The Relationship of Men's and Women's Partner Violence to Personality and Psychopathology

by

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Abstract

The aim of the current project was to test two competing views on the study of Intimate Partner Violence (IPV), namely the feminist and violence perspectives. The feminist perspective views IPV as having an individual etiology and should not be considered within the context of other types of aggression (see for example, Dobash & Dobash, 1979). The violence perspective sees IPV as something to be studied alongside other aggression by examining the characteristics and psychopathology of the perpetrator (see for example, Felson, 2002; 2006; 2010). The first part of the thesis used IPV and same-sex aggression measures (a modified version of the Conflict Tactics Scale; Straus, 1979) alongside a measure of controlling behavior (Controlling Behavior Scale; Graham-Kevan & Archer, 2005) to test a number of hypotheses derived from the feminist theory of IPV – including Johnson's (1995) typology. Results provided contradictory evidence for this theory including, but not limited to, women's preponderance to perpetrate IPV and controlling behaviors at a greater frequency than men, the lack of significant differences in classification for Johnson's typology and the finding that same-sex aggression perpetration was associated with controlling behaviors towards a partner.

The second part of the thesis then went onto to explore studying IPV within a violence perspective. This involved examining associations between aggression and other personality and psychopathology variables to determine their predictive power. These chapters were further presented within Finkel's (2007) I^3 framework as either impelling or inhibiting forces. The series of studies involved examining both stable and dynamic risk factors that have been found in the previous literature to be associated with IPV and same-sex aggression namely: (1) attachment styles and psychopathic traits; (2) self-control, empathy, anxiety and perceived physical retaliation and (3) paired variables of cost-benefit assessment and instrumental-expressive beliefs. Results revealed several

important findings for the theoretical literature and implications for treatment and interventions. Firstly, IPV and same-sex aggression shared similar significant risk factors; this indicates the similar etiology of aggression in general and provides support for studying IPV within the "violence perspective". Secondly, men and women shared some similar risk factors. The differences supported the view that women have better inhibiting control than men and that the inhibiting forces within Finkel's framework may be more useful in predicting women's aggression with the impelling forces being more useful for men's aggression. Thirdly, it demonstrated the importance of both impelling and inhibiting forces in predicting aggressive behavior, the latter of which has received relatively less research attention. Finally, and following on from the previous point, the current project has drawn attention to the research potential of Finkel's framework. The implications here involve the way IPV perpetrators are treated within both the criminal justice system and in terms of intervention programmes. This project has provided contradictory evidence to the feminist theory that underpins the current treatment programs in use. Suggestions for future research and how interventions can be improved are discussed.

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Chapter 1: Literature Review

1.1 History of Domestic Violence

Lisa Surridge (2005) in her book “Bleak Houses” discusses the appearance of marital violence[1] within Victorian fictional literature. She noted in particular the subtle way it was rarely mentioned and refers to a scene in “Bleak House” by Charles Dickens where two of the main characters are in a brick maker’s house, with a woman sporting a black eye. There was no mention of the fact she has been hit by her husband but it is implicit within the scene. This led Surridge to a thorough analysis of the literature of the time and the appearance of marital violence. In the preface she discusses key points in legal history that would have led to the appearance of domestic violence becoming better known. Specifically she referred to the 1828 Offences against the Person Act which meant an abusive husband who hit his wife could be tried and sentenced in the Magistrates Court, rather than a lengthy court process. The maximum sentence was a fine of £5 or two months in Prison, which while insubstantial for the crime, allowed legal help to be more accessible to abused women of the working classes.

Another key date Surridge (2005) discussed is the 1857 Divorce Act which also brought abuse by husbands to light, as it was the main reason cited for divorce in many cases. Both of these legal acts brought marital violence into the public view but the near 30 year gap between the two underlines the reluctance to expose violence that occurred in the homes of the middle classes. By 1882, the Wife Beaters Act meant that men found guilty of beating their wives received much harsher sentences and were publically flogged. Even in the late 1800s, it can be seen there was pressure on society to protect women from their violent partners, a chivalrous attitude to women that will be

[1] Whilst there is mention of homosexual relationships within the literature review this thesis is concentrating on heterosexual relationships and the male/female dynamic throughout

returned to later. The “rule of thumb”, which is believed to have existed in British Common Law until 1874 (Dutton, 2006), gave a husband the right to beat his wife with an instrument no bigger or wider than the size of his thumb. This was believed to be more humane than the rule it replaced which allowed a husband to use any reasonable instrument. This was however later exposed by Sommers (1994) as something that "turns out to be an excellent example of what may be called a feminist fiction". According to Sommers, the "rule of thumb" could not be found in William Blackstone's treatise on English Common Law and, as suggested by the Oxford English Dictionary, refers to an informal measurement originating in experience rather than accuracy. In fact, she further details the condemnation in British Law (since the 1700s) and American Law (predating the Revolution) of wife beating.

