex differences. Further, this sample must not contain a sub-sample selected to represent highly victimised women (or men) as such methods negate any meaningful analysis of sex differences in the frequencies of typology membership. To investigate sex differences fairly, both men and women must have an equal a priori chance of being classified within Johnson's typological categories, which was not the case in previous studies.

In order to distinguish between IT and CCV the current data-set includes not only rates of physical aggression for both self and partner, but also information on the use of different types of controlling behaviours.

The use of self-reports of aggression in conjunction with partner-reported rates may lead to bias (chapter 1.5). Studies have found that male batterers and their partners

agree on the frequency of aggression women perpetrate but differ significantly in reports of female victimization, with women reporting higher rates than men (Barnett, Lee & Thelen, 1997; Claes & Rosenthal, 1990; Dobash, Dobash, Cavanagh & Lewis, 1998; Okun, 1986). For community and student samples, research has found that self-reports are consistently lower than partner-reports for both sexes (Archer, 1999). Therefore the present chapter includes two sets of analyses: one using self-reports and one using partner-reports and will involve separate comparisons using self-reports, and partner-reports to classify and compare across relationship categories.

To be consistent with previous studies, each respondent and their partner needs to be classified as using either: 1) no violence (NV), 2) non-controlling violence (NCV), or 3) controlling violence (CV). The relationship could then be classified as either 1) non-violent, where neither spouse uses violence; 2) individuals involved in common couple violence (CCV: non-controlling violence used by one or both spouses); 3) individuals involved in intimate terrorism (IT: individuals using CV and their partners using either NV or NCV); 4) violent resistance (VR: individuals who use NCV only, but whose spouse uses CV); and 5) mutual violent control (MVC: where both spouses use CV). Classification was based on the frequency of use of controlling behaviours and whether any act of physical aggression had been used. The initial cluster analysis identified the above relationship characteristics, and subsequent analysis involved only relationships where violence played a part (therefore all 'non-violent' relationships were omitted, which is consistent with earlier analyses presented in this thesis).

Previous studies had sampled from two (or more) populations believed to contain disparate levels of physical aggression. Therefore subsequent analyses would be biased

towards a two-cluster solution. However, in the present sample there are no subpopulations selected for their high rates of physical aggression, and therefore there are no cases which can be expected to move the scores on the controlling behaviours measures towards the more extreme end of the spectrum. It is therefore possible that a simple high / low dichotomy would result in misclassification of IT (and hence VR and MVC also), with too many respondents being labelled as such when in fact their level of controlling behaviours are not sufficient to warrant such a label. As ITs are meant to represent the extreme end of the controlling behaviours continuum, a three-cluster solution may be more appropriate for general populations. In the present chapter's analysis, classifications of IT and CCV using a two and three cluster solution were compared on the dimensions of frequency of physical aggression, injuries and escalation, to determine which (if any) showed the expected profile of distinct IT and CCV categories. The distribution of the sexes within Johnson's relationship categories was investigated.

Section 8.2: Method

Section 8.2.1: Participants and procedure

There were 399 men and 951 women collected from staff and students at the University of Central Lancashire (See sample 2, chapter 2.2.2 for details of this sample).

Section 8.2.2: Materials

The CBS-R was used to measure controlling behaviours and the CTS was used to measure physical aggression (see chapter 2.1). Both the CBS-R and the CTS were scored to give a mean rather than total score. This gave the following values (Cronbach alpha for self and partner in parenthesis): minor CTS self score, minor CTS partner score (.82

& .84), severe CTS self score, and severe CTS partner score (.85 & .87). Measures of injuries, fear and escalation were also used (see chapter 2.1).

Section 8.3: Results

Unlike previous typologies (chapter 5; Johnson, 1999, 2000) the present sample allows self and reports about partner behaviour to be contrasted. A series of one-sample t-tests revealed self-reports of controlling behaviours to be significantly lower than reports about partner behaviours (Table 8.1), which is consistent with previous research on physical aggression (Archer, 1999; 2002). Chapters 5 and 6 used an artificially constructed data set, which was appropriate as the analysis sought to replicate Johnson's (1999) findings, however the one of the aims of the analysis in the present chapter was to explore the effect that victim and perpetrator reports would have upon typology profiles. Therefore the present analysis will not artificially construct the data set by using both self and partner report as if they were self-reports, as was the case in the previous research cited above.

Table 8.1: Comparison of controlling behaviours reported by self and partners (n = 1339)

	Economic	Threats	Intimidation	Emotional	Isolation
Self reports	0.74 (0.63)	0.30 (0.49)	0.41 (0.45)	0.58 (0.61)	0.69 (0.70)
Partner reports	0.87 (0.74)	0.30 (0.55)	0.48 (0.58)	0.65 (0.73)	0.78 (0.84)
Test statistic	t = 43.1, df = 1339 p < .001	t = 22.5, df = 1339 p < .001	t = 33.8, df = 1339 p < .001	t = 37.2, df = 1339 p < .001	t = 36.5, df = 1339 p < .001

The proportion of women and men using any act of physical aggression towards their partners were as follows: from self-reports 29% for women and 17% of men, and from partner reports 31% of women and 22% of men. Therefore in the present sample women are significantly more likely to use one or more acts of physical aggression than are men, based on both self ($X^2 = 23.00$, $df = 1$, $p < .0005$) and partner reports ($X^2 = 11.35$, $df = 1$, $p = .001$).

Section 8.3.1: Cluster analysis of Controlling Behaviours Profiles

K-means cluster analysis was conducted using SPSS version 11 to code individuals as either high or low on the five types of controlling behaviours: economic, threats, intimidation, emotional abuse, and isolation. Separate cluster analyses were run for self and partner reports. As the sample used for the present analysis was not stratified, two separate cluster solutions were used; a two and a three-cluster solution. Two and three cluster solutions were analysed, using Euclidean distance as a measure of dissimilarity. In each case the participant and their partner's cluster membership were saved as variables. In order to classify individuals as using high or low frequencies of controlling behaviours, the 3-cluster solution needed to be collapsed into two clusters. Therefore, the 3-cluster solution was reduced from 3 to 2 categories with lowest and middle frequency control categories being collapsed into one category termed the "low control" category and highest category was termed the "high control" category (the meaning of the clusters is apparent by comparing the mean values on each of the five types of controlling behaviours in Table 8.2).

Table 8.2: Control tactics by cluster membership for self and partner reports by both men and women (n = 1335)

		Economic		Threats		Intimidation		Emotional		Isolation	
		SR	PR	SR	PR	SR	PR	SR	PR	SR	PR
Low	2	0.56	0.68	0.16	0.14	0.26	0.29	0.34	0.40	0.42	0.48
	Cluster										
Control	3	0.68	0.77	0.23	0.19	0.36	0.37	0.52	0.52	0.63	0.64
	Cluster										
High	2	1.29	1.67	0.71	0.96	0.83	1.27	1.27	1.67	1.46	2.02
	Cluster										
Control	3	2.02	2.17	1.79	1.61	1.45	1.79	1.87	2.31	1.94	2.55
	Cluster										

Section 8.3.2: Two forms of physical aggression: Controlling and non-controlling physical aggression.

The occurrence of partner physical aggression for both high and low control clusters and the frequencies of controlling and non-controlling physical aggression were calculated: physical aggression was treated as a discrete variable, with those who had used *any* act of aggression being classed as physically aggressive. The frequencies in Table 8.3 show that, consistent with previous studies, there are individuals who have used physical aggression against their partners in both the high and low control clusters. However, the proportions are dissimilar for the two-cluster solution but similar for the three-cluster solution to those found by Johnson (1999) and in chapter 6. Overall there were 307 physically aggressive individuals in the present sample, of these, 49% in the 2-

cluster solution (2 cluster) and 21% in the 3 cluster solution (3-cluster) were high controllers, compared to 27% in chapter 5 and 32% in Johnson (1999).

Table 8.3: Crosstabulation of control by aggression

	Cluster solution	Not Physically aggressive (n = 918)	Physically aggressive (n = 307)	Row Total
Low control %	2 cluster	83% n = 779	17% n = 157	100% n = 936
	3 cluster	78% n = 870	22% n = 244	100% n = 1114
High control %	2 cluster	48% n = 139	52% n = 150	100% n = 289
	3 cluster	43% n = 48	57% n = 63	100% n = 111

The classification procedure involves individuals' data about their own, and their partners' behaviours. In this chapter two separate sets of analysis will be conducted. The first will compare relationship behaviours using self-reports and the second using partner-reports. For example using self-reports, the ITs' frequency of using physical aggression will be derived from the self-reports of those classified as IT. However, using partner-reports, ITs' frequency of using physical aggression will be derived from the reports by victims of ITs of their IT partners' behaviour.

The respondent and their partner were then coded as using no violence (NV), non-controlling violence (NCV) or controlling violence (CV). As with previous analyses, if neither party used any physical aggression the relationship was called NV. Dyads where

only NCA was used (by one or both partners) were labeled common couple violence (CCV). Dyads where the respondent used NCA and their partner used CA were labeled violent resistance (VR). Dyads where the respondent used CA and their partner used no physical aggression or NCA were labeled intimate terrorism (IT). In previous analyses, the data sets were artificially constructed, with half of the cases used in the analysis being true self-reports and the other half being reports about partners (see chapter 6 and Johnson 1999). Only those who had used physical aggression were then used for subsequent analysis, therefore only those victims of IT who used physical aggression themselves were investigated. As the present data set has not followed this procedure, a further category was required for respondents who were nonviolent but whose partners used CA. It was decided to name this category 'victim of intimate terrorism' (VIT). Dyads where both the respondent and their partner used CA were called mutual violent control (MVC).

It is apparent that the present sample has a greater proportion of nonviolent relationships than previous samples, which is consistent with a sample that contains no respondents selected for the presence of high levels of physical aggression in their relationship. All other categories varied with cluster solution (see Table 8.4). Within the sub-sample of relationships that contain physical aggression ($n = 375$) MVC is far more frequent with a 2-cluster solution than with a 3-cluster solution, with the value for 3-cluster being more consistent with previous studies. IT is consistent in the 2-cluster with the findings in chapter 5, whereas in the 3-cluster, is consistent with Johnson (1999). VR did not differ for cluster solution. VIT occurred at similar proportions to VR (this

category could not be compared to previous studies as it was a new one). The 2-cluster proportion of CCV was more similar to previous findings than the 3-cluster.

Section 8.3.3: Sex and Physical Aggression

The sexual symmetry / asymmetry of the categories was investigated. Previous research found IT was perpetrated primarily by men, and VR by women, and that CCV and MVC would be sex-symmetric. VIT may be expected to be female in line with feminist research. Table 8.4 presents the frequencies of each type of relationship by the sex of the individuals. Contrary to expectations we find that women are more likely to be classed as IT than men in the 2-cluster and equally likely in the 3-cluster solutions. Surprisingly VIT is predominantly male with twice as many men being classified as VIT than would be expected with a random distribution: this is the case for both 2-cluster and 3-cluster. CCV, VR, and MVC were found to be relatively sex-symmetrical, which in the case of VR was not predicted. To investigate the similarity of the 2-cluster and 3-cluster solutions to previous research, the subsequent analyses centered on self-reported perpetration of IT and CCV only.

Section 8.3.4: Characteristics of intimate terrorism and common couple violence for both males and females

Perpetration of acts of physical aggression

Previous research has found IT to involve more frequent physical aggression than does CCV. Therefore the frequency of perpetrating of minor and severe physical

aggression against partners were compared across sex and relationship type for both the 2-cluster and 3-cluster solution.

Table 8.4: Individual Aggressive Behavior in a Dyadic Context, Classified According to relationship Category (Physically aggressive relationships only as reported n = 375)

		Men % of all men	Women % of all women	%age of total violent Rel	Chapt 6	Johnson I (1999)
Mutual Violent Control	2 cluster	5% (18)	6% (48)	18%	3%	3%
	3 cluster	5% (2)	2% (14)	5%		
Intimate Terrorism	2 cluster	2% (8)	7% (60)	18%	11%	18%
	3 cluster	3% (10)	4% (34)	12%		
Violent Resistance	2 cluster	1% (4)	2% (14)	5%	6%	4%
	3 cluster	2% (6)	2% (14)	5%		
Common Couple Violence	2 cluster	16% (58)	15% (130)	50%	59%	27%
	3 cluster	22% (81)	22% (195)	74%		
Nonviolent partners of Intimate terrorists	2 cluster	6% (22)	2% (13)	9%	na	na
	3 cluster	3% (11)	1% (8)	5%		

Mutual violent control = both partners using controlling aggression, Intimate terrorism = participant uses controlling aggression, Violent resistance = participant uses non-controlling aggression and partner uses controlling aggression, Common couple violence = one or both partners uses non-controlling aggression, VIT = participant uses no aggression and partner uses controlling aggression.

2-cluster solution

A sex by relationship type (IT and CCV) ANOVA was conducted on the perpetration of minor acts of physical aggression. There was no significant main effect for relationship type ($F(1,252) = 3.71, p = .055$), or sex ($F(1,252) = 2.43, p = .120$). There was no significant interaction between relationship type and sex ($F(1,252) = 0.00, p = .987$).

A sex by relationship type ANOVA was conducted on the perpetration of severe acts of physical aggression. There was no significant main effect for relationship type ($F(1,252) = 2.23, p = .137$), or sex ($F(1,252) = 0.694, p = .406$). There was no significant interaction between relationship type and sex ($F(1,252) = 0.140, p = .709$).

3-cluster solution

A sex by relationship type ANOVA was conducted on the perpetration of minor acts of physical aggression. There was a significant main effect for relationship type ($F(1,316) = 6.74, p = .010, \eta^2 = .02$) with IT (mean = 0.89) using significantly more minor physical aggression than CCV (mean = 0.49). There was a significant main effect for sex ($F(1,316) = 11.89, p = .001, \eta^2 = .04$) with women (mean = .63) reporting more minor physical aggression than men (mean = .34). There was no significant interaction between relationship type and sex ($F(1,316) = 1.70, p = .193$).

A sex by relationship type ANOVA was conducted on the perpetration of severe acts of physical aggression. There was no significant main effect for relationship type ($F(1,316) = 1.02, p = .313$) or sex ($F(1,316) = 0.387, p = .535$). There was no significant interaction between relationship type and sex ($F(1,316) = 0.271, p = .603$).

The 2-cluster solution yielded no significant differences between IT and CCV in their reports of minor and severe physical aggression. For the 3-cluster solution IT reported significantly more acts of minor, but not severe, physical aggression than CCV. This effect was not mediated by respondent sex, although women overall reported using more minor acts of physical aggression than did men.

Section 8.3.5: Escalation of physical aggression

An IT is expected to be more likely to escalate their use of physical force than a CCV individual. To investigate the relationship between escalation and sample group frequencies were calculated (see Table 8.5). However, there was no significant difference in escalation between IT and CCV for either the 2-cluster ($X^2 = 1.182$, $df = 2$, $p = .28$) or the 3-cluster ($X^2 = 1.444$, $df = 2$, $p = .24$) solutions.

Section 8.3.6: Injuries inflicted on partners

Severity of physical aggression was indexed by examining injuries to partners. The frequencies for injuries to partners by relationship type are presented in Table 8.6. The 2 cluster yielded no significant difference between IT and CCV injuries not requiring medical attention ($X^2 = 2.01$; $df = 1$, $p = .156$) and injuries requiring medical attention ($X^2 = 1.25$; $df = 1$, $p = .263$). With the 3 cluster solution, IT were found to inflict significantly more injuries not requiring medical attention ($X^2 = 4.70$; $df = 1$, $p = .030$) but there was no significant difference between IT and CCV for injuries requiring medical attention ($X^2 = 1.02$; $df = 1$, $p = .312$).

Table 8.5: Level of Escalation by Type of Relationship Category (Perpetrators of Intimate terrorism and Common couple violence only, N= 70*)

Cluster	Relationship type	De-escalated	No change	Escalated	N
2 Cluster	Intimate terrorism	44% (7)	31% (5)	25% (4)	100% (14)
	Common couple violence	46% (25)	41% (21)	7% (13)	100% (36)
	N	24	20	6	50
3 Cluster	Intimate terrorism	36% (5)	50% (7)	14% (2)	100% (14)
	Common couple violence	53% (19)	36% (13)	11% (4)	100% (36)
	N	32	27	11	70

* Respondents were required to complete the item on escalation if they had used *any physical force*. Participants were asked if their aggression had reduced (de-escalated), stayed the same (no change) or increased (escalated) over the course of their relationship.