Dutton (2006) discusses the way violence of this type fits into the social order of earlier times, the Napoleonic Civil Code. This gave men absolute power within the family and divorce was only granted when the violence used by the husband constituted attempted murder. Thus, men had a legal right to use violence against their wives within the home to protect this power. This was known to occur in France, Switzerland, Italy and Germany, but also existed in England, which prompted an essay by John Stuart Mill in the late 1860s entitled “The Subjection of Women”. In this essay he discussed how the “savage” nature of men could present itself within the home and go unpunished because women were perceived to be weaker. However, he only discussed this as occurring amongst the lower classes, as he could not believe a “well bred” British Gentleman would ever behave in such a way. It is a symbol of the belief that in England, it was class that caused wife beating. Pleck (1987) reviewed court decisions of the late 19^{th} Century and concluded that husbands were really only punished if permanent injuries were inflicted: anything less severe was believed to be trivial.

In the United States, domestic violence was receiving a similar level of attention and creating the same reactions. In 1904, in his annual address to Congress, President Roosevelt spoke of cruelty towards those who were weaker and so, when speaking of a wife beater, he believed they should not be imprisoned as this could leave his wife and children without food and money. Instead, he thought corporal punishment was more fitting.

In practice, violence within the family was routinely ignored in Britain, the United States and Canada unless it had escalated to homicide. This continued into the first half of the 20th Century where both the English and American suffragettes took it up as an issue (Dobash & Dobash, 1979), although it became sidelined by the issue of votes for women. From this point, its seriousness diminished and the perception reverted back to an attitudinal model that valued family privacy; violence that occurred within the home should be dealt with there and not aired publically (Dutton, 2006). Dutton labelled this the "Age of Denial" and during this time, until around the early 1980s, the police were loathe to get involved in domestic disturbances, unless they escalated. The sanctity of the family was valued so highly that it was protected from the outside world, but this also meant that abuse was locked within it. Any attempt to intervene in domestic affairs by an outside party was seen as a violation of this sanctity (Dobash & Dobash, 1979). The 1970s are credited with the discovery of the extent of domestic violence within society but George (2002) believed it should be "....more accurately described as a rediscovery of the issue" (p.5), mainly facilitated by the use of the media in engaging public awareness of the subject.

Dobash and Dobash (1979) in their book "Violence against Wives" detail some important milestones in the 1970s that led to more public awareness of battered wives. In 1971 the first women's aid was opened in Chiswick, England. It was originally opened as a place for women to gather and socialise but it soon became apparent there were women in their community who were being beaten by their husbands. This led Erin Pizzey to open the first Battered Women's Shelter in England in the same year (Dutton, 2006). In 1974, a special session was held at the British Women's Liberation Conference about battered women but it was only attended by 20 women. The following year, after the Dobashes became involved with the organisation and discussed their research project, they credit themselves with increasing session size to hundreds of people. This secured media support and in turn helped obtain moral and financial support for resources for these women. A further milestone, in 1974, was the House of Commons appointed Select Committee on violence within marriages. In the years that followed the issue received more media attention and empirical research.

Other key points in the timeline of research and investigation include the implementation of the mandatory arrest policy in the US and pro-arrest polices in the UK. The motivation behind implementing such a policy was to create a deterrent and to standardise the police response to domestically violent call outs. Rather than leaving it up to the police at each scene to try and make a judgement about fault and possible punishment, it was made mandatory to arrest perpetrators of intimate partner violence (IPV) (Frye, Haviland & Rajah, 2007). An unintended consequence of the implementation of this policy was an increase in the arrest of women for perpetration (e.g., Hovmand, Ford, Flom & Kyriakakis, 2007), and also incidences where both partners are arrested ("dual arrest"; Frye et al., 2007). Martin (1997) reported that of cases of family violence he examined, 33% were dual arrests: these persons were primarily white, young, unmarried and unemployed. Martin concluded that her findings may suggest dual arrests are reflecting both the differential use of violence in IPV incidents and that some US police departments over-enforce. The dual arrest/mandatory arrest policies have met with much condemnation from feminist theorists (e.g., Miccio, 2005).