Section 8.3.7: Reciprocity of physical aggression

In order to investigate the reciprocity of physical aggression frequencies of uni and bi-directional use of physical aggression were calculated (Table 8.6). Chi-Square analysis revealed that IT relationships were no more likely to be one-sided than CCV relationships for the 2 cluster solution ($X^2 = 0.574$, $df = 1$, $p = .450$) and actually more likely to be mutual than the CCV in the 3 cluster solution ($X^2 = 9.396$, $p = .002$).

Table 8.6: Severity of Violence by Relationship Category measured by injuries to partner. (Perpetrators of Intimate terrorism and Common couple violence only, N=193)

	No Minor Physical Injury	Injury Not Requiring Medical attention	N	No Injury requiring Medical Attention	Injury Requiring Medical Attention	N
Intimate terrorism	87% (59)	13% (9)	100% (68)	95% (36)	5% (2)	100% (38)
2C Common Couple Violence	93% (170)	8% (14)	100% (187)	98% (107)	2% (2)	100% (109)
N	232	23	255	143	4	147
Intimate terrorism	80% (35)	21% (9)	100% (44)	100% (31)	0% (0)	100% (31)
3C Common Couple Violence	91% (249)	10% (26)	100% (275)	97% (151)	3% (5)	100% (156)
N	284	35	319	182	5	187

The first three columns of percentages relate to item measuring minor injury. The second three columns of data relate to injury requiring medical attention. Never injured = no physical injury, injured without the need for medical treatment = injury not requiring medical attention, or if partner saw doctor for injuries = injury requiring medical attention. Intimate terrorism = participant uses controlling aggression; Common couple violence = one or both partners uses non-controlling aggression.

Section 8.3.8: Relative rates of perpetrator and partners use of physical aggression

To investigate perpetrator and victim use of physical aggression further, the relative couple frequency of use of physical aggression, calculated by subtracting the reported self physical aggression score from the reported partner physical aggression for each dyad were calculated (Table 8.7). An independent samples t-test revealed that ITs used significantly more physical aggression relative to their partners than CCV did for both the 2-cluster ($t = -4.55$, $df = 254$, $p < .0005$) and the 3-cluster solution ($t = -3.05$, $df = 318$, $p = .002$). It is important to remember that Johnson's (1999) definition of ITs stated that they used high levels of a range of controlling behaviours and one or more acts

of physical aggression. Therefore, although it is expected that such individuals would use higher frequencies of physical aggression than CCVs it is not a prerequisite for classification.

Table 8.7: Mutuality of Violence by Relationship Category (Intimate terrorism and Common couple violence only)

Cluster		Perpetrator Only	Partner Only	Both	N
2C	Intimate terrorism	65% (44)	na	35% (24)	100% (68)
	Common Couple Violence	40% (75)	30% (56)	30% (57)	100% (188)
3C	Intimate terrorism	39% (17)	na	61% (27)	256 100% (44)
	Common Couple Violence	37% (102)	26% (72)	37% (102)	100% (276)
N					

Classified as perpetrator only if participant had used any physical aggression in the past year and their partner had not used any, and classified as both if participant and their partner had both used physical aggression in the last year.

Section 8.3.9: Summary of analysis

Using self-reports to classify relationship category the present study has found support for the use of a three-cluster rather than two-cluster solution within this population. The three cluster solution found the expected profile of significantly higher levels of minor aggression perpetration, inflicting minor injuries and higher levels of physical aggression relative to their partners for the IT sample when compared to the CCV sample. The two cluster solution only yielded one significant difference between the IT and CCV samples (relative frequency of physical aggression). However there were

no differences in severe physical aggression, severe injuries, escalation or reciprocity of physical aggression even in the three-cluster solution.

Table 8.8: Difference in Frequency of Violence by self-reports Relationship Category

	-1.75 to -1.00	-0.99 to – 0.50	-0.49 to – 0.01	0	0.01 to 0.49	0.50 to 0.99	1.00 to 1.50	n
2C Intimate terrorism	2% (1)	0% (0)	4% (3)	7% (5)	63% (43)	21% (14)	3% (2)	100% (68)
2C Common Couple Violence N	2% (1)	35% (66)	32% (60)	14% (27)	43% (80)	5% (10)	1% (2)	100% (188)
3C Intimate terrorism	0% (0)	5% (2)	11% (5)	14% (6)	41% (18)	25% (11)	5% (2)	100% (44)
3C Common Couple Violence n	3% (7)	12% (19)	27% (73)	10% (39)	41% (112)	8% (22)	1% (4)	100% (276)

Score calculated by subtracting participant's score on the CTS from their partner's score on the CTS. A negative difference indicates more physical aggression perpetrated by the partner of the participant and positive differences indicate more participant physical aggression than their partner.

The preceding analysis investigated IT and CCV based on a sample that was classified by self-reports. Therefore where the respondent used controlling aggression and their partner used no aggression or non-controlling aggression that relationship was classed as IT and the analysis was from the perpetrator's perspective. This type of data is relevant to those working with perpetrators of partner aggression such as batterer program clinicians. Using perpetrator reports one could assess the level of controlling behaviours reported and hence classify the type of relationship.

Previous research that developed the present methodology has used data derived from a composite of self and partner-reports, however this is problematic for two reasons: first there is likely to be a reporting bias (Archer, 1999) as discussed previously. Sampling procedures used in previous research have ensured that much (chapters 3 and

5) or all (Johnson, 1999; Johnson & Leone, 2000) of the information on IT has come from reports about a partner's behaviour. This study and previous research has however, found consistent differences in self and partner reports that may explain why the present study only found partial support for Johnson's hypothesis. In addition, the effect of the source of information on classification cannot be investigated. This is important as many practitioners and researchers use victims to provide information on the perpetrator's behaviour. Therefore it is important to establish typologies from both perspectives.

With this in mind, it was decided that partner reports of IT would be contrasted with partner reports of CCV. For this purpose VIT and VR provided data on IT, and CCV provided data as before with the exception that in the previous analysis the behaviours contrasted were self-reports of perpetration of physical aggression, escalation and the respondents infliction of injuries to their partner. The following analysis instead uses reports of the respondent's partner's use of physical aggression, escalation, and the respondent's sustaining of injuries due to their partner's physical aggression. As I was interested in comparing IT and CCV, the VR and VIT categories were collapsed, therefore reports about IT derive from a combination of VIT and VR individuals. In the interest of brevity, only the three cluster solution will be used for the subsequent analysis. Further, results will be compared to the self-report three cluster findings only.

Section 8.3.10: Using partner-reports to compare IT and CCV

Victimisation by acts of physical aggression

A sex by relationship type ANOVA was conducted on the victimisation of minor acts of physical aggression. There was a significant main effect for sex ($F(1,311) =$

16.72, $p < .0005$), with men (mean = 1.28) reporting their partners as using significantly more minor physical aggression than women did (means = 0.79). There was also a significant main effect of relationship type ($F(1,311) = 84.22$, $p < .0005$) with ITs being reported as using significantly more minor physical aggression (mean = 1.58) than CCVs (mean = 0.45). There was no significant interaction between relationship type and sex ($F(1,311) = 2.59$, $p = .109$).

A sex by relationship type ANOVA was conducted on the victimization of severe acts of physical aggression. There was a significant main effect for sex ($F(1,310) = 12.44$, $p < .0005$) with men reporting more victimization (mean = 0.54) than women (mean = 0.23), again the effect size is small. There was a significant main effect for relationship type ($F(1,310) = 21.07$, $p < .0005$), with ITs being reported as using significantly more severe physical aggression (mean = 0.59) than CCVs were reported to have used (mean = 0.19). There was no significant interaction between relationship type and sex ($F(1, 310) = 1.84$, $p = .176$).

The analysis of partner's use of minor aggression is similar to the analysis of self-reported minor physical aggression, however the effect size is larger in the case of relationship type when using partner reports rather than self-reports. Both self-reports and partner reports were consistent in that women used more minor physical aggression than men. Unlike self-reports, partner reports also found significant differences between CCV and the victims of IT (i.e. VIT and VR) in the predicted direction. Men again were found to report more severe physical victimisation than did women.

Section 8.3.11: Escalation of partner's use of physical aggression

It was expected that ITs would be more likely to escalate than CCV. Chi Square analysis found that victims of IT were significantly more likely to face escalating rates of physical force than were victims of CCV ($X^2 = 7.333$, $df = 2$, $p = .026$, $\eta = .30$) (Table 8.10). This is in contrast to analysis based on self-reports, which failed to find a significant difference (Table 8.9).

Table 8.9: Level of Escalation by Type of Relationship Category (Victims of Common couple violence and intimate terrorism only, $n = 81$)

Relationship type	De-escalated	No change	Escalated	N
Common couple violence	37% (21)	42% (24)	30% (17)	100% (57)
Combined VIT & VR	17% (4)	33% (8)	50% (12)	100% (24)
N	25	32	29	81

* Respondents were required to complete the item on escalation if they had used *any physical force*. Participants were asked if their aggression had reduced (de-escalated), stayed the same (no change) or increased (escalated) over the course of their relationship.

Section 8.3.12: Injuries sustained by victims

Severity of physical aggression was indexed by injuries to respondents. The frequencies for injuries to respondents by relationship type are presented in Table 8.10. Consistent with self-reports, victims of IT were found to sustain significantly more injuries not requiring medical attention ($X^2 = 28.958$; $df = 2$, $p < .0005$, $\eta = .29$), with no significant difference between victims of IT and CCV for injuries requiring medical attention ($X^2 = 1.334$; $df = 2$, $p = .513$). This is in line with Johnson & Leone (2000) who also found no significant difference between IT and CCV on severe injury.

Section 8.3.13: Reciprocity of physical aggression

In order to investigate the reciprocity of physical aggression frequencies of uni and bi-directional use of physical aggression were calculated (Table 8.11). Chi-Square analysis revealed that victims of IT were no more likely to be one-sided than CCV relationships ($X^2 = 0.701$, $df = 1$, $p = .402$) which is in contrast to self-reports, which found IT was more likely to be mutual than CCV.

Table 8.10: Severity of Violence by Relationship Category measured by injuries to respondent (Victims of Intimate terrorism and Common couple violence only)

	No Minor Physical Injury	Injury Not Requiring Medical attention	N	No Injury requiring Medical Attention	Injury Requiring Medical Attention	N
Common Couple Violence	91% (251)	9% (25)	100% (276)	97% (150)	3% (5)	100% (155)
Nonviolent victims of IT	67% (12)	33% (6)	100% (18)	93% (13)	7% (1)	100% (14)
Violent resisters	61% (11)	39% (9)	100% (18)	100% (19)	0% (0)	100% (19)
N						

The first three columns of percentages relate to item measuring minor injury. The second three columns of data relate to injury requiring medical attention. Never injured = no physical injury, injured without the need for medical treatment = injury not requiring medical attention, or if the Respondent saw doctor for injuries = injury requiring medical attention.

Table 8.11: Mutuality of Violence by Relationship Category (Victims of Intimate terrorism and Common couple violence only)

	Perpetrator Only	Partner Only	Both	N
Common Couple Violence	37% (102)	26% (72)	37% (102)	100% (276)
Victims of IT	na	49% (19)	51% (20)	100% (39)
N	102	91	122	315

Classified as perpetrator only if participant had used any physical aggression in the past year and their partner had not used any, and classified as both if participant and their partner had both used physical aggression in the last year.

Section 8.3.14: Relative rates of perpetrator and partners use of physical aggression

Again by subtracting the reported self-reported use of physical aggression score from the reported partner's use of physical aggression for each dyad relative rates of physical aggression were calculated (Table 8.12). An independent samples t-test revealed that victims of IT used significantly less physical aggression relative to their partners than CCV ($t = 3.96$, $df = 313$, $p < .0005$).

Table 8.12: Difference in Frequency of Violence by Relationship Category (Victims of Intimate terrorism and Common couple violence only)

	-3.50 to- 1.76	-1.75 to -1.00	-0.99 to - 0.50	-0.49 to - 0.01	0	0.01 to 0.49	0.50 to 0.99	1.00 to 2.40*	N
Common Couple Violence	0% (0)	3% (7)	12% (19)	27% (73)	10% (39)	41% (112)	8% (22)	1% (4)	100% (276)
Victims of IT	21% (8)	13% (6)	13% (5)	36% (14)	5% (2)	5% (2)	5% (2)	3% (1)	100% (39)
N									

Score calculated by subtracting participant's score on the CTS from their partner's score on the CTS. A negative difference indicates more physical aggression perpetrated by the partner of the participant and positive differences indicate more participant physical aggression than their partner.

* category range extended to 2.40 from 1.50.

Section 8.3.15: Summary of analysis of partner-reports

Using reports about the respondent's partner's behaviours and their consequences, the relationship profile of IT was far more similar to previous research than the analysis based on self-reported behaviours. Analyses derived from partner reports found that IT perpetrators manifested significantly higher rates than CCV for minor and severe acts of physical aggression, relative rates of physical aggression, and minor injuries. Their physical aggression was also significantly more likely to escalate than was that of CCV respondents.

Section 8.4: Discussion

The present study investigated Johnson's typologies in a population not containing participants reports selected for their high rates of men's physical aggression towards their partners. Although previous research has found support for Johnson's typologies using a two-cluster solution, the nature of the samples used made generalisation of this technique problematic without further research. Claims had also been made about the sexually asymmetric nature of IT and VR (which would also include VIT). These claims, however, may be confounded by the sampling strategies used. The aim of the present study was twofold. First, to investigate whether Johnson's procedure of using cluster analysis to classify types of individual physical aggression would result in profiles that differed statistically from each other on predicted dimensions, in a population not containing any individuals selected due to prior knowledge or belief that they belonged to a population manifesting high levels of physical aggression. The second aim was to investigate the distribution of membership by sex in the categories of relationship identified by Johnson (1999).

Analysis based on self-reports of IT and CCV found support for a three-cluster solution, rather than two as recommended by Johnson (1999). A three-cluster solution results in levels of controlling behaviours in the high control category that are at least a third higher on average than those in the two-cluster high control category. In the three-cluster (two-cluster in parenthesis) solution high controls use economic three times more frequently than low controllers (two times more), eight times more threats (four times more), four times more intimidation (three times), three times more emotional (three times), and three times more isolation (three times). However the true support for a three rather than two-cluster solution comes when one compares the two on dimensions predicted to differentiate IT and CCV. Here the three-cluster solution shows far better discriminatory ability than the two cluster solution, with the IT groups producing effects in the predicted direction in three out of the seven analyses conducted, compared to only one in the two-cluster solution.

Although two of the non-significant effects (mutuality and infliction of severe injuries) have been found in previous research (Johnson, 2000), the failure to find significant differences in severe physical aggression and escalation calls into question the validity of Johnson's distinction and the generalisability of previous findings (Johnson, 1999; Johnson & Leone, 2000; Chapter 6). However, such distinctions and findings may be contingent on the information being provided by a victim rather than a perpetrator of such behaviours. To investigate this possibility the seven analyses were repeated using victim's reports of their partner's behaviour, with relationships classified using a three-cluster solution. Out of the seven analyses, there were five significant effects in the predicted direction (the exceptions being severe injuries to partners and mutuality). This

finding provides both support for, and caveats against the robustness of, Johnson's typological distinctions. From this study's findings one would expect Johnson's typologies to be evident in data derived from victim reports, and so it would be a useful tool for professionals and academics to differentiate between types of relationship aggression. The same may not, however, be true of perpetrator reports. The fact that the typologies may be contingent on using victim rather than perpetrator reports has important practical and theoretical implications. Practitioners must take care when using only one member of a relationship dyad (whether male or female) to provide information on both their own and their partner's behaviour. These findings suggest that research that has used single-sex samples to provide information on their own and opposite-sex partner's aggressive behaviours may have drawn conclusions of sex-differences when in reality the effects were driven by self versus partner report bias.

Johnson proposed, and found evidence for, the asymmetric nature of IT and VR (Johnson, 1999; Johnson & Leone, 2000), with men being perpetrators and women being victims of controlling physical aggression. However all previous analysis conducted by him used only reports from women about their own perpetration and victimization of aggressive behaviours, even when reports from men were available (Johnson & Leone, 2000). Research reported in previous chapters suggested that the use of both men's and women's reports of perpetration and victimization may affect the distribution by sex within typology categories, although the non-selected sample used was too small to allow investigation of this. The present sample was large enough to allow a meaningful investigation of the distribution of men and women within the different categories of aggressive relationships. Here contrary to Johnson's predictions, it was found that IT and

VR were essentially sex-symmetrical and, that nonviolent victims of IT were more likely to be men than women. These findings, if replicated in future studies, have far reaching implications. They provide support for researchers such as Steinmetz (1978) and George (1994; 2003) among others, who have claimed that men and women are mutually victimized in intimate relationships, and that men can be victims of 'battering' in the same way that women can. These conclusions are in direct conflict with feminist analyses, which have discounted such claims by asserting that men use controlling aggression and women use no, or more recently self-defensive, aggression (Dobash & Dobash, 1979; R.P. Dobash, Dobash, Cavanagh, & Lewis, 1998; Giles-Sims, 1984; Okun, 1986; Pence and Paymar, 1993; Saunders, 1988; Stacy, Hazlewood & Shupe, 1994; Walker, 1979; Yllö, 1994). They support researchers who have actually investigated men's victimization (Statistics Canada, 2000; McFarlane, Willson, Malecha & Lemmey, 2000; Migliaccio, 2002; George, 2003; McLeod, 1984).

The analyses presented in this chapter suggest that Johnson's (1999) typologies have some validity, however his approach has been found to be sensitive to reporting and sampling effects. Future studies should refrain from using stratified sampling techniques to study sex-differences unless such techniques include comparative samples for both men and women. Further, self-reports and partner-reports cannot be viewed as synonymous and therefore they must not be used together uncritically. For researchers using a stratified sampling technique such as that used by Johnson (1999) and in chapters 5 and 6, a 2-cluster solution may be optimal, however where the sample does not contain a mixture of selected and non-selected samples a 1-cluster solution may be preferable. Johnson's typologies may need to be redefined to encompass the failure to find that IT is

more likely to be one-sided than CCV in non-selected samples. It may be that mutuality is found to be a crucial element in IT experiences, with one-sided aggression being the norm in selected and mutual aggression in non-selected samples. The [female] victims found in selected samples may tend to be people who either reject the use of violence and so seek help sooner, or these victims' non-violence may be a sign of extreme fear and of the dangerousness of their aggressors. Mutuality in non-selected IT relationships may signify either that both parties condone the use of physical aggression, thereby legitimising its use, or that the victim is less afraid of the IT aggressor and is willing to fight back.

To further investigate these typologies, the next chapter will investigate the relationships between not only the use of physical aggression and controlling behaviours, but also the participants fear. This was not possible in chapter 6 as reports of fear were only available for half of the population due to artificially constructing the data set. Further these relationships will be investigated separately for men and women, and relationship types. A comparison of men's and women's associations can also be made as such comparisons are not confounded by stratified sampling (chapter 6).

Chapter 9: Sample 2, analysis 2: Does controlling behaviour predict physical aggression and violence to partners in non-selected samples?

Section 9.1: Introduction

Chapter 6 showed that in the first sample controlling behaviours were associated with physical aggression in IT, CCV, VR and MVC groups. However there were restrictions upon the generalizability of these findings. The data were derived from three separate samples (women's shelter residents, undergraduates, and male prisoners) and then, using Johnson's categorisation procedure, were classified as one of four types of physically aggressive relationship. The distribution of the samples into the categories, as expected, was not random. IT and VR were overwhelmingly represented by data from the shelter women. As most people who leave a severely violent relationship do not become shelter residents (Johnson, 1995) it is possible that these women may be atypical, and that their experience of partner aggression unique. Chapter 8 found that ITs could be identified in a population not selected for high levels of partner violence. Therefore, repeating the analysis from chapter 6 would allow a comparison between relationship typologies derived from selected and non-selected populations.

Chapter 8 also showed that Johnson's typologies were more robust when using partner-reports, rather than self-reported behaviours. Therefore there is a need to investigate the individual level analysis separately for both self- and partner-reports. Johnson (1999; Johnson & Leone, 2000) has used women's reports about their male partner's aggressive and controlling behaviours to both create and assess the relationship categories, therefore it is possible that there may be differences when using self-reports, and when using reports provided by men about their victimisation or women about their perpetration of aggression and control.

Due to the relative scarcity of IT, VR, and MVC in general populations, the data from the first sample consisted of an artificially constructed data set, where self reports and partner reports were not distinguished. This prevented aggressive behaviour from being studied in a dyadic way. It was also not possible to include fear in the analysis. Respondents were asked only to report on their own feelings of fear not their partners', therefore when the data set was artificially constructed cases derived from reports about a partner did not have a measure of fear.

The present analysis involved sample 2, which was not artificially constructed, and so the associations between violent behaviour, controlling behaviours and fear can be investigated in a dyadic way. Each relationship typology group, therefore, can provide information on not only their behaviours, but also their partner's behaviours.

Johnson's theory would lead to the predictions that CCVs' use of physical aggression would not be associated with their use of controlling behaviours, regardless of the sex of the perpetrator. ITs' and MCVs' physical aggression should be to related controlling behaviours. The victims of ITs' physical aggression should not be related to control, but may instead be expected to be related to fear as their aggression is akin to self-defence (Johnson, 1999; Johnson & Leone, 2000). Feminist and evolutionary analysis would lead to the prediction that men's physical aggression would be associated with controlling behaviours, but unrelated to fear. Women's aggression would not be expected to be associated with controlling behaviours, but as it is believed to be self-defensive should be associated with their own fear. Finally family conflict research would lead to the prediction that physical aggression is a conflict tactic used to regain control of a situation rather than of an individual. Therefore there should be no association between the use of physical aggression and controlling behaviours, or fear.

These predictions were investigated both from the perpetrator's (self-reports) and victim's (partner-reports) perspective. In an extension to the analyses of chapter 6, the association between each partner's use of physical aggression was also investigated. It would be expected from Johnson's theory that ITs' physical aggression would not be associated with his partner's physical aggression as it is control-related rather than retaliatory. VITs' and VRs' physical aggression should be strongly associated with their partner's physical aggression. CCVs' physical aggression would be expected to be related to their partners' physical aggression and using retaliatory physical aggression may be felt as necessary to regain control of a situation where physical aggression was being used, however their relationship should not be as strong as the VRs' and VITs' relationship.

Finally regression analysis was used to determine the amount of variance explained by these variables. The regressions were hierarchical, with the first block essentially replicating the analysis of chapter 6 by investigating the use of physical aggression in a unitary way. Block two, however, introduced fear and partner behaviours into the equation. This allowed the use of physical aggression to be investigated in a dyadic way, by investigating the variance explained when both members of the dyad's behaviours were included.

Section 9.2: Method

Section 9.2.1: Participants and procedure

The participants for the present analysis are drawn from sample 2 (see chapter 2.2.2), and the categorisation procedure is fully described in chapter 8. The categorisation was based on the 3 cluster solution (see chapter 8).

Section 9.2.2: Measures

The measures analysed were controlling behaviours (CBS-R), physical aggression, respondent fear, and injuries (chapter 2.1).

Section 9.3: Results

Plan of analysis

The following analyses are presented in two parts. The first part covers individual-level correlational analysis of reports by the respondents (self-reports), and reports about partners (partner-reports). The second part of the results section covers multiple regressions. All analysis was conducted separately for both sex and relationship category. The categories of VR and VIT groups were collapsed as Johnson does not make a distinction between physically aggressive and non-physically aggressive victims of ITs.

Correlational analysis: self reports

Pearson's correlations were used to investigate the relationship between controlling behaviours and physical aggression and injuries for males and females within the four relationship types. Table 9.1 shows the correlations between the subscales of the controlling behaviours and the use of physical aggression by the respondents, and injuries sustained by their partners' for men and women, both overall and separately for relationship type. As would be expected physical aggression and injuries are not independent variables, but are related (with r values ranging from .33 to .91 for men, and .38 to .83 for women). Both these variables are included as different but related measures of violent behaviour.

Section 9.3.1: Investigating Johnson's theory using Self-reports

Men

Men in the intimate terrorism (IT) group showed the expected relationships between all five controlling behaviours, overall control, and perpetrating physical aggression and

inflicting injuries, with positive relationships ranging from moderate to high (Table 9.1). The associations were consistent, but stronger than in chapter 6. ITs' fear (Table 9.2) was unrelated to their own use of physical aggression or inflicting injuries. Replicating the findings of chapter 6, CCV men's violent behaviour was related to threatening control and overall control, however it was also related to economic and isolation (Table 9.1). Respondent fear was strongly related to both their own use of physical aggression and inflicting injuries upon their partners (Table 9.2). Unlike in sample 1, male victims of IT can also be investigated. Controlling behaviours were not significantly related to male victims of ITs' use of physical aggression or infliction of injuries (Table 9.1), however, neither was these male victims of ITs' physical aggression significantly related to fear (Table 9.2).

Therefore, ITs use of controlling behaviours was strongly associated with physical aggression, a relationship that was significantly stronger than CCVs (Fisher's $Z = 2.07$, $p < .05$) and victims of IT (Fisher's $Z = 2.16$, $p < .05$). ITs' infliction of injuries onto their partners was also strongly related to controlling behaviours, with a significantly stronger relationship than either CCV (Fisher's $Z = 2.79$, $p < .05$) or victims of IT (Fisher's $Z = 3.32$, $p < .05$). CCVs' use of physical aggression was control related but not as strongly as ITs'. Victims of IT were found to have no significant associations between control and physical aggression or their partners' injuries. Overall, these findings give broad support to the predictions derived from Johnson's theory, although CCV men do show evidence of using controlling aggression.

Women

The use of physical aggression and infliction of injuries by female perpetrators of IT was not found to be related to their own use of controlling behaviours, in contrast to the

findings of chapter 6. Indeed, their association between control and their partners' injuries was significantly lower than both CCV women's (Fishers $Z = -2.01$) and victims of ITs (Fishers $Z = -2.52$) (Table 9.1). Their physical aggression (but not infliction of injuries) was strongly related to fear (Table 9.2). It may be the case that female ITs are fearful because they do not control their use of physical aggression and so are afraid of the consequences which include being hit by their partners. Therefore the profile found for women ITs is not one that would have been expected. These women were categorised as IT because they used frequent controlling behaviours, therefore the failure to find a relationship between controlling behaviours and aggression is surprising (indeed their use of controlling behaviours does not differ from male ITs' use ($t = 0.98$, $df = 9.93$, $p = .349$)). Inspection of the scatter plot (Figure 9.1) indicates a threshold effect, whereby although physical aggression is used by controlling women it does not appear to be a result of escalating control use.

Female CCVs' use of physical aggression was found to be correlated with their use of intimidating, threatening and overall controlling behaviours replicating the sample 1 findings (Table 9.1). It also correlated with emotional control, but not fear (Table 9.2). Their inflicting of injuries upon their partners was associated with emotional control, but again not associated with fear.

In contrast to study 4, female victims of ITs were found to have strong relationships between their violent behaviour and their own use of emotional, intimidation and threatening controlling behaviours (Table 9.1), but not fear (Table 9.2).

Therefore, there was little support for Johnson's theory when using women's self-reports. IT women were not found to have associations between controlling behaviours and the use of physical aggression, but instead their aggressive behaviour was strongly related to fear. Contrary to predictions derived from Johnson, but consistent with sample 1, the CCV

women were found to both use physical aggression and inflict injuries in association with controlling behaviours. However, as predicted, their use of physical aggression was not associated with fear. Again contrary to predictions, the victims of IT were found to have strong relationships between control and the use of physical aggression, which was unrelated to their own fear.

Figure 9.1: The relationship between controlling behaviours and physical aggression for female Intimate Terrorists.

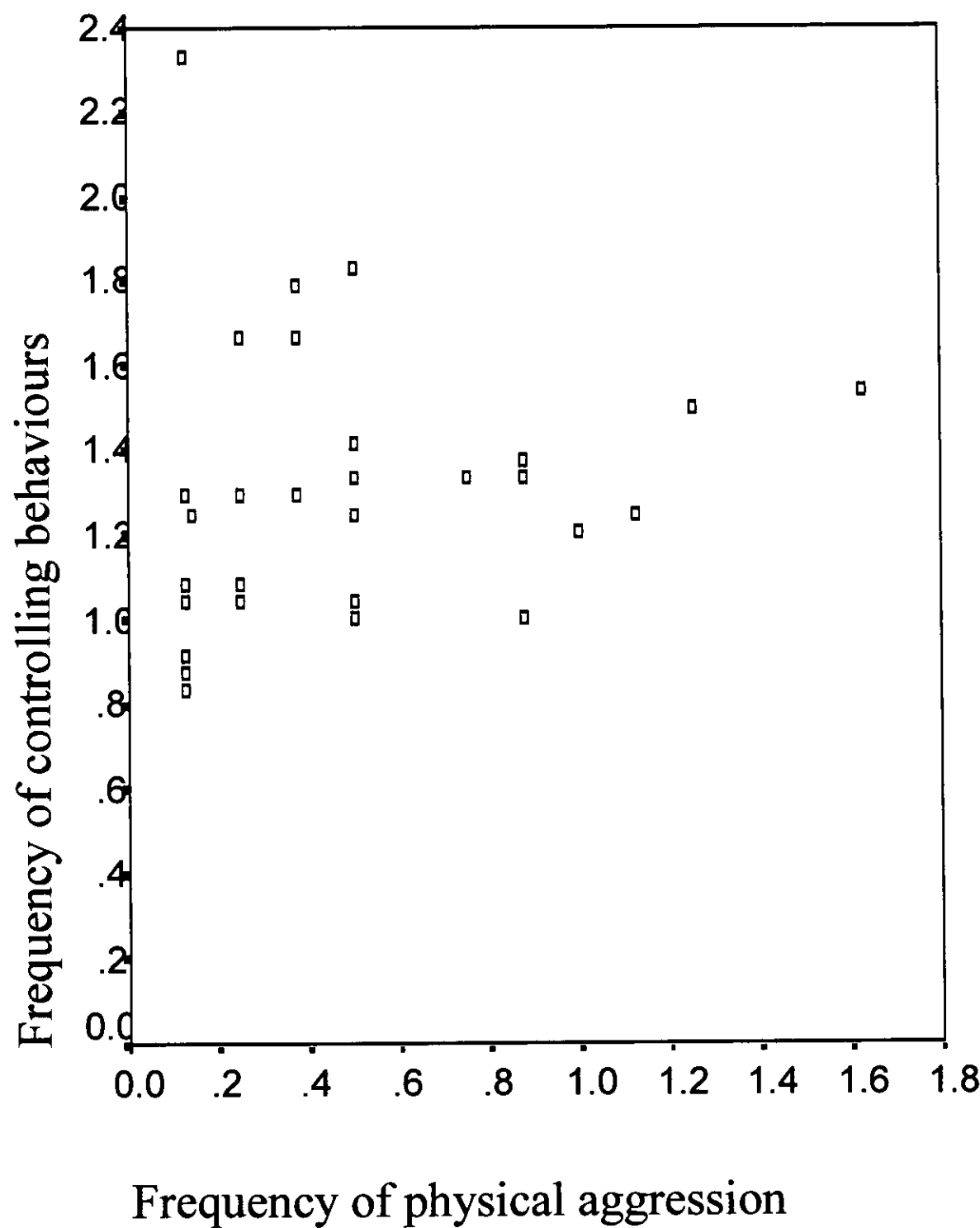


Table 9.1: Pearson's correlations (2-tailed) of respondent's physical aggression and partner's injuries with respondent's controlling behaviours.