1.2 Feminist theory and literature

Dobash and Dobash (1979) posited that violence against wives was rediscovered in the 1970s having been established by the public for many years as an acceptable act within marriage. Even in a more recent paper Dobash and Dobash (2004) still maintain that IPV is an asymmetrical problem of men's violence towards women, and that women's violence does not equate to it in terms of consequences, severity or frequency. They believe that IPV should be studied on its own and not within the context of family violence. Furthermore, they cannot understand why any researchers would study this within a context of violence in general. Studying all aggression in the same context is often used to create theoretical models but, they argued, it ignores important differences about the types of violence. They are also critical of the study of violence in terms of personal characteristics and psychopathology. They firmly believe that violence is often used for socially constructed purposes, and by studying it in a different context the root of the problem is missed. For them, the correct interpretation of violence against women is that it forms the extension of the domination and control of wives by their husbands, control that is of historical and social construction. Dobash and Dobash (1979) compared the relationship between a husband and wife as similar to that between a parent and child; there are inequalities in power, authority and status. A wife who attempts to challenge this authority is beaten into submission.

Many feminists acknowledge the statistics that detail women's violence against their partners but argue that these figures represent trivial acts such as a once in a lifetime shove or push: they choose to use other statistics, such as police data, to support their argument. For example, Melton and Belknap (2003) support this assertion by noting within police and court data, 86% of the defendants were male and only 14% female. They believe that this adds support to the feminist view that men are much more likely than women to be the perpetrators of IPV. This is despite the body of literature that details the stigma attached to male victimization which would prevent men reporting when they were abused (e.g., Steinmetz, 1978); and also the literature that suggests that women's IPV is judged less harshly than men's (e.g., Sorenson & Taylor, 2005) and that male victimization reports are not taken seriously (e.g., Buzawa & Austin, 1993). Melton and Belknap further challenge gender-neutral terms such as "marital violence" and "spouse assault" as undermining the extent of wife abuse. They congratulate the women's aid movements on having succeeded in changing this issue from something considered private to being very much in the public arena.

Feminist researchers such as Dobash and Dobash (1979, 2004) believe that the cause of IPV is gender (Dutton, 2006) and that it should always be studied in the context of gender (e.g., McHugh, Livingston & Ford, 2005). Specifically, they believe that violence against women is caused by sexism and patriarchy within society (Felson, 2002). Perpetrators of IPV are not punished because society tolerates it: when women report it to the police they are in fact blamed for it. This is viewing IPV from what Felson (2002) termed a "gender perspective". He stated that there are two alternative ways of examining IPV, this one, and a violence perspective. Felson himself takes the latter perspective and believes that IPV should be studied within the context of violence, which would include same-sex violence that occurs outside the home. In his 2006 paper, he discusses the "selective focus" that many feminists take when studying IPV and how it affects our understanding of the violence, since by focussing solely on female victims it can appear to be reflecting sexism. As an example, Felson refers to the torturing and murdering of many people by the Nazis in the concentration camps. If you were to selectively ignore the male victims, and focus only on those who were female, the violence would be seen as sexist.

1.3 Male Victims and Sexual Symmetry

Early research on IPV, and those examining typologies, was flawed in the sense that it only examined male perpetrators. Within the last 40 years, the research uncovering the extent of women's violence towards their male partners has brought into question the view that the cause of domestic violence is solely to be found in the patriarchal values of society. One of the first researchers to publicise male victims of domestic violence was Suzanne Steinmetz. Her 1978 paper entitled "The Battered Husband Syndrome", detailed the appearance of men being hit by their wives in comic strips across the world. She further mentions the "charivari", the post-Renaissance custom intended to shame and humiliate people in public, the target being behavior that was considered a threat to the social order of patriarchy. It involved individuals who violated social norms in the eyes of this patriarchal community and who were disciplined "by a process of humiliation and collective rule to force community" (George, 2002, p. 6) One of the more vivid examples was from France where, if a man "allowed" his wife to beat him, he was made to ride around the village on a donkey backwards wearing a ridiculous outfit. The wife was punished for she also threatened the social order: she was made to ride around on a donkey drinking wine and to wipe her mouth with the animal's tail.

These historical accounts, combined with early court and community records in Europe and the United States, convinced Steinmetz that husband-battering was not a new phenomenon. She posited that the stigma attached to this type of violence, as well as the lack of empirical data, meant that male victims of domestic violence were being ignored. She recognised that her paper was not a systematic investigation of representative samples, and additionally she did not want to be seen to be undermining the plight of beaten women. She wanted to highlight the dilemma of men enduring the same aggression and not receiving the same sort of treatment or help.

The work of researchers such as Dobash and Dobash (1979) brought terms such as “domestic violence” and “domestic abuse” into everyday language. However, it was Steinmetz’s work that caused a shift in the emphasis of empirical research that had, until then, been focussing only on male perpetrators and female victims. Since the 1970s many researchers have looked into how far back in history there were cases of male victims, and why they remained mostly hidden for so long. Malcolm George (1994) is one such researcher who examined when in history and literature male victims first appeared. He commented on Steinmetz’s description of the ridiculing of male victims in France as an illustration that men have been victims for longer than has been publicly known. For such a punishment to exist is evidence of the frequency of the crime.

In his paper entitled “Skimmington Revisited”, George (2002) analysed further the ideas that Steinmetz posited in her paper including evidence of the Charivari exposure of men who were hit by their wives and to appraise the historical evidence of what he had termed in his previous paper (George, 1994) “The Great Taboo”. George posits that, based on the historical work of others in that area, there is conflict about the so-called “rule of thumb” with some authors stating that it originated from English common law and others suggesting that wife-beating was outlawed in England before that. The myth surrounding this rule was powerful and created a sense of outrage that helped drive feminism and managed to obscure historical evidence that men had been victims of IPV too (George, 2007).

George described the process of “riding skimmington”, an expression which originates from the skimming ladle used by women at the time in the process of making cheese, and was seen as an example of a weapon used to assault their husbands. Mrs Skimmington became the name for the husband-beating wife in question. Key elements of the skimmington involved the procession with the victim and his wife, or even the nearest neighbours who were perceived to be at fault for not convincing the couple to conform and reinstate the social norm of the man having absolute power within the household. The procession also involved loud musical instruments and men armed with animal horns which not only added to the volume of the noise but were also symbolic of the assumption that the husband was also being “cuckolded”. This supports the assertion that patriarchy may have in fact been a symptom of an evolved evolutionary concern of paternity uncertainty (Graham-Kevan & Archer, 2009). This behavior suggests a society built on patriarchy and reacting to that tradition being threatened. Men and women violating this norm must be punished to uphold the patriarchal institution.

One of the first measures that revealed the frequency of women to men violence was the Conflict Tactics Scale (CTS: Straus, 1979). It was designed by Straus to measure IPV by investigating which of a list of acts they had used in conflict resolution within a set period of time. It is usually used with community and undergraduate samples of married or dating couples and involves respondents completing for their own and their partner’s behavior (Archer, 1999). Criticisms of the CTS have mainly revolved around the lack of context; some researchers believe that the way the items are listed completely ignores their meaning and the situation in which the act took place. Dobash, Dobash, Wilson and Daly (1992) strongly criticised the CTS in their paper stating “Confining self-report data to a check list of acts, devoid of motives, meanings and consequences cannot insure objectivity, validity or an adequate development of theory to explain violence" (p. 71). They strongly argue that sexual symmetry in IPV is a myth created by the use of data out of context.