	Economic		Emotional		Isolation		Intimidation		Threatening		Overall control	
	PA	I	PA	I	PA	I	PA	I	PA	I	PA	I
<i>CCV</i>												
<i>Male</i> <i>(n=79)</i>	.36**	.49**	.05	.09	.04	.30*	.10	.19	.25*	.31*	.22**	.43*
<i>Female</i> <i>(n=195)</i>	.10	.14	.35**	.22*	.05	.07	.22*	-.01	.24**	.08	.29**	.17
<i>IT</i>												
<i>Male</i> <i>(n=10)</i>	.78**	.91**	.50	.80*	.83**	.71*	.83**	.71*	.84**	.95**	.79** ^{ab}	.92**
<i>Female</i> <i>(n=34)</i>	.19	-.08	.13	-.20	.21	-.20	.12	-.20	.05	.00	.22	-.21
<i>VR & VIT</i>												
<i>Male</i> <i>(n=17)</i>	.32	.31	-.12	-.08	-.13	-.05	.16	.07	.32	.06	.07 ^b	.05
<i>Female</i> <i>(n=22)</i>	.20	.15	.68**	.63**	.10	-.09	.50*	.46*	.44*	.38	.56**	.45
<i>MVC</i>												
<i>Female</i> <i>(n=8)</i>	.71**	.18	.46	-.31	.17	.03	.59*	-.43	.72*	-.27	.62*	-.20
<i>All men</i> <i>(n=110)</i>	.48**	.37**	.28**	.05	.23*	.10	.37**	.09	.44**	.21	.39**	.25**
<i>All women</i> <i>(n=265)</i>	.34**	.22**	.51**	.35**	.32**	.20*	.46**	.12	.50**	.25**	.56**	.37**

PA = physical aggression, PI = Partner's injuries, $p < .05$, ** $p < .001$. a, b, and c denote significant difference (Fishers $p < .05$) – note comparisons were made between Johnson's categories, and between men and women; all comparisons were made for overall control only.

Table 9.2: Pearson’s correlations (2-tailed) of respondents fear and use of physical aggression and infliction of injuries to their partners.

	Respondent <i>Physical aggression</i>	Partner’s <i>Injuries</i>
CCV		
Male (n=79)	.69**	.70*
Female	.04	.04
IT		
Male (n=10)	-.25	-.15
Female (n=34)	.64**	-.02
VR & VIT		
Male (n=17)	.31	.28
Female (n=22)	-.32	-.27
MVC Female (n=14)	-.33	-.15
All men (n=107)	.31**	.45**
All women (n=265)	.09	.13

p < .05, ** p < .001

Section 9.3.2: Investigating feminist and family conflict theories using Self-reports

Self-reports: men and women

Overall, men’s use of physical aggression was found to be associated with their use of all five controlling behaviours and overall control. Economic and overall control was also related to inflicting injuries. Men’s physical aggression and inflicting of injuries were also associated with fear. Overall, women’s use of physical aggression was related to all five controlling behaviours and overall control. Their infliction of injuries was related to four of the controlling behaviours, the exceptions being intimidation and overall control. Their own use of physical aggression and inflicting of injuries was not related to fear.

The finding that men's use of aggression is related to control is consistent with feminist theory, although the relationship between fear and the use of aggression is not. Inconsistent with feminist theory is the associations between control and aggression, and lack of association with fear, for women in the present sample. Neither do these results support a family conflict perspective.

Section 9.3.3: Investigating Johnson's theory using partner-reports

Men

Male ITs' partners' reports found that male IT's physical aggression was significantly related to threatening control. The association between overall control and physical aggression was significantly stronger for IT than CCV (Fisher's $Z = 2.15$, $p < .05$) but not for victims of IT. The injuries inflicted by male ITs were significantly related to emotional, intimidation and threats, which partially replicated the findings from self-reports. IT men's association between overall control and injuries was significantly stronger than that for victims of IT (Fisher's $Z = .197$ $p < .05$) and CCV (Fisher's $Z = 3.83$ $p < .05$).

Partner-reports about CCV men showed associations between physical aggression and emotional and threats. There were also significant associations between injuries to the partner and both emotional and overall control, this again partially replicates the findings from self-reports. Reports about the male victims of IT found significant associations between physical aggression and economic, emotional, threats and overall control. The injuries male victims of ITs inflicted were found to be related to threatening control. These findings are inconsistent with those derived from self-reports, which found no relationship between control and the use of physical aggression.

Table 9.3: Pearson's correlations (2-tailed) of partner's physical aggression and respondent's injuries with partner's controlling behaviours.

	Economic		Emotional		Isolation		Intimidation		Threatening		Overall Control	
	PA	I	PA	I	PA	I	PA	I	PA	I	PA	PI
<i>CCV</i>												
Male (n=79)	.06	-.03	.01	-.06	-.20	-.07	.13	-.12	.28*	.12	.04 ^a	-.06 ^b
Female (n=195)	.04	.09	.16*	.23*	-.02	.16	.13	.06	.24**	.16	.12	.21*
<i>IT</i>												
Male (n=10)	.24	.24	.61*	.27	-.42	-.02	.62*	.22	.52	-.23	.49	.21
Female (n=34)	.38*	.19	.47*	.04	.20	.22	.13	.06	.35*	.51*	.55**	.40
<i>VR & VIT</i>												
Male (n=17)	.42	.37	.24	.68*	.06	.61*	.50*	.68*	.68*	.51*	.58**	.81** ^{ab}
Female (n=22)	.32	.35	.28	.43*	.12	.20	.24	.37*	.42*	.59**	.37	.51*
<i>MVC</i>												
Female (n=8)	.21	-.39	.34	-.48*	.39*	-.01	.68**	-.30	.36	-.25	.57*	-.35
Men (n=110)	.36**	.12	.37**	.13	.32**	.15	.50**	.15	.61***	.19 ^c	.55**	.25**
Women (n=265)	.33**	.30**	.42**	.41**	.34	.38**	.44**	.35**	.49***	.46***	.51**	.14**

PA = physical aggression, PI = Partner's injuries, $p < .05$, * $p < .001$ **

a, b, and c denote significant difference (Fishers $p < .05$) – note comparisons were made between Johnson's categories, and between men and women; all comparisons were made for overall control only.

Therefore, overall there is little support for the predictions derived from Johnson's theory, although ITs were found to have a significantly stronger relationship between overall control and physical aggression than CCV ,and stronger associations between control and inflicting injuries than both victims of IT and CCV individuals.

Women

Male partner-reports about female ITs found that their physical aggression was strongly associated with intimidation, threats, and overall control. The injuries these female ITs inflicted were associated with emotional, isolation, intimidation, and overall control. These findings are inconsistent with the self-reports of female ITs. Reports about female CCVs found only one significant relationship between control and physical aggression, which was threats, again this is inconsistent with self-reports. Female victims of IT were found to use physical aggression that was associated with emotional and intimidation, which is broadly consistent with self-reports.

Therefore men's reports about their partners provided some support for Johnson's theory. CCVs' aggression was not found to be control related (with threats the only exception), whereas ITs' was. Victims of ITs' physical aggression was again found to be control related which is not consistent with Johnson's theory.

Section 9.3.4: Investigating feminist and family conflict theories using partner-reports

Men and women

Both men and women were found to use controlling behaviours in association with physical aggression and inflicting injuries to their partners. Men and women's associations did not differ significantly from one another. The association between control and aggressive

behaviour for men is consistent with feminist and evolutionary theory, but not family conflict theory. The findings that women's aggressive behaviour is also associated with control is inconsistent with both feminist and family conflict theory.

Regression analysis

To increase statistical power, the five sub-types of controlling behaviours were collapsed into overall controlling behaviours. However, with the exception of CCV, group sizes are small for regression analysis and so should be interpreted with caution. The analysis consists of a replication of the earlier analysis presented in chapter 6 with some refinements. Hierarchical multiple regressions were used to predict self-reported use of physical aggression and reports about a partner's use of physical aggression. For all regressions, the target person's controlling behaviours are entered in block one; and the partner's use of controlling behaviours and physical aggression, and target person's fear, in block two. Block one allows a comparison to be made with the results presented in chapter 6, whereas block two will allow the dyadic nature of partner aggression to be investigated.

Section 9.3.5: Investigating Johnson's theory using regression analysis

To investigate the use of physical aggression within Johnson's categories the analysis was conducted separately for both self and partner perspectives. For example when investigating ITs, self-reports, the data derives from those classified as IT and partner-reports from those classified as victims of IT. This analysis enables a comparison of both sex-differences and whether it was victims or perpetrators who were providing data. As Johnson has developed and tested his typology predominantly on men's physical aggression using

women's reports (Johnson, 1995, 1999; Johnson & Leone, 2000) it is important to investigate possible bias in such methods.

Predicting men's physical aggression from self-reports

Predicting IT men's use of physical aggression, regression analysis (Table 9.4) found that controlling behaviours explained 62% of the variance in their using physical aggression on step one. On step two, a further 24% of variance was explained, with ITs' use of controlling behaviours and their partner's use of physical aggression being found to be significant predictors of ITs' physical aggression. These results suggest male ITs' self-reported physical aggression is largely predicted by his use of controlling behaviours, however his partner's use of physical aggression also significantly increases the amount of variance explained. Therefore these men use controlling aggression.

Predicting male CCVs' use of physical aggression, on step one his use of controlling behaviours explained only 5% of the variance (Table 9.4). On step two, a further 64% of variance was explained by (in order of effect size) partner's use of physical aggression, partner's controlling behaviours, respondent fear, and respondent controlling behaviours. These findings suggest that control is not central to predicting CCV men's physical aggression, instead it appears to be retaliatory and self-defensive.

There were no significant predictors of male victims of ITs' use of physical aggression (Table 9.5). Therefore although male victims of ITs were found to show a pattern of correlations consistent with such a profile, regression analysis yielded no significant predictors. This failure is may be due to the lack of statistical power in the model due to the small sample size, however future research is needed with a larger sample to investigate this proposition.

The findings from the male ITs and CCVs are consistent with Johnson's theory. The strongest predictor ITs' aggressive behaviour was his own use of control. The strongest predictors of CCVs' use of physical aggression in contrast, was his partner's use of physical aggression.

Predicting men's physical aggression from partner-reports

There were no significant predictors of IT men's physical aggression when using reports from partners. This may be due to a lack of statistical power due to the small sample size (see Table 9.5). CCV men's physical aggression using partner-reports was not significantly predicted at step one. At step two the CCV men's female partners' physical aggression and controlling behaviours, and the man's use of controlling behaviours were all significant predictors of his use of physical aggression explaining 25% of the variance. This is consistent with self-reports from CCV men (Table 9.4).

Predicting male victims of ITs' physical aggression use found that at step one the man's use of controlling behaviours explained 30% of the variance. At step two this increased to 54% with the IT woman's use of physical aggression and the male victim's use of controlling behaviours being the significant predictors (Table 9.4). This suggests that male victims of ITs use physical aggression that is both retaliatory and controlling.

Therefore, reports provided by female partners indicated that male CCV perpetrators and male victims of IT women use both retaliatory and controlling physical aggression. These findings are broadly in line with Johnson's theory.

Predicting women's physical aggression from self-reports

Predicting female ITs' use of physical aggression, controlling behaviours were not significant predictors at step one, however female IT's fear and their partner's use of physical aggression were significant predictors at step two, where 63% of the variance was explained (Table 9.4). This suggests female IT's use of physical aggression is both self-defensive and retaliatory.

Predicting CCV women's use of physical aggression found that controlling behaviours explained 8% of the variance at step one. At step two, partner's physical aggression, respondent's controlling behaviours, partner's controlling behaviours, and respondent fear were all significant predictors, explaining 34% of the variance (Table 9.4). This suggests that although controlling behaviours do explain a significant proportion of variance, partner behaviours and fear are also important predictors.

Predicting female victims of ITs' use of physical aggression, their own use of controlling behaviours explained 32% of variance. At step two explained variance increased to 44%, with only their own controlling behaviours as significant predictors (Table 9.5). Female victims of IT appear to use controlling aggression.

Therefore, women classified using self-reports yielded data that was incongruent with Johnson's theory. Retaliation and fear were the most important predictors of IT women's physical aggression, whereas controlling behaviours were the most important for victims of ITs use of physical aggression. Therefore the IT women presented a profile that would have been expected for victims of IT and vice versa. The CCV women were the only exception, as the analyses suggested that although their physical aggression may be controlling, both retaliation and fear are also important in understanding their aggression.

Predicting women's physical aggression from partner-reports

Predicting female ITs' use of physical aggression using reports from their male partner found that at step one the woman's use of controlling behaviours explained 33% of the variance. At step two this proportion of variance increased to 50% although controlling behaviours by the female ITs were still the only significant predictor (Table 9.5). This is inconsistent with the findings from self-reports.

Female CCVs' use of physical aggression was not significantly predicted at step one. At step two 62% of variance was explained, with her male partner's physical aggression being the only significant predictor (Table 9.4). This indicates that the aggression is solely retaliatory, unlike self-reports which also indicated that control was also predictive.

Female victims of ITs' use of physical aggression was not significantly explained by any of the variables in the regression (Table 9.5).

Therefore data derived from men about women's physically aggressive behaviours provided some support for Johnson's predictions. Women ITs were found to use controlling aggression and CCVs' aggression was found to be retaliatory.

Investigating feminist and family conflict theories

Predicting men and women's physical aggression from self reports

When predicting men's use of physical aggression, their controlling behaviours explained 18% of variance at step one. At step two this increased to 60% of the variance explained, with partner's physical aggression, partner's controlling behaviours, and respondent controlling behaviours being the significant predictors.

Predicting women's use of physical aggression, at step one controlling behaviours explained 29% of the variance. At step two this increased to 52% of the variance explained

with the man's use of physical aggression, the woman's controlling behaviours and fear, and the man's use of controlling behaviours were being significant predictors. Therefore, when using self-reports, men's and women's physical aggression appears to be motivated by retaliation, control, and in the case of women, fear.

Table 9.4: Hierarchical multiple regression (final step) of men and women's use of physical aggression regressed onto reports of partner's physical aggression and controlling behaviours, their own use of controlling behaviours and their fear: Common couple violence and Intimate terrorists

	Predictors	SELF- REPORTS	Beta	R ²	PARTNER- REPORTS	Beta	R ²
CCV	<i>Male</i>	Man's controlling behaviours	.181*			.251	
		Man's fear	.307*			----	
		Woman's controlling behaviours	-.265*			-.254*	
		Woman's physical aggression	.528*			.512*	
		Man's physical aggression	---	.69		----	.25
CCV	<i>Female</i>	Woman's controlling behaviours	.468*			.136	
		Woman's fear	-.166*			----	
		Man's controlling behaviours	-.262*			.020	
		Man's physical aggression	.515*			.794*	
		Woman's physical aggression	----	.34		----	.62
IT	<i>Male</i>	Man's controlling behaviours	.849*			.412	
		Man's fear	-.107			----	
		Woman's controlling behaviours	-.310			-.374	
		Woman's physical aggression	.579*			-.039	
		Man's physical aggression	----	.86		----	.18
	<i>Female</i>	Woman's controlling behaviours	-.037			.740*	
		Woman's fear	.475*			----	
		Man's controlling behaviours	.030			.307	
		Man's physical aggression	.494*			.304	
		Woman's physical aggression	----	.63		----	.50

Table 9.5: Hierarchical multiple regression (final step) of men and women's use of physical aggression regressed onto reports of partner's physical aggression and controlling behaviours, their own use of controlling behaviours and their fear: Victims of Intimate terrorists, and men and women whole sample

Predictors		SELF- REPORTS	Beta	R ²	PARTNER- REPORTS	Beta	R ²
VIT & VR							
<i>Male</i>							
	Man's controlling behaviours		-.046			.348*	
	Man's fear		.361			----	
	Woman's controlling behaviours		-.561			.020	
	Woman's physical aggression		.316			.529*	
	Man's physical aggression		----	.28		----	.54
VIT & VR							
<i>Female</i>							
	Woman's controlling behaviours		.505*			.503	
	Woman's fear		-.434			----	
	Man's controlling behaviours		.272			-1.015	
	Man's physical aggression		.150			1.086	
	Woman's physical aggression		----	.44	-----		.57
MEN							
	Man's controlling behaviours		.373*			.454*	
	Man's fear		-.060			----	
	Woman's controlling behaviours		-.426*			-.273*	
	Woman's physical aggression		.775*			.563*	
	Man's physical aggression		----	.61		----	.45
WOMEN							
	Woman's controlling behaviours		.486*			.343*	
	Woman's fear		-.192*			----	
	Man's controlling behaviours		-.140*			-.483*	
	Man's physical aggression		.568*			.607*	
	Woman's physical aggression		----	.52	----		.36

Predicting men and women's physical aggression from partner-reports

Predicting men's physical aggression using reports from partners, at step one the man's controlling behaviours explained 22% of the variance. At step two variance explained increased to 55% with the woman's physical aggression, the man's controlling behaviours, and the woman's controlling behaviours all being significant predictors.