According to McHugh (2005), the measurement of violent acts alone cannot account for the context of violence in an intimate relationship; specifically that "slaps are equal to slaps regardless of whether one breaks the partner's jaw and the other's slap leaves only a light redness" (p. 720). Other feminists have also been critical of the use of the CTS (see DeKeseredy & Schwartz, 1998). Straus (1990) argued that these criticisms were based on a misunderstanding of the research design behind the use of the measure. He believes that the notion of the CTS ignoring context is based on the assumption that quantitative measures cannot accommodate context. In fact the CTS does measure this by keeping the context and violence variables separate. The context is further set by asking participants to answer the questionnaire whilst thinking about a conflict they had had with their partner (or ex-partner). There is divided opinion on the issue of context as some researchers (e.g., Gelles, 1997) would suggest that violent acts are only those where there is an intent on the part of the perpetrator to cause harm, mainly those meant to injure and cause pain. Hamby, Poindexter and Gray-Little (1996) compared four measures of IPV and found the CTS gave the lowest prevalence rate of the four. However, Dutton (2006) believes that the CTS is a far more sensitive measure than any of the government surveys of victimization, sometimes capturing 16 times the amount the violence that these surveys do. Hamby (2005) discussed the use of survey data compared to crime data. She believed that neither "hold a monopoly on the truth" (p. 739). Archer (1999) found that overall there was underreporting of aggression in both sexes for self-report measures on the CTS compared with victim-reports, and research has demonstrated that women's reports are likely to suffer the same biases that men's are (e.g., Sugarman & Hotaling, 1997). In fact Dunning (2002) found that women used self-defence as an excuse because they perceived that this was the demand characteristic of the situation, when they were aware this was not an accurate assessment of the incident; the claim of self-defence here was retrospective.

The CTS has been used within many countries but in 2004 Straus published a paper confirming its reliability and validity with high rates of internal consistency and low confounding with social desirability. Straus and Douglas (2004) also validated a short form of the CTS2 which is 20 items long and comparable in validity to the full version, to be used when testing time is short. It did not identify as many cases of IPV as the original. However, Straus and Douglas concluded that it could be a useful screening instrument. Langhinrichesen-Rohling (2005) cited the creation of the CTS and the series of findings that indicate women are also IPV perpetrators as two of the ten most important findings within the field of IPV research.

Straus and Gelles (1986) coined the term "the marriage license as a hitting license" upon the discovery that violence between partners was occurring at a much greater frequency than aggression between strangers and people outside the home environment. However, Stets and Straus (1989) compared IPV between dating, cohabiting and married couples and found that contrary to this idea, the frequency and severity of abuse was greater in the cohabiting couples than in the other groups. A further important finding was that that female-only violence was more common than male-only violence in all three groups.

The gender-neutral surveying method of the CTS revealed the extent to which men were hitting their female partners, but also, and more surprisingly, it found evidence that such violence was also bi-directional and female-to-male. Many studies within this field have now demonstrated that women are equally as aggressive to men if not more so. One of the most influential papers was John Archer's (2000) meta-analysis, which examined physical aggression within heterosexual relationships using 82 studies and a total of over 64,000 participants. Archer found that women reported perpetrating aggressive acts towards their partners more frequently than men. Other more recent studies have also found this difference (e.g., Archer, 2006; Bates & Graham-Kevan, 2011; Straus & Rameriez, 2007; Swahn, Simon, Arias & Bossarte, 2008).

Studies have suggested that bi-directional violence is the most common type experienced in relationships (e.g., Stets & Straus, 1992). For example, Próspero and Kim (2009) studied the experience of IPV perpetration and victimization, coercion and mental health problems, among 676 students. Their findings suggested that the majority of those who experienced IPV were classed as being in mutually violent relationships and that both men and women suffered mental health problems associated with it. Stets and Straus (1989) found that in couples where violence occurred, both partners were violent in around half the cases, then female-only and male-only in about a quarter of the time each. Females were more frequently the perpetrator in unilateral aggression in this and other studies (e.g., Morse, 1995; Gray & Foshee, 1997; Roscoe & Callahan, 1985).

Langhinrichsen-Rohling (2010) presented a dyadic typology of bi-directionally violent couples that incorporated existing knowledge and empirical findings about risk factors of IPV. She proposed that a review of the literature revealed three subtypes of bi-directional violence between couples. The first involved both members of the couple using violence with the motive of control and coercion. The second Langhinrichsen-Rohling believes is a "dyadic extension" of Holtzworth-Munroe and Stuart's (1994) borderline/dysphoric type, in their typology of male batterers[2]. This subtype involves violence because both members of the relationship struggle regulating their emotions and controlling their behavior. The aggression in this scenario occurs within intimate relationships because they are strong enough to create this level of interdependency. The third subtype is believed to be closest to Holtzworth-Munroe and Stuart's partner-only group; that is the least severe IPV perpetration with violence restricted to partners and with little evidence of personality disorders or psychopathology. This typology has strengths that lie in the fact it encompasses the behavior and risk factors of both members of the relationships. However, it has been criticised because, whilst focussing on the behavior of the couple, and giving more support for studying IPV in the context of both sexes' behavior, it does not recognise that each member of the couple might not be matched on the subtypes (Ross & Babock, 2010).

Since the finding of male victims of IPV, women's aggression has been studied more closely in terms of whether it can in fact be seen as self-defensive or whether it fits a pattern of a more generally-violent woman. Many studies began in this area to examine the feminist theories of IPV and investigate motivations behind women's aggression. For example, Graham-Kevan and Archer (2005) investigated three explanations of women's IPV, that it is associated with fear, that it is reciprocal and that it is coercive in nature. They found that each of the possible explanations received some support. Babcock, Miller and Siard (2003) attempted to classify women into Holtzworth-Munroe and Stuart's (1994) typology, using women who had been referred to a treatment agency for abusive behavior. The women were broadly categorised into either "partner only" or "generally violent". Generally violent women were reported to use more instrumental violence, have witnessed their mother's physical aggression and

[2] Participants who are attending IPV treatment programmes

experienced more traumatic symptoms than those who used IPV only. Babcock et al. posit that the generally violent women have learnt through socialisation mechanisms that it is acceptable for women to use violence to resolve conflict.

IPV has also been studied cross-culturally, with mixed findings in terms of this sexual symmetry. Krahé, Bieneck and Möller (2005) aimed to bring together a wide range of research from different countries and concluded that the problem of IPV is becoming a widely acknowledged social problem with large scale studies coming to fruition. Archer (2006) used community data from 16 nations and found the sexual parity in IPV perpetration did not extend across all these nations. As gender equality and more individualistic (as opposed to collectivist) values increased, the gender parity increased. Furthermore, sexist attitudes and approval of wife beating were associated with higher levels of women's victimization and lower levels of male victimization. Using student samples, Straus and Ramirez (2007) investigated IPV in four samples from different cultures (white Americans, Texas Mexican Americans, Texas non-Mexican Americans and Mexicans) and found higher female perpetration of IPV in all four cultures. However, this is not really comparable as the gender quality and individualistic values were not as varied as in Archer's study to compare the two.

1.4 A Case against the Patriarchy

The study of IPV within the wider context of aggression and violence fits with the violence perspective of IPV and is a direct challenge to the gender perspective. It holds that the study of violence should rely on theories of violence and crime, not of sexism and patriarchy. Felson (2006) argues that sexism plays the most trivial role in IPV, and also rape, which are typically perpetrated by men who also commit other types of crimes: they are "selfish not sexist". These men assault their wives in private because this type of violence against women is stigmatised. Traditional values actually inhibit this type of aggression, not facilitate it (Felson, 2002). At this point, sexism remains an untested hypothesis as an explanation for IPV (Felson, 2006).

Within the feminist literature there are a number of assumptions made about IPV namely that: (1) IPV is perpetrated by men who are using violence in a bid to control and dominate their female partner; (2) Women do perpetrate IPV but it is most likely to be in self-defence or as a result of years of abuse, when the woman fights back. Furthermore, the acts and their impact are likely to be trivial, like a push or a shove that has only occurred once; (3) Society tolerates violence against women because of its patriarchal values and so men are not reprimanded for their aggression. Instead their female victims are blamed. The police do not take allegations seriously and the courts are lenient to male perpetrators; (4) IPV is etiologically different to other types of violence and men who perpetrate IPV are different to men who commit other crimes; (5) Men's IPV is likely to escalate and (6) Any trivial violence by women would not be serious enough to create injuries or psychological harm in men.

To take each of these points in turn, first there is a wealth of research in the last decade that details the sexual parity in IPV perpetration (described above). Women's violence has also been researched much more since the sexual parity of IPV came to light. Feminists (e.g., Dobash & Dobash, 1979, 1984, 2004; Henning, Jones & Holdford, 2003; Yllo, 1993) have suggested that women's violence is only in self-defence or quite trivial, but the literature does not support this. Studies examining IPV in community samples often find that it is mutual. For example, Gray and Foshee (1997) found that 66% of their sample reported being in a mutually violent relationship and also that this violence was reciprocal, with participants reporting similar amounts of violence as perpetrators and as victims. When examining sex differences for the couples with only one violent partner, they found a higher proportion of males (26%) reporting being victims of violence only and a higher proportion of females (29%) reporting being perpetrators only.