Women's physical aggression was predicted by their use of controlling behaviours explained at step one, explaining 26% of the variance. At step two this increased to 45% of variance, with the man's use of physical aggression, the woman's controlling behaviours, and man's controlling behaviours all being significant predictors.

Therefore men and women's physical aggression, although being control orientated appears to be most likely to be retaliatory when using reports from either themselves or their partners. This does not support either feminist or evolutionary theory, but is consistent with family conflict theory.

Section 9.4: Discussion

As expected IT men's violent behaviour was strongly motivated by control, when both self and reports from partners were used. The male ITs saw their partners' use of physical aggression as retaliatory and it was associated with increased physical aggression from the IT men, which supports previous findings from battered women (Dobash & Dobash, 1979; Giles-Sims, 1983; Okun, 1986). As the IT men's aggressive behaviour was unrelated to fear, it is likely that their partner's aggression was seen as a challenge to the IT men's control, which would explain the increases in their aggression in response to such a challenge. These findings are consistent with chapter 6 and with feminist and evolutionary theory, and with Johnson's typology. Partner reports about IT men supported this finding,

with the men's controlling behaviours being the only significant predictor, and self-reports from IT also found their controlling behaviour was the most important predictor.

When using self-reports, IT women's physical aggression was not found to be controlling but instead a mixture of a response to fear and retaliation. However, when using reports about them by male partners their physical aggression was found to be controlling. The effect of the perspective of the report (i.e. whether it is self or partner) is therefore crucial to the understanding of female IT. They see their own aggression as being in response to their partner's behaviours, whereas their male victims see the women's aggression as controlling.

Overall ITs showed the predicted profile in three out the four sets of analysis, female self-reports were the only exception. This therefore gives support to Johnson's IT category, that such people use controlling aggression. This also supports the findings of chapter 6, where ITs' physical aggression was predicted by controlling behaviours.

Victims of IT were found to use controlling aggression, contrary to predictions from Johnson's theory. It was expected that their aggression would be the result of fear and / or retaliation but this was not found to be the case. Therefore there is no support for Johnson's contention that victims of IT use physical aggression in either self-defence or retaliation. The present analysis found that female victims of ITs' use of physical aggression was associated with emotional, intimidation and threatening control (Table 9.1) which is broadly in agreement with IT men's reports about their partners. This is consistent with chapter 6 where VR women were found to use controlling physical aggression with economic as the significant predictor. However women in the present sample appear to use a broader range of controlling behaviours, giving a profile more consistent with an IT perpetrator. Male victims of IT supported Johnson's categorisation when using self-reports but not partner reports, which like female victims of IT, gave a profile more consistent with IT. The sample sizes for

the victims of IT analysis were all small and therefore no conclusions can be drawn.

However, the present analysis does suggest that victims of IT may not be solely using defensive or retaliatory aggression. Indeed the finding that their aggression may be control-motivated may explain their partner's use of physical aggression. Research has found that male batterers have a low tolerance for being controlled and so a partner's use of physical aggression as a means of control could increase their own victimisation.

Although CCVs' aggression was associated with controlling behaviours which is consistent with chapter 6, when both their own and their partner's behaviours were examined it appeared that CCV men and women's aggression was predominantly retaliatory physical aggression, with both self- and partner- reports showing very similar profiles. Their violent behaviour was predominantly in response to their partner's aggression and vice versa, which is consistent with a CCV profile, although not with the conclusion drawn in chapter 6. This illustrates the need to include both members of the relationship dyad's behaviours when studying relationship aggression. It also suggests that in CCV samples, self and partner-reports yield consistent results. The CCV profile found in this sample would be consistent with Johnson's theory in that if physical aggression is used to control a situation by one member of the couple, then it may be used by the other to regain their own control.

In summary, Johnson's categorisation of IT and CCV seems to be reasonably robust, with both types yielding distinct patterns of associations and predictors. The theory for, and the evidence of, the motivations of victims of IT however are less well defined and are unclear from the present analysis. Future research is needed on victims of IT in both selected and non-selected samples.

Within the whole sample, both men's and women's use of physical aggression was associated with a broad range of controlling behaviours, when using self- or partner-reports.

This is not consistent with feminist, evolutionary or family conflict theories. Fear was a significant predictor of women's, but not of men's, use of physical aggression. Contrary to both feminist and evolutionary theories men and women's use of physical aggression appeared to be similarly motivated by both retaliation and control. This is consistent with family conflict theory however.

These findings have furnished further support for Johnson's contention that sampling strategies may have led to discrepancies between the findings of feminist and family conflict researchers. Although the present analysis used data derived from a non-selected sample, it was categorised to produce different categories of relationship aggression, which chapters 3 and 5 found would result in different types of aggression being used. The data was also analysed for all the men and all the women (ignoring Johnson's categories), which would be similar to family conflict research. Therefore using Johnson's categories different types of aggression relationship have been identified. These relationships differ not only at the group level (chapters 5 and 8) but also at the individual level (chapters 6 and the present analysis). However, where no categorisation is used and large non-selected samples are obtained then the relationship aggression appears to be a retaliatory conflict tactic.

Chapter 10: Summary of chapters 8 & 9 and introduction to chapter 11

Section 10.1: Summary of the findings from chapters 8 & 9

The findings of chapters 8 & 9 extend the findings from chapters 3- 6, by using a non-stratified sample. The analysis in chapter 8 suggested that a three-cluster solution produced more distinct categories than the two-cluster solution recommended by Johnson (1999). Therefore, in non-stratified populations a three-cluster solution may be optimal, whereas when a population contains samples from two strata, a two-cluster solution may be preferable. This suggests that a criterion for differentiation should be set. If a standardised measure of controlling behaviours could be adopted then cut-off points could be provided (based on empirical findings such as those from chapter 8). Where no standardised measure of control is used then a criterion could be based on a specific number of standard deviations from the mean. When using either method sample population norms would also need to be used.

In Chapter 1.5 the effect of reporting bias was discussed in relation to behaviours regarded as negative by participants. The findings of chapter 8 and chapter 9 reinforce the findings from the literature discussed. These findings demonstrated the differential effects produced when using self- or partner-reports. This finding illustrated the need to treat self-reports and partner-reports as subjective perspectives, rather than objective sources of information. These findings undermine the confidence that can be bestowed on research (including the present analyses) that uses only one partner to provide data about themselves and their partner. Such research should explicitly caution against assumptions and conclusions based upon comparisons between self-reported and partner-reported

behaviours, particularly when such behaviours are socially proscribed such as the use of physical aggression.

Chapter 8 did provide support for some of dimensions of divergence predicted by Johnson's typologies within non-stratified samples, particularly when using partner-reports. The findings of chapter 8 did not support the differential sex distribution within Johnson's categories found in chapter 3 and by Johnson's analysis (1999; Johnson & Leone, 2000), however. This was undoubtedly due to the sampling strategies used (see chapter 6.4 and 8.4 for a discussion). Gender-neutral theorists have highlighted the clinical sample fallacy (e.g. Straus, 1990), which results from the tendency of researchers to extrapolate from accounts of women's victimisation and men's perpetration obtained from clinical samples, to all partner aggression. This has led to women's use of physical aggression against her male (or female) partner being largely ignored by both researchers and practitioners. Comparing the findings from chapter 6 with the findings from chapter 8 demonstrates this effect. Sex biased sampling led to sex differences in category distribution, whereas non-biased sampling led to sex-symmetry.

Chapter 9 extended the analysis of chapter 6 by not only investigating self- and partner-reports, but by including both members of the relationship dyad's behaviours. Chapter 9 found that predicting physical aggression using only the participant behaviours failed to take into account the interactive nature of relationship aggression. Overall the analyses of chapters 6 and 9 found that men's and women's physical aggression was associated with controlling behaviours which was inconsistent with the theoretical approaches highlighted. Therefore, when seeking to explain partner aggression used by men and women the present theoretical approaches need to be extended.

Section 10.2: Introduction to chapter 11

Overall, control appears to be consistently associated with the use of physical aggression for both men and women. The reasons behind the desire to control a spouse however are not clear. Feminist theory, which suggests that men's aggression is proprietary, fails to explain why men should seek to control women. Family conflict theory conceptualises physical aggression as a conflict tactic, and so fails to explain the association between controlling behaviours that are not situation specific (such as isolation) and physical aggression. In contrast, evolutionary theory seeks to explain behaviour in terms of ultimate aims – individual fitness. Therefore, evolutionary theory can be used to derive testable hypotheses which may explain why controlling behaviours and physical aggression are used within intimate relationships. The analysis in chapter 10 used evolutionary theory to derive seven predictions that sought to investigate the ultimate causes of partner control and violence.

Chapter 11: Sample 2, analysis 3: Mate guarding in heterosexual relationships: The effect of female fecundity, mate-value, and biological capital.

Section 11.1: Introduction

Chapters 6 and 9 found a relationship between controlling behaviours and physical aggression for both men and women. The present chapter seeks to explain the desire to control a spouse using both non-violent and violent controlling behaviours. Using evolutionary theory, biological cues to mate fitness were investigated.

Mate guarding is a term used by evolutionary theorists to describe activities engaged in by one member of a reproductive dyad. Such behaviours are enacted in the animal world to control and restrict the potential mating opportunities available to a sexual partner. Mate guarding is often found in species that have internal fertilisation and require parental investment by the male, such as humans. Men who guard their mates increase their paternity certainty, whereas women who guard their mates increase the resources available to them and their offspring. For a man to maximise his reproductive potential he needs to invest only in his own biological offspring and hence avoid being cuckolded. He can also benefit from multiple sexual partners by increasing the number of offspring he produces (Trivers, 1972). For a woman to maximise her fitness she needs to secure adequate provisions for herself and her offspring, which usually means monopolising the father's resources. She can additionally benefit from extra-pair copulations with men who have higher gene quality and/or resources, although this potential needs resource investment from either the father or a stepfather to actualise this. Therefore, we would expect both men and women to mate-guard but that such behaviours would be used for different proximate, although not ultimate, aims. Mate guarding can

take the form of controlling behaviours or verbal and physical aggression (Wilson & Daly, 1993; Flinn, 1988). Therefore they should be related, which was found in chapters 6 and 9.

Continual mate guarding would be extremely time consuming and seriously impede the guarder's ability to engage in other important behaviours such as acquiring food. Therefore one would expect that humans would have evolved to be sensitive to cues that indicate when a mate needs guarding more or less often. Such cues could come from factors external to the relationship, e.g. the presence of rivals, or from within the relationship, such as women's fecundity, and men and women's mate-value and genetic capital.

Section 11.1.1: Women's fecundity

Men can only be cuckolded when their partner is fecund and therefore cues to female fecundity would be expected to affect men's and women's mate guarding behaviours. Men who prevent their partners having extra-pair copulations during their fertile periods eliminate the chance of their being cuckolded. A woman's reproductive value rises from puberty and begins to decline once a woman enters her thirties (Fisher, 1930; Wilson & Daly, 1993). Therefore, researchers have used women's age as a measure of fecundity. Figueredo and McCloskey (1993) found, using data from community and shelter women, that husbands who used the highest rates of physical aggression (the shelter sample) had the youngest wives. Buss and Shackelford (1997) also found that husbands' mate retention tactics (Buss, 1988: see below) were negatively related to their wives' (but unrelated to their own) age. Peters, Shackelford and Buss

(2001) found that women of reproductive age (under 45 years) were 10 times more likely to appear in statistics obtained from police reports of domestic assault than were post-reproductive women. Younger wives are also more at risk of uxoricide than older wives, which can be understood if uxoricide is viewed as an extreme (albeit dysfunctional) form of mate guarding (Shackelford, Buss & Peters, 2000; Wilson & Daly, 1993). However, Figueredo et al (2001) found that women's age was not a significant predictor of her partner's spousal abuse (a measure that included verbal, physical, sexual, and escalated aggression), and that this was the case whether reports were obtained from men or from women. The problem with all these analyses is that a woman's age is not synonymous with her fecundity. For example, it also varies with pregnancy and lactation, and the time since her last child: a lapse of 4 years since the birth of the last child may signal reduced fertility in relationships where no contraceptives are used as breastfeeding practices in pre-industrial societies typically suppressed ovulation for three years (Flinn, 1988).

Flinn (1988) investigated whether intra-pair conflict and aggression varied as a function of women's fecundity in a Caribbean village. He operationalised fecundity by coding women on their age and parental status. Fecund women were those who were under 40 years old and either had no children or children over 12 months but under 48 months; infecund women were those who were pregnant or had an infant under 12 months old. He predicted that mates with higher fecundity would be guarded more intensely than would those with lower fecundity. He found this to be the case, for both the time men spent interacting with their partners and their aggressive behaviour towards them. Although the reduction in agonistic interactions towards women who were pregnant or had young children is consistent with the mate guarding hypothesis, it could

also be attributed to a men's restraint towards a vulnerable spouse (Flinn, 1988), effectively an extension of what Felson (2002) terms "chivalry". There is, however, a substantial body of literature from western nations suggesting that men's physical aggression may not cease during pregnancy (e.g. Campbell, 1993; Gelles, 1988; Torres et al, 2000; Webster, Sweet & Stolz, 1994)

From the data reviewed in this section, we derived *Hypothesis 1*: Men with fecund partners will use more mate-guarding tactics than men with infecund partners.

There is less evidence on how a woman's fecundity might influence her own mate-guarding behaviour. Buss and Shackelford (1997) found a weak but significant negative association between a wife's mate retention tactics and her age, although Flinn (1988) found no difference between fecund and infecund women's aggression towards their partners. He explained this may be because the motivation to mate-guard does not vary with a woman's fecundity. An alternative prediction is that women seek to mate-guard less when they were fecund, the reasons for this being twofold. First, when women are fecund, men guard them more, with the result that the guarding man is not free to engage in other activities with the woman's rivals. Secondly, a woman should mate-guard most when she has invested her reproductive potential (i.e. she is pregnant or lactating). This is when she most needs her partner's support, and at the same time is least able to attract other mates, owing to her high hip-to-waist ratio, and possibly her darkened skin colour (Symons, 1995). Flinn (1988) reported anecdotal accounts indicating that men were more likely to be unfaithful when their partners had newborns, suggesting that women who failed to mate-guard effectively at this stage risked losing their providers, and therefore jeopardizing the future of her offspring.

Hypothesis 2 is that fecund women use fewer mate guarding tactics than women who are infecund.

Section 11.1.2: Mate-value

Symons (1995) defined mate-value as “the degree to which each [mate] would promote the reproductive success of [the other] who mated with them” (1995: 87). Mate-value comprises many different facets, such as physical attractiveness, personality, and resources. Some research has found that men and women differ in the importance they place on individual components of mate-value (Buss, 1989). Men value physical attractiveness in a partner, whereas women place a higher value on resources. These can be seen as evolutionary trade-offs, with men using their resources to acquire physically attractive mates and vice versa. Other studies have found that men and women seek mates similar to themselves (Buss, Shackelford, Kirkpatrick and Larsen, 2001). In the present study we assessed whether the present sample showed evidence of evolutionary trade-offs or assortative mating.

Figueredo and McCloskey (1993) applied the theories of coercive sexual (Thornhill & Thornhill, 1992) and parental (Trivers, 1985) strategies to male violence towards women. They reasoned that violence is not the preferred strategy, but was likely to be used by those men who lacked reward power, i.e. ‘competitively disadvantaged males’ (CDM). CDMs were expected to be low in physical attractiveness, socially incompetent, sexually inadequate, and/or financially less affluent: all these characteristics were relative to those possessed by their potential rivals rather than men in general.

Buss (1988) studied mate-retention tactics in an undergraduate sample. He developed a taxonomy of mate retention tactics, consisting of both behavioural acts, such as flirting to make a partner jealous, and retention tactics, such as enhancing appearance. The tactics that respondents viewed as least effective were violence, mate concealment, and mate derogation. This finding indirectly supports Figueredo and McCloskey's (1993) contention that men who lack alternative strategies for mate guarding tend to use violence.

Buss and Shackelford (1997) applied Buss's mate retention taxonomy to a sample of married couples. They found that if a husband perceived his wife to be attractive, he would be more likely to use retention tactics, whereas if a wife perceived her husband to be attractive, she would be less likely to use mate retention tactics. A husband's income was associated with his wife's use of three mate retention tactics: vigilance, appearance enhancement, and possessive ornamentation, but a wife's income was unrelated to her husband's mate retention tactics. However, Flinn (1988) found no difference in mate guarding frequency for women whose partners were classified as having high or low resource control (defined as belonging to households owning more or less than six acres of land). However, Flinn's nominal measure of potential resource acquisition may have been less sensitive than the continuous measure used by Buss.

Hypothesis 3a: Participants, both male and female, with lower mate-value will use more mate-guarding behaviour.

Hypothesis 3b: Those whose partners have higher mate-value will use more mate guarding behaviour.

In a follow-up to their earlier study, Figueredo et al (2001) used a sample from Sonora, Mexico, to ask women about their victimization and men about their perpetration. They found that the higher a woman's mate-value, the less abuse (verbal, physical, sexual and escalated) her partner used. They sought to explain this finding in terms of a combination of assortative mating and differential female mating strategies. They suggested that competitively disadvantaged females (CDFs) could not attract higher quality mates as long-term partners, and instead were forced to pair-up with similarly disadvantaged men. However, such women would be able to simultaneously operate a short term mating strategy, in which they 'capture' higher quality genes by copulating with higher quality men, who are themselves using their own short term mating strategy. This option is not available to CDMs as women gain nothing from copulating with them. Therefore they are at the greatest risk of cuckoldry, and hence need to use more frequent mate guarding behaviours.

Section 11.1.3: Mating strategies

Buss (1988) found that mate retention tactics were positively related to relationship seriousness. Buss and Shackelford (1997) found that length of the relationship was positively related to men's, but not to women's, mate-guarding behaviours. Men have been found to adopt either short or long-term mating strategies in interactions with women, whereas women tend to adopt longer-term strategies (Buss & Schmitt, 1993; Landolt, Lalumière & Quinsey, 1995). *Hypothesis 4: Men's mate-guarding behaviours will be positively related to the expected relationship duration, whereas women's mate guarding will be unrelated to expected relationship duration.*

Section 11.1:4: Genetic capital

Genetic capital (Figueredo & McCloskey, 1993) is defined as “the genetic stakes held in the family by the woman’s main sexual partner” (p.368) and relates to the number of biological and unrelated offspring within a relationship. Biological children within a relationship represent a shared investment between the parents, with higher numbers of biological children representing increased fitness for both members. Therefore, we would expect the presence of biological children to increase the commitment of both parents to the relationship. Having children would also reduce the parents’ mate-value to those outside the relationship. Both considerations would reduce the need to mate-guard a partner.

Hypothesis 5a: Relationships containing biological children should have lower frequencies of mate guarding behaviours than those containing no children or stepchildren

However, as mentioned above, men’s mate guarding may increase when they have a long-term mating strategy, as this is the time they would incur the highest fitness costs if they were cuckolded. Indeed, many studies of relationship aggression have found that men are more aggressive in marital compared to dating relationships (Archer, 2000) Therefore an alternative prediction can be made.

Hypothesis 5b: Men’s mate guarding will be higher when there are biological children in their relationship than when there are no biological children.

Daly, Singh and Wilson (1993) found that women who had children from previous relationships, whether they also shared biological children with their present

partner or not, were significantly over-represented in a women's shelter population. The reasons for this are unclear, although Daly et al suggest that such children may intensify men's sexual jealousy as they are evidence of their partner's previous sexual experiences.

Hypothesis 6: Men whose partners' have children from a previous relationship will use more frequent mate guarding behaviours than those who do not have stepchildren.

Section 11.1.5: The present analysis

The aim of the analysis in this chapter was to test the hypotheses set out above, which were generally derived from previous findings in the published literature. Mate guarding was assessed through a range of controlling behaviours, physical aggression, and injuries sustained, within heterosexual relationships. Controlling behaviours were used as a measure of mate guarding for several reasons. First, as they are non-violent, they allow an assessment of mate guarding that should not be confounded by the vulnerability of their partner. Second, the use of partner violence is socially sanctioned in some social groups more than others, whereas controlling behaviours are less likely to vary in approval. Third, controlling behaviours can be extremely pervasive (Stark, 1995), and can effectively be used to dominate another's life. Violence cannot by its very nature be used continually, without serious injury and death resulting. Fourth, unlike Buss's (1988) taxonomy, the scale used to measure controlling behaviours comprised individual behaviours used by one partner to directly control the behaviour of the other.

Controlling behaviours have consistently been found to be associated with physical aggression to a partner (chapters 6 and 9, and see also chapter 1.8). Evolutionary

psychologists (e.g. Peters, Shackelford, & Buss, 2002; Wilson and Daly, 1993) view physical aggression as a result of male proprietary attitudes towards women, whose function is to control their partner's sexuality. Therefore, physical aggression is viewed as a more extreme type of mate guarding behaviour.

I assessed mate-value by asking respondents to rate themselves and their partners on six dimensions, relative to people they know. A relative, rather than absolute, assessment was used as, in the sexual marketplace, it is a person's peers who are their competitors, not people who are icons of success or beauty. Figueredo and McCloskey came to the same conclusion stating that "disadvantage in sexual competition is relative to members of one's social class, rather than absolute" (1993: 374). Long-term mating strategy was measured by asking respondents how long they expected to be with their partner. In summary this study sought to investigate six evolutionary psychological predictions in a sample of men and women not selected for high rates of partner aggression.

Section 11.2: Method

Section 11.2.1: Participants and procedure

There were 399 men and 951 women used for the present analysis (see sample 2 in chapter 2.2).

Section 11.2.2: Measures

The CBS-R was used to measure controlling behaviours and the CTS was used to measure physical aggression (see chapter 2.1).

Other variables.

Fecundity was dichotomized as follows (to enable the analysis to be comparable with that of Flinn, 1993): (1) relationships involving fecund women (339 men and 869 women), either where there were no children and the female partner was under 40 years old (310 men and 793 women), or where the woman had a child over 1 but under 4 years of age (29 men and 76 women); (2) relationships involving infecund women (91 men and 155 women), where the female partner is over 40 years old (61 men and 126 women), or is pregnant (15 men and 15 women), or the youngest child of the woman is under 1 year old (15 men and 14 women).

The mate-value measure consisted of attributes of the respondent and their partner, which were introduced using the following orientation paragraph “Compared to *other people you know* please rate yourself and your partner on the characteristics below, using the following scale”. The response options were: 0 = very low, 1 = low, 2 = average, 3 = high, 4 = very high. Respondents rated themselves and their partner on physical attractiveness, personality, popularity, education, intelligence, and career / job prospects. Inspection of the intercorrelations in Tables 11.1 (reports from men) and 11.2 (reports from women) suggests assortative mating rather than evolutionary trade-offs. The highest intercorrelations are for the same attributes and there is no evidence of women’s physical attractiveness being more strongly related to men’s status or resource potential. Therefore, these items were combined to create a mate-value score. Using scale reliability analysis the inter-item correlations were examined. Both men and women showed positive inter-item correlations between all five items, with none of the items reducing the overall alpha levels. The Cronbach alphas were: for men’s own mate-value

.71 and men's partners' mate-value .75, women's own mate-value .68 and women's partners' mate-value .68.

Length of the relationship was classified as (1) less than 1 month, (2) 1 to 6 months, (3) more than 6 but less than 12 months, (4) between 1 and 3 years, (5) more than 3 but less than 5 years, or (6) over 5 years.

Long or short term mating strategy was measured using the following item "How long do you expect to be with your partner?" The response options were: (1) less than 1 month; (2) about 1 month; (3) 3-6 months, (4) 6-12 months; (5) 1 to 5 years; or (6) more than 5 years.

Table 11.1: Correlations between male respondents self and partner attributes

Partner	Respondent					
	Physical Attracti	Personalit	Popularity	Education	Intelligenc e	Career
Physical	.19**	.22**	.24**	.11*	.08	.17**
Attractive-						
Personalit	.21**	.27**	.14**	.11*	.10*	.11*
Popularity	.16**	.13**	.26**	.12*	.11*	.05
Education	.14**	.13**	.13**	.11*	.04	.05
Intelligence	.10**	.11**	.08	.14*	.25**	.05
Career	.19**	.21**	.20**	.01	.10	.11*

Table 11.2: Correlations for female respondents self and partner attributes

Partner	Respondent attributes					
	Physical Attractive-ness	Personalit	Popularity	Education	Intelligenc e	Career
Physical Attractive-ness	.22**	.24**	.24**	.15**	.12**	.13**
Personalit	.13**	.31**	.17**	.19**	.14**	.22**
Popularity	.16**	.18**	.35**	.16**	.09**	.15**
Education	.10**	.15**	.14**	.11**	.12**	.02
Intelligenc e	.04	.10**	.08**	.11**	.15**	.00
Career	.04	.09**	.08*	.12**	.14**	.13**

The number of relationships containing biological children was calculated. There were 342 men and 875 women with no biological children, and 82 men and 141 women with biological children. The number of stepchildren was calculated for both the respondents and their partners. There were 18 men and 58 women who had stepchildren, and 386 men and 930 women who did not.

Section 11.3: Results

Section 11.3.1: Does female fecundity influence controlling behaviours and aggression?

It is difficult to disentangle the effect of fecundity from that of age as the two are interrelated for women, although not synonymous. Using age as a covariate would result in an inappropriately conservative estimate of effect (Figueredo & McCloskey, 1993). Therefore two MANOVAs were used to investigate whether there was a significant covariate effect, with fecundity and sex as the factors, and respondent and partner's age

as covariates. All the controlling behaviours for the respondents, and their partners, were dependent variables for the first MANOVA and the respondent's and their partner's use of physical aggression were dependents for the second.

The first MANOVA on controlling behaviours found there was no multivariate effect of respondent's age ($F(2,1398) = 2.16, p = .116$) or partners' age ($F(2,1398) = 2.43, p = .088$). The second MANOVA on physical aggression found there was no multivariate effect of respondent ($F(2,1377) = 0.49, p = .610$) or partner's age ($F(2,1377) = 1.31, p = .21$). This suggests that the effect of age is not independent of fecundity (Tabachnik & Fidell, 1996).

A series of between-subjects MANOVAs were conducted to investigate the effect of fecundity on controlling behaviours and aggression, with reports from men and women being undertaken separately. To control for relationship length, this was entered as a covariate.

Men's use of controlling behaviours and aggression.

Fecundity had a significant multivariate effect on men's reports about their use of controlling behaviours (Wilks' Lambda $F(5,411) = 2.24, p = .05$) with controlling behaviours being higher for men whose mates were fecund rather than for those with infecund mates. The length of relationship was a significant covariate (Wilks Lambda $F(5,411) = 5.92, p < .0005$). Univariate analysis showed that men used significantly more economic ($F(1, 415) = 5.06, p = .025$), threatening ($F(1, 415) = 7.13, p = .008$), intimidating ($F(1, 415) = 7.20, p = .008$) controlling behaviours when their partners were fecund.

Reports about men from their partners also found a significant multivariate effect of fecundity on their controlling behaviours, in the same direction (Wilks Lambda $F(5,1000) = 1.60, p = .019$). The length of relationship was again a significant covariate ($F(5,1000) = 4.03, p = .017$). Univariate analysis showed that men were reported to use significantly more isolation ($F(5,1005) = 4.02, p = .045$) when their partner was fecund.

There was no multivariate or univariate effect of fecundity on men's (either self or partner reported) use of aggression or infliction of injuries. Length of relationship was not a significant covariate. These results provide partial support for the first prediction (*Hypothesis 1*), that men with fecund partners will use more mate-guarding tactics than men whose partners were infecund. Men with fecund partners did use more controlling behaviours, but they did not use more physical aggression or cause more injuries.

Women's use of controlling behaviours and aggression.

Fecundity had significant multivariate effect on women's reports about their own use of controlling behaviours (Wilks Lambda $F(5,1000) = 3.73, p = .018$), with fecund women using more controlling behaviours than infecund women. The length of relationship was again a significant covariate ($F(5,1000) = 2.86, p = .014$). Univariate analysis showed that women used more emotional ($F(1, 1006) = 2.55, p = .007$), and isolation ($F(1, 1006) = 15.38, p < .0005$) controlling behaviours when they were fecund. Reports about women's use of controlling behaviours from men showed no significant multivariate effect of fecundity. Length of relationship was not a significant covariate ($F(5,411) = 2.01, p = .076$). Women who were fecund, however, were reported to have

used more emotional controlling behaviours than infecund women ($F(1, 1006) = 4.83, p = .028$).

There was no multivariate effect of fecundity on women's (either self or partner reported) use of aggression or infliction of injuries. Length of relationship was not a significant covariate. There was one univariate effect, with fecund women inflicting significantly more injuries than infecund women ($F(1, 1006) = 4.41, p = .036$). These results do not support the second prediction (*Hypothesis 2*), that fecund women use fewer mate guarding tactics than women who are infecund. In fact, there was evidence that fecund women used more emotional control and inflicted more injuries upon their partners than did infecund women.

Section 11.3.2: Does mate-value influence controlling behaviours and aggression?

It was predicted that people with lower mate-value would use more mate-guarding behaviour (*Hypothesis 3a*). Therefore, we expected a negative relationship between measures of the respondent's mate-value and their use of controlling behaviours and physical aggression, and the partner's mate-value and the partner's use of controlling behaviours and physical aggression. From Table 11.3 it can be seen that the respondent's mate-value had no relationship with their use of controlling behaviours or physical aggression for either men or women. However their partner's mate-value was negatively related to the partners use of controlling behaviours and physical aggression for both men and women. Therefore reports about a partner's mate-value and mate guarding supports the prediction, however respondent's mate-value and mate guarding does not.

Table 11.3: Correlations between male and female respondents' ratings of their own (O) and their partners' (P) mate-value, controlling behaviors, and physical aggression

	Man's mate- value	Man's partner's mate- value	Woman's own mate- value (O)	Woman's partner's mate- value
Control behaviour (O)	-.06	-.08	.00	-.12**
Control behaviour (P)	.00	-.25**	-.03	-.29**
Physical aggression (O)	-.03	-.00	.06	-.06
Physical aggression (P)	.03	-.10*	-.01	-.12*
Injuries Inflicted by respondent	-.04	-.08	-.06	-.08
Injuries sustained by respondent	-.02	-.15*	-.08	-.12**

Male n = 416, aggression measures n = 141,

It was also predicted that those whose partners have higher mate-value will use more mate guarding (*Hypothesis 3b*). This prediction would lead to the expectation that the respondents mate-value would be positively related to the partner's controlling behaviours and physical aggression, and the partner's mate-value would be positively related to the respondent's controlling behaviours and physical aggression. It can be seen

from Table 11.3 that there was no support for this prediction, indeed women with higher mate-value partners used less controlling behaviours.

Altogether, it was predicted that mates with lower mate-value would use higher levels of mate guarding behaviour. Support for this was furnished by reports about partners mate-value only, with no relationship being found for self-reports. There was no support for the prediction that higher mate-value partners would be guarded more than lower mate-value ones, indeed there was some support for the alternative prediction that partner mate-value would be inversely related to mate guarding for women, but not men.

Section 11.3.3: Is expected relationship duration related to controlling behaviours?

It was predicted that men's mate-guarding behaviours would be positively related to the expected relationship duration, whereas women's mate guarding would be unrelated to expected relationship duration (*Hypothesis 4*). However, those respondents – both male and female - who expected shorter relationship durations reported that both they and their partners used higher levels of controlling behaviours (Table 11.4). Although this is not in the predicted direction, it is perhaps an indication that the use of controlling behaviours is a sign of problems within a relationship. Alternatively, those in newer relationships may predict shorter relationship durations. Newer relationships may have higher levels of controlling behaviours as it takes time to develop trust between partners and set relationship boundaries. There was no pattern of associations between expected relationship duration and self reported violent behaviour (Table 11.4). Partners' use of violent behaviour was found to be negatively associated with the respondent's expected relationship duration, which was stronger for men's partners' physical

aggression (Fisher's $Z = 1.93$ $p < .05$) and infliction of injuries (Fisher's $Z = 3.67$, $p < .05$) than women. Men reported that their partners' use of physical aggression and infliction of injuries increased with the men's shorter relationship duration expectation. Women showed a similar trend, with increased use of physical aggression (although not injuries) with shorter expected durations. These results did not support the predictions that men's mate-guarding behaviours would be positively related to the expected relationship duration, and women's mate guarding would be unrelated to expected relationship duration. Instead, the sexes showed a similar pattern, in that higher levels of aggression from their partners were associated with shorter anticipated relationship durations.

Section 11.3.4: Do relationships containing biological children have lower frequencies of mate guarding behaviours than those containing no or stepchildren?

Two alternative predictions were made regarding the presence of biological children. The first predicted men's mate guarding behavior to be lower when there were biological children within their relationship (*Hypothesis 5a*). Alternatively, it was predicted that men's mate guarding will be higher when there are biological children in their relationship than when there are no biological children (*Hypothesis 5b*).

Mann-Whitney tests were run to compare those relationships with biological children with those without, separately for men and women. Men used significantly less controlling behaviours when there were biological children in their relationship ($Z = 1.15$, $p = .025$) whereas reports by women about their male partners found that men used more physical aggression when there were biological children present in the relationship ($Z = -$

2.45, $p = .014$). Therefore, although both predictions received some support, there was no strong support for either prediction.

Table 11.4: Correlations with the expected relationship duration, and controlling behaviors and physical aggression (men $n=419$ and women $n=1016$).

Mate guarding	Men	Women
Controlling behaviours O	-.14**	-.12**
Controlling behaviours P	-.24**	-.25**
Physical aggression O	-.05	-.04
Physical aggression P	-.20***	-.09***
Injuries inflicted by respondent	-.07	-.00
Injuries sustained by the respondent	-.22** ^b	-.01 ^b

Section 11.3.5: Do men whose partners' have children from previous relationships use more frequent mate guarding behaviours than those who do not have stepchildren?

It was predicted (Hypothesis 6) that men with stepchildren would mate guard their partners more than when there were no stepchildren. Mann-Whitney tests (separate tests were carried out for men and women) were carried out to compare men with stepchildren and those without on controlling behaviours, physical aggression and injuries. There were no significant differences, which does not support the prediction.

Section 11.3.6: Summary of analysis

The preceding analysis investigated the effects of fecundity, mate-value and genetic capital upon mate guarding behaviour. Overall, controlling behaviours were found to be higher for both men and women when the female within the relationship was fecund, but there was little evidence of a similar effect for physical aggression. Overall there was pattern suggesting that both men and women with higher mate-value, used lower levels of controlling behaviours and aggression, but only for reports about a partner. There was also some evidence that a partner's mate-value was inversely related to the use of controlling behaviours for women, but not men. Both controlling behaviours and physical aggression showed a pattern of higher levels being associated with shorter anticipated relationship durations, however the effect sizes were small. The presence of biological children showed no clear effect upon men's mate guarding behaviour, neither did the presence of stepchildren. These results provide information on the associations (mate-value and mating strategies) and effects (fecundity and genetic capital) that these variables have on mate guarding behaviour.

Section 11.4: Discussion

The aim of the present chapter was to investigate several evolutionary-based hypotheses concerning sex-specific biological cues to mate guarding behaviours. It was found that female fecundity was a significant predictor of men's controlling behaviours, with more control being used when the woman was fecund than when she was infecund. This replicates previous findings (Buss & Shackelford, 1997; Flinn, 1988; Figueredo & McCloskey, 1993), and indicates that the effect is a robust one, given the diverse range of measures and designs that have been used.

Men's physical aggression was not related to fecundity in this sample. Flinn (1988) used a measure of mate guarding that included physical aggression along with many other diverse measures, such as arguing and staring at rivals. Therefore, it is not clear whether there would have been an effect of fecundity on men's aggressive behaviour had it been separated from the other measures. Buss and Shackelford (1997) measured only violence to rivals and so their findings cannot be compared to the present result. Figueredo and McCloskey (1993) found that a woman's age, which is related to her reproductive value, was negatively related to violence from her husband. However, their sample included women from a shelter reporting on their violent husbands. There is evidence for different typologies of partner violence, and such a sampling procedure is likely to have combined more common forms of low frequency partner violence with severe, possibly qualitatively different, terroristic violence (chapters 3, 6 and 8; Johnson, 1999; Johnson & Leone, 2000). It is likely that the association between the woman's age and her partner's violence was driven by the shelter sample data as this group contained

the youngest wives and (presumably) the highest levels of male violence. Indeed, when Figueredo et al. (2001) attempted to replicate these findings in a population not selected on the basis of the occurrence of physical aggression they did not find this effect.

The present analysis found that women's use of controlling behaviours, but not physical aggression, was higher when she was fecund, which is counter to the prediction that fecund women should use less mate guarding behaviours. Fecund women used more emotional and isolation controlling behaviours than infecund women. This is consistent with the findings of Buss and Shackelford (1997), that younger women guarded their mates more intensely than older women by using emotional manipulation and mate concealment. Flinn (1988) found no effect of fecundity on mate guarding for women, and he suggested that this could have been because of his measure of mate guarding. He suggested that women in his sample may have been discouraged from using overt mate guarding behaviours because female-to-female competition was regarded as an embarrassment to men in the Caribbean. The present analysis used controlling behaviours towards the partner as a measure of mate guarding, and this does not carry the same social stigma as verbal or physical aggression directed towards another woman (Campbell, 1987). Why fecund women would mate-guard more than infecund women is not clear from an evolutionary perspective. There was a moderate correlation between women's and men's use of controlling behaviours, suggesting that control, like physical aggression (Archer, 2000), tends to be mutual within relationships. Future research could seek to investigate this by comparing unitary and mutually controlling relationships.

It was predicted that people who considered that they had lower mate-value would use more mate-guarding behaviour. Support for this prediction was found in that those

rated as having lower attributes were associated with more frequent use of mate guarding behaviours, both controlling behaviours and physical aggression, for both men and women. This is consistent with the finding by Figueredo et al (2001) that competitively disadvantage in men predicted greater use of physical aggression to partners. However, our study also found that this applied to competitive disadvantaged women. The finding that both sexes showed this relationship is particularly interesting, as it is inconsistent with the explanation Figueredo et al. put forward for their findings for the men. They argued that competitively disadvantaged males (CDMs) would tend to be paired with competitively disadvantaged females (CDFs), due to assortative mating. Whereas CDFs could always have access to extra-pair copulations (EPC) from higher mate-value men seeking short-term mating opportunities, no higher quality woman would gain anything from an EPC with a CDM (Figueredo et al., 2001: 316). If this is the case, the reason why lower-quality women in the present study mate guarded their partners to a greater extent than women with higher mate value is unclear. Self-reports however, showed no inverse relationship between respondent attributes and their use of mate guarding. Therefore, only partial support for this prediction was provided by these findings.

It was predicted that those whose partners have higher mate-value partners would use more mate guarding based on Buss and Shackelford (1997), predicted that those whose partners had high mate-value would also use higher levels of mate guarding findings. There was no support for this prediction.

It was predicted that men's mate-guarding would be positively related to their expected relationship duration, but that women's mate-guarding would be unrelated to expected relationship duration. There was no support for these predictions: indeed shorter

durations were associated with higher levels of controlling behaviours and physical aggression for both sexes, although only when using reports about a partner. These findings are seemingly inconsistent with those of Buss (1988), Buss and Shackelford (1997). However, previous researchers measured relationship seriousness or the length of the relationship, whereas we asked respondents to estimate how long their relationship would last, which is prospective rather than retrospective measure. However, it is not clear whether the respondent or their partner is influencing expected relationship. The assumption in the present analysis was that it was the respondent, therefore reflecting their current mating strategy, however the converse is equally likely. The relationship length or seriousness also is problematic as this measure does not address current mating strategies of the respondent. This makes conclusions drawn from these findings, both in the present and previous research, regarding mating strategies problematic.

There were two rival predictions regarding the presence of biological children within a relationship (hypothesis 4a and 4b). The first predicted that those relationships should have lower frequencies of mate-guarding behaviours, whereas the second predicted a sex-specific effect, with men's mate-guarding being higher when there are biological children in their relationship. The results supported neither prediction as there were no clear effects of the presence of biological children in the relationship

It was predicted that men whose partners' have children from a previous relationship would use more frequent mate guarding behaviours than those who did not have stepchildren (Hypothesis 5:). This prediction was based on the findings of Daly et al (1993), who proposed that stepchildren increase men's sexual jealousy, thus producing higher levels of mate guarding. There was no clear support for this prediction however.

As mentioned previously, the population used for the present study may differ qualitatively from the shelter population used by Daly et al (1993).

Future research could include variables from a variety of perspectives, such as hostility (Tweed & Dutton, 1998), attachment styles (Dutton, 1995), with the control motive to allow a more inclusive explanation of partner aggression.

Chapter 12: General Discussion

12.1: Summary of main findings

Overall, there are three consistent findings from this thesis: 1) that sampling procedure is an important mediator of control and aggression, 2) that controlling behaviours are related to aggression, 3) that partner-reports and self-reports are not synonymous.

Section 12.1.1: The effect of sampling procedure

Chapter 3 illustrated the effect that differential sampling procedures have upon the incidence not of only controlling behaviours and physical aggression, but also the sex of aggressors and victims. Using selected samples relationship aggression was found to be essentially male controlling aggression, whereas when non-selected samples were used low frequency aggression and control by both men and women was found, which supports Johnson's 1995 theory. This finding informs only on the effect that sampling has upon research findings. Conclusions regarding the sex-composition of selected samples are not possible, as research has shown that men are less likely to appear in such samples due to systematic biases operating, rather than their lesser victimisation (Moffitt et al, 2001; Mihalic and Elliott, 1997; Statistics Canada, 2000. See chapter 1.4). McFarlane et al (2000) finding's suggest that when samples of male victims are accessed through the criminal justice system (i.e. are selected), they are similar to female victims (see chapter 1.4). Using statistical criteria to classify victims and perpetrators of relationship violence further illustrated the effect of sampling procedures. When Johnson's 1999 classification was used with a stratified sample containing women who

were known victims of partner aggression along side a nonselected mixed sex population (sample 1) the findings were broadly consistent with Johnson's theory (1999) (see chapter 6), however when men and women were selected in the same way (sample 2) sex differences in category composition were no longer apparent (chapter 8). These findings illustrate the inherent bias in much of the research on severe partner aggression or 'battering'. With few exceptions (e.g. George, 1994; 2003; McLeod, 1984; Migliaccio, 2002) this research literature has been built on studies that have selected severely abused women. What is needed is a similar amount of research on male victims of battering before any conclusions can be made regarding the etiology of severe partner aggression.

Previous theorists have explained severe male violence towards women as having sex specific origins. Feminists have cited patriarchy (see chapter 1.1) and evolutionists have cited paternity certainty (see chapters 1.10 and 11). However, until research is conducted on 'battered' men rather than male 'batterers', it is premature to presuppose that male victims' experience would differ from their female counterparts. Similarly, the research on partner aggression in nonselected samples is likely to also be biased. Such research is often based upon undergraduate students from western universities or telephone surveys of US couples. Such samples may suffer from both obvious biases, for example educated, predominately middle-class university students, and more subtle biases, for example US householders who own and / or use a telephone. Indeed all survey research may be inherently biased, capturing only those individuals who agree to take part. It is not possible to escape bias in sampling, however, it should be explicitly stated and discussed.

Cross-cultural research has found that men's and women's partner aggression varies as a function of women's political and economic emancipation (Archer, 2003). This does not support a rigid feminist or evolutionary explanation of partner violence. As discussed above feminist research has tended to concentrate on female victims of severe male violence and when researchers attempt to replicate feminist findings in nonselected samples most fail to find support for them (Miller and Simpson (1991). There is a similar trend with evolutionary analysis. For example evolutionary researchers, using similar samples to those used by feminist researchers, have also found a relationship between biological cues such as women's age (e.g. Figueredo & McCloskey, 1993) and the male partner's use of physical aggression. However the same researchers have failed to replicate this effect when using nonselected samples (Figueredo et al, 2001). These cross-cultural, feminist and evolutionary findings suggest that the type of sample is of crucial importance in being able to place research evidence within the body of related literature. These differing perspectives suggest that it is unlikely that any one theory can explain partner aggression. Instead it is likely that each perspective can provide vital, but incomplete, insights into partner aggression. Researchers may do well to return to Straus's (1974) earlier work on partner aggression to begin to build a full, micro and macro level model.

Section 12.1.2: Physical aggression and control

Partners' use of controlling behaviours was the most important variable in differentiating sample groups that were expected to differ in their experiences of partner aggression (chapter 3). The shelter women were subject to high frequency controlling

behaviours, which is consistent with previous research discussed in chapter 1.9 (e.g. Follingstad et al, 1990; Mauricio and Gormley, 2001; Stacey et al, 1994). This result is important because common sense would have suggested that the level of physical aggression and injuries would differentiate women who reside in shelters from other respondents who are involved in partner aggression. Steinmetz (1978) was following an established tradition of labelling all partner aggression as 'battering' when she used the term 'battered husbands'. Feminist researchers (e.g. Borkowski et al, 1996; Walker, 1979; 1984) had used, and continue to use (Debbonaire, 1996), 'battering' to describe any husband to wife physical aggression. However, the use of controlling behaviours appeared to be a better predictor of 'battered woman' status than did physical victimisation. This suggests that the term 'battered woman' (or man) should be avoided, it may lead practitioners and researchers to concentrate on the level, rather than the nature of the physical aggression.

Using the frequency of a broad range of controlling behaviours in chapters 5 and 8 it was shown that typologies of relationship aggression could be formed within populations where one or both partners were perpetrators of partner physical aggression. This is consistent with previous research (e.g. Dutton & Starzomski, 1997; Follingstad et al, 1992; Hamby and Sugarman, 1999. See chapter 1.9) that has found evidence that it is the use of a broad range of controlling behaviours that has been found to differentiate severe or selected samples for minor or non-selected samples.

The categories within Johnson's (1999) typology were found to differ statistically on measures of physical aggression, injuries, and escalation of physical aggression. These differences were found not only where stratified sampling had been used (sample 1), but

also in a populations containing no cases selected because of their victim or perpetrator status (victims reports sample 2). This provides further support for control being a more important factor in understanding the nature of partner violence than actual levels of physical aggression used. The use of controlling behaviours predicted using physical aggression for both men and women, in all types of physical aggressive relationships, even those that would be expected, from previous research (Dasgupta, 1999; Dobash & Dobash, 1979; Dobash et al, 1992; Dobash et al, 1998. See chapter 1.9) to have been manifestations of self-defence. The finding that controlling behaviours are related to instrumental, but not expressive, beliefs about aggression, provides an important bridge between the occurrence of controlling behaviours and physical aggression (chapter 4). The use of controlling behaviours suggests that there is a desire to manipulate a partner's behaviours using coercion, but the holding of instrumental beliefs about aggression suggests that aggression is also regarded as a legitimate form of behaviour. Instrumental beliefs can be viewed as the cognitive component of controlling aggression. The finding that instrumental beliefs predicted the use of physically aggressive behaviour (either physical aggression or inflicting injuries) in all the sample groups, further supports the view that physical aggression can be viewed as inherently controlling (Tedeschi & Felson, 1994), even when it is enacted in response to another's violent behaviour. This finding both supports traditional feminist theory of male coercive physical aggression, and questions their contention that women's use of physical aggression is self-defensive (e.g. Dobash & Dobash, 1979; Okun; 1986, Walker, 1979, 1987; Yllö, 1994).

The relationship between controlling behaviours and physical aggression differed predictably between different samples and between types of relationship aggression

within these samples, but not between men and women. Throughout the thesis both men and women have been found to use controlling aggression (chapters 3-6 and 8, 9, and 11), and higher levels of control are associated with more frequent and severe physical aggression against their partners for both sexes. Analysis based on the evolutionary origins of the control motive, did not lend support to a sex-specific theory (chapter 11). Both men and women were found to use controlling behaviours more when the woman was fecund. Men and women with higher mate-value used less control and physical aggression. These findings suggest that controlling aggression is not a male preserve (e.g. Dasgupta, 1999; Lloyd & Emery, 1994), or restricted to those involved in severe partner violence (e.g. Johnson, 1995, 1999), or used solely by men to prevent cuckoldry, but is a motive in men's and women's partner aggression (Tedeschi & Felson, 1994). This does not preclude an evolutionary origin of controlling aggression, but instead suggests that biological cues to fitness and fidelity may need to be further defined.

Section 12.1.3: Self- and partner-reports

Consistent with previous findings (e.g. Archer, 1999) self reports of physical aggression were found to be lower than partner reports for both men and women, and this was also found for controlling behaviours (chapters 3 and 8). This finding highlights the need to use both men and women to provide reports about their physical aggression and controlling behaviours, rather than basing research on only women's accounts (e.g. Giles-Simms, 1984, Okun, 1985; Johnson, 1999; Johnson & Leone, 2000). When this is not possible, a correction factor could be used (Heyman & Schlee, 1997), or alternatively sex-differences should be excluded from the investigation. Failure to use unbiased

sampling procedures, negates the conclusions drawn from such research. These findings draw into question Johnson's (1999) technique of artificially constructing samples by treating self reports and reports about partners as equivalent. Classification using mean values such as this are likely to confound victim/perpetrator status with self/other reports.

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Section 12.2: Future research directions

The present findings suggest several avenues for further study. Johnson's typologies could be used to investigate post-relationship harassment. Research has found that domestic violence is a risk marker for post relationship harassment, both in clinical and general populations (e.g. Burgess et al, 1997; Coleman, 1997; Douglas & Dutton, 2001; Kurt, 1995). Previous research suggests that separation is a particularly dangerous time for women in domestically violent relationships (Daly & Wilson, 1993; 1996). Using Johnson's (1999) typologies, the distinction between relationships where there were high levels of control in conjunction with physical aggression (i.e. intimate terrorists) could be contrasted with those where controlling behaviours were used less frequently (common couple violence couples). It would be expected from Johnson's distinction that intimate terrorists, who sought to control a partner during their relationship, would be most likely to continue to attempt control them, using post relationship harassment, when the relationship had ended. Indeed the fact that chapter 3 found a predominance of intimate terrorist victims in the women's shelter sample supports this prediction, as one would expect the reason many of the women used a shelter was to provide safety from their partner's post-relationship harassment.

The above prediction does not negate the fact that those identified as using common couple violence may also use post-relationship harassment behaviours. This thesis has consistently found that physical aggression is related to control in all of Johnson's (1999) categories. What may distinguish common couple violence from intimate terrorism is the level of harassment and the type of behaviours used. Common couple violence individuals may be found to use a limited range of harassment behaviours, whereas intimate terrorists may use a broad range. This would be consistent with both the findings of this thesis with regards to the breath of controlling behaviours used and with previous research mentioned above (Dutton & Starzomski, 1997; Follingstad et al, 1992; Hamby & Sugarman, 1999. See chapter 1.9). If the range of controlling behaviours used in conjunction with physical aggression during a relationship was found to differentiate those who would go on to use post relationship harassment behaviours, or those that would use more mild behaviours from those that used severe behaviours this would represent an important extension to Johnson's theory.

Johnson's typology, and the role of control generally, should be studied in homosexual relationships. There is evidence of similar or even higher (e.g. Landolt & Dutton, 1997; Renzetti, 1992) levels of physical aggression within these relationships compared to heterosexuals. The role of control has also received some attention. Turell (2000) studied the use of controlling behaviours in homosexual relationships and found that 83% reported their partners as using these. Similarly, Renzetti (1992) found that lesbian victims of partner violence reported that their partners used a wide range of controlling behaviours. Homosexual relationships may be more at risk of controlling behaviours due to their minority status within society, resulting in fewer outside agencies

to appeal to (Renzetti, 1989). Whether Johnson's (1999) categories would be found with homosexual relationships is not clear, however, as category membership does not appear to be sex contingent (chapter 8) it is worthy of research.

The controlling behaviours measure used in this thesis was devised using accounts of domestically violent men's controlling behaviours. Future research should seek to investigate whether other controlling behaviours are used by men and women in intimate relationships that have not come from selected samples, and whether such behaviours are used differentially by the sexes. The subtypes of controlling behaviours were theoretically, but not statistically, derived, therefore the factor structure of the CBS should be investigated, separately for men, women, self and partner reports. The findings from this thesis suggest that there may be a distinction between those controlling behaviours used during an argument (such as smashing property or threatening to leave) and those used in the absence of overt conflict (such as limiting a partner's outside interests). It may be that those physically aggressive partners who use argument specific controlling behaviours are less likely to escalate their use of physical aggression, instead their aggression may increase in times of stress (such as unemployment). Whereas controlling behaviours used in the absence of overt conflict may be more likely to increase over time. A reason for this hypothesis is that such behaviours represent a need to control in the perpetrator that does not diminish over time, but instead increases as the level of the perpetrator's commitment to the relationship increases. If such a distinction were found, then higher levels of control would be expected to result in more severe physical aggression (see chapters 3 and 8). This distinction may be found to be consistent with Holtzworth-Munroe and Stuart's (1994) typology, with those using argument

specific controlling behaviours being similar to their family only batterers, whereas those using more pervasive/generally controlling behaviours being similar to the generally violent/antisocial or dysphoric/borderline personality batterers.

The mechanisms by which physical aggression escalates or deescalates should be studied. The findings from this thesis, and other research, have suggested escalating physical aggression is a marker for those relationships that come into contact with the criminal justice system. Therefore the process by which controlling behaviours lead to, or do not lead to physical aggression need to be investigated. Straus (1974) identified many points at which the process of family violence could be prevented, decreased or accelerated. This approach emphasises that family violence is a process within a family system, with each behaviour taking place within a system that responds to it in such a way as to make it more or less likely to reoccur. Therefore the feedback loops operating within relationships that experience high levels of control and/physical aggression could be compared to those in which control and aggression are lower or absent altogether.

The reasons why men and women stay in physically aggressive relationships also needs further study in light of Johnson's typology theory. Although men have been found to be more likely to remain with a physically aggressive spouse, most research has been conducted on women's reasons for remaining in violent relationships. Browne and Herbert (1997) reviewed the literature and found that behaviours that could be classified as controlling behaviours, were an important aspect of the experience of women who were in physically aggressive relationships. They suggested that the use of controlling behaviours led to the use of passive coping techniques, social isolation, and internalised blame. These effects in turn lead to the women becoming entrapped within the

relationship, finding it hard to leave or stay away from the relationship. Future research could seek to explore the effect controlling behaviours has on the male and female victims' use of coping techniques and social support, and their attributions of self-blame. Differences would be expected between common couple violence victims and victims of intimate terrorists, with the latter showing a profile more similar to that reported by Browne and Herbert (1997). Further differences may be found between this profile, which is essentially one for female victims, and men's experiences. As men do not use the support services offered by official agencies (Mirrless-Black et al, 1996; Statistics Canada, 2000) they may be more isolated than female victims, and may also fail to leave due the belief that they are unlikely to get custody of any children from their relationship. Leaving without the children may result in them being left with a physically abusive parent, as research has found that domestic violence perpetrators are likely to also abuse dependent children (see Dixon & Browne, 2003).

As previous research has found that there may be a distinction between domestically violent men who are violent outside of their relationships and those who are not (e.g. Fagen & Wexler, 1987; Holtzworth et al, 1996; Tweed & Dutton, 1998), it would be worthwhile investigating the use of controlling behaviours in family (non-partner), friendships, and work relationships. Such an investigation could identify if some individuals have a controlling personality, whereas others use control in a relationship specific way. The relationship between controlling behaviours and personality characteristics could be studied further, which would allow analysis of the mechanisms by which controlling behaviours are manifested in individuals. The link between partner violence, attachment, and borderline personality organization has been established (e.g.

Dutton, Saunders, Starzomski, 1994; Dutton, Starzomski & Ryan, 1996). Previous research has also found the relationship between attachment insecurity to be moderated by dominance needs (Maurico & Gormley, 2001). Babcock, Jacobson, Gottman and Yerington (2000) found that emotional abuse was related to partner aggression in preoccupied male batterers only.

The heritability of personality attributes has been studied and has yielded some interesting findings. Therefore, if controlling behaviours was found to be related to heritable characteristics then their evolutionary origins should be given further study. Evolutionary analyses of relationship aggression can lead to a number of predictions. For example future studies should seek to investigate the effect of pregnancy and menstrual cycles on men's and women's fluctuations in mate-value, relationship commitment, and use controlling behaviours by using diary studies. This could build on the findings in chapter 11 by allowing a more precise measure of fecundity to be taken, as well as a more sensitive measure of controlling behaviours. The effect of infertility upon both the infertile and the fertile partner's perceived mate-value and use of control controlling behaviours could also be studied. The effect of step and biological children, and grandchildren upon mate-value, commitment and controlling behaviours requires further study.

Section 12.3: Limitations

The research reported in this thesis has several limitations that restrict the conclusions that can be drawn from it. The response rate for the three sub-samples of sample 1, analysed in chapters 3-6, varied. No response rate could be calculated for the

shelter sample as it is not known how many of the 200 questionnaires sent to the 11 shelters were distributed to the women residents. However, as the questionnaires were returned by post it is reasonable to expect that the response rate would have been similar to that of the student subsample which also used postal returns (45%), but lower than the prison sub-sample (72%) which were collected directly from inmates. This limits the confidence that can be placed in the conclusions drawn from the analyses in chapters 3-6, as sub-sample differences may have been affected by respondent differences stemming from differing return procedures. Research attempting to compare and contrast sample groups should ensure that not only the measures, but also the procedure for collecting data are consistent. Failure to control for procedural differences can obscure important findings or lead to conclusions that are biased by procedural, rather than experimental, manipulation.

The sampling procedure used for the first study restricts the generalizability of the findings. The shelter group was limited to a small number of women, and contained no data from the women's partners. Therefore, the information provided by these participants was potentially subject both to reporting bias and selection bias. All the reports were of women's own perpetration and victimization for control and aggression. Further potential confounds include the fact that Women's Aid, who ran the shelters, have a programme of education that includes identifying a partner's use of controlling behaviours. Therefore, these women may have been more aware of the controlling nature of their partner's behaviour, and hence reported higher levels of control than the other samples would. Additionally, as controlling behaviours are identified by the programme coordinators as negative behaviours used by violent men, these women may have either

consciously or unconsciously underreported their own use of these. The literature used in Women's Aid treatment programs tends to view women's accounts of their own aggression as 'self blame', as a distortion rather than an accurate portrayal. Therefore, women who have been through such programs may underestimate their own aggression.

The domestically and criminally violent men (from sample 1) may not have been 'batterers', but may have been involved in a different type of relationship, therefore future research needs to sample men in domestic violence treatment programs. This was attempted by myself for sample 1 but I was unsuccessful in getting sufficient returns. Future research should also seek to sample female 'batterers' who have been identified through the criminal justice system and male victims from men's organisations, to compare their reports to those of the female intimate terrorists identified in this thesis.

The common couple violence groups in samples 1 and 2 were comprised of mainly of undergraduate students and university employees, and so may not be typical of the general population of Britain. Future research needs to investigate control and aggression in a nationally representative sample, which includes a full range of socio-economic statuses, ages and ethnicities to allow generalisations and differences to be identified.

The creation of typologies overestimates the differences between groups and may result in quantitative differences being treated as qualitative ones. Further study with a wider array of measures is needed to assess the validity of Johnson's typology. To date the differences between categories could be explained by the relationship between control and aggression alone. Similar problems have been identified by Dixon and Browne (2003) with the Holtzworth-Munroe & Stuart (1994) typology. Both classification

systems need to move away from purely aggression related variables if they are to prove useful not only in classifying types of perpetrators but also in predicting such behaviour before it has begun or escalated. Such analysis could include not only individual level variables (such as attachment) but also family and societal level influences. The measures that have been found to differ across Johnson's categories (Johnson; 1999, Johnson & Leone, 2000) are all aggression related, as are Holtzworth-Munroe & Stuart's (1994), and therefore it is possible that the predictive ability of these classification systems are an artifact of their relationship with aggression.

The use of one member of a dyad to provide information on both partners is problematic as discussed earlier, and brings into question the external validity of the reports. This type of data can inform only on the perceptions of behaviours from one subjective viewpoint. Although sample 2 allowed self and partner reports to be analysed separately, couple data should be utilised whenever possible, and where this not practical a limited number of couples should be included within samples, to measure the agreement between members of an intimate relationship on the occurrence of sensitive behaviours such as control and aggression.

The use of an artificially constructed dataset is particularly problematic in light of the findings from chapter 8. Such a technique ignores the literature on the bias inherent in reporting of ones own, compared to a partner's, use of negative behaviours, such as physical aggression and control. Artificial data manipulation was used by the author for analyses in chapters 5 and 6 to allow Johnson's (1999) analysis to be replicated. It also allowed relationships to be classified in a dyadic way in the absence of couple data. This classification depended on frequencies of use of controlling behaviours, therefore as self

reports are lower than partner reports (chapter 8), cases deriving from reports about partners would be more likely to be classified as 'high control' and this in turn would affect their relationship category. These problems are endemic in much of the partner aggression literature and may obscure or misrepresent the nature of physically aggressive relationships. Such techniques should not be used in future research without a thorough discussion of the potential confounds. Future research should clearly identify the source for reports (either reports about a respondent's own behaviour or their partners' behaviour) and refrain from comparing men and women or different samples when reports are differentially obtained.

The Controlling Behaviours Scale (CBS) is a newly developed scale and needs further analysis to establish its validity and reliability. Further, to have confidence in the comparability of results obtained using the CBS and the CBS-R comparisons need to be made with a new sample in which participants complete both the CBS and the CBS-R. A high correlation would support the comparability of the two scales. In the absence of this it is possible that the effects attributed to sampling differences (between sample 1 and sample 2) may be moderated or mediated by the use of different measures of control.

Controlling behaviours are an umbrella term, encompassing many different types of behaviours (see chapter 1.9 and 1.22). The use of the term 'controlling behaviours' is intended to focus attention on the motivation of the perpetrator rather than the effect such behaviours may have on the victim. Using a wide term helps to encompass the broad range of behaviours that may be included, as long as they share the same motivational goals. Although the CBS/CBS-R do not contain any items of physical aggression (see chapter 2, sections 2.11 and 2.13) items within it do overlap with items on measures of

indirect aggression, verbal aggression, nonverbal aggression, and psychological aggression. However, such nonphysical strategies are not always used in conjunction with physical aggression, but instead may be used as alternatives (Coyne & Archer, 2004). Further, the results of this thesis suggest that the control/physical aggression relationship is not contingent upon items of indirect, verbal, nonverbal or psychological aggression being present. Economic control showed similar relationships with physical aggression as the other types of controlling behaviours but did not contain any items that may be construed as aggressive.

The analysis of chapter 8 suggested that controlling behaviours may be subject to similar reporting biases that effect reports of physical aggression. Therefore, the relationship between physical aggression and controlling behaviours, found throughout this thesis, may be influenced by the participants' willingness to admit to deviant behaviours. Such influences are difficult to control for as the willingness to report using controlling behaviours may be a function of attitudes supportive of coercive behaviours, i.e. the more a person feels such behaviours are justified the more likely they are to report using them. The findings of chapter 4 would lead to the expectation that such people would also use more physical aggression. Therefore, as Sugarman and Hotaling (1997) suggest the tendency to impression manage by underreporting socially proscribed behaviours may also result in the actual inhibition of such behaviours.

The use of a likert scale with the physical aggression measure is unconventional, though not without precedent within the literature (Archer & Ray, 1989; Deal & Wampler, 1986). The rationale for this type of scale is given in chapter 2.1.1 and so will not be repeated here. However, it may be suggested that the frequency of use of physical

aggression would have produced a less subjective measure. However, this assumption rests upon frequency estimates being accurate measures of the frequency of act usage. Hilton et al (1998) found that varying the time period for reports of physical aggression from 1 month to 1 year did not result in significantly different estimates of frequencies of physical aggression, which suggests such reports are not an accurate measure of the frequency of act usage. As Leigh and Stall (1993) comment, much of the partner aggression research considers only general frequency levels, and therefore may not differ qualitatively from the approach used in this thesis.

Section 12.4: Overall summary and application

Overall, in this thesis I have found that control is a motive that is central to understanding partner aggression. The frequency and breadth of controlling behaviours used can be a useful tool in discriminating between lower level physical aggression and severe physical aggression. However, such a distinction may be a quantitative rather than qualitative one. Such a discrimination is needed in the relationship aggression field to reconcile conflicting theoretical positions among its researchers and to allow appropriate and empirically sound advice to be given by practitioners. The failure to differentiate between occasional aggressive outbursts and continual controlling aggression has resulted in an adversarial ethos within relationship aggression research, which has stunted the growth of potentially enlightening research, by diverting energy and funding into a continual stream of research whose only aim seems to be to buttress its own perspective and discredit that of others.

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