O'Leary et al. (1989) examined IPV in a longitudinal study of a community sample and found that women engaged in all forms of aggressive behavior at a rate equal to, or greater than, that of men. The most common types of aggression were pushing, grabbing and shoving or slapping, as measured by the CTS. Women also perpetrated IPV in the absence of their partners being violent, which suggests that their aggression was neither exclusively self-defensive nor reciprocal. Studies that have examined which partner hit out first (e.g., Stets & Straus, 1989; Straus, 1985) have found that not only is the violence mutual in severity but also women more often than men strike the first blow. These studies not only indicate the presence of mutual violence, but also show women's greater perpetration in the absence of their partner's violence. This does not support the belief that their violence is mostly motivated by self-defence. In the UK the majority of women who kill their partners claim self-defence, only a minority of these have their claim accepted however. Indeed Christopher Nutall (the Director of the Home Office Research and Statistics Department 1992) stated "more than 90% of those accused of domestic homicide, whether male or female, were indicted for murder. At the trial, 22% of the women but only 5% of the men were acquitted of all charges. The data on the reason for acquittal is incomplete, but it appears that the most successful defence was one of self-defence". So the majority of men and women who kill their partners appear not to be acting in self-defence. Of those convicted, similar proportions of men and women cite provocation (about a third), slightly more men cite diminished responsibility (around half of men and a third of women) and more women cite 'no intent to kill' (a third of women and a fifth of men).

These figures are consistent to those cited by Felson (2006), who suggested police only attributed 10% of husbands killed by their female partners to be in self-defence.

Another source of support for the occurrence of women's violence comes from studies of homosexual relationships. Lesbian relationships tend to be significantly more violent than gay male relationships (e.g., Bologna, Waterman & Dawson, 1987) and more violent than heterosexual relationships (e.g., Lie, Schilit, Bush, Montague & Reyes, 1991). Renzetti (1992) discussed the higher levels of dependency, linked with anxious attachment styles, which are often found in lesbian relationships, and their association with IPV. Further evidence comes from Tjaden and Thomas (2000) who found men were no more violent in heterosexual than homosexual relationships, which indicates that their violence is not a function of dominance or special attitudes towards women.

Feminists argue that patriarchy allows men to abuse their wives, and that society does not reprimand them for doing so because they are upholding the patriarchal values within their home and thus maintaining men having absolute power over women. Felson (2002) is one of several researchers who have argued that patriarchy is not the norm that is relevant here; instead he believes that the more appropriate norm is that of chivalry. When discussing chivalry, he refers to it as originating in a description of a code of behavior for knights in the middle ages that included protective behavior towards women. Felson argued that it is this norm of chivalry that protects women from men in society – he refers to the inadequacy of the word here also, it implies that this is just to protect women from men, when in fact it includes the protection of women from other men, other women, children and non-human sources such as natural disasters (e.g., women boarding lifeboats first on the Titanic). Support for this norm comes from studies such as the meta-analysis by Eagly and Crowley (1986). They found that women were consistently more likely to receive help from male participants, with men being more likely to give help than women. These sex differences were more pronounced when there were audiences present, suggesting that this chivalrous effect is normative.

Chivalry means that there is a greater moral condemnation of violence when the victim is a women and also more serious punishments for the offenders. Felson believes that chivalry can reflect an exchange of submission, a sort of benevolent sexism (Glick & Fiske, 1996; 2001). It could also reflect the evolutionary protection of children and mothers (although this theory would not cover the protection of older women in this situation: chivalry here represents the protection of all women). Finally it could include the notion that women are vulnerable and many groups in society develop norms that protect the weaker parties. This norm is a controversial one as it portrays women as weak and is associated with traditional gender roles, which is why Felson believes it has received little empirical attention in the violence literature.

Felson argued that there are two sources of evidence that support the chivalrous view that violence against women is viewed negatively. One is the frequency of violence towards men and women: as already described in this review, men and women perpetrate IPV at more or less equal rates. Another source is research on reactions to violence against women. Many studies have examined evaluations of IPV and whether violence by one sex is condemned more than the other. One early study is that of Harris and Cook (1994), who found that college students evaluated violence against wives more negatively than violence against husbands and violence within homosexual male relationships. Felson and Feld (2009) analyzed a large representative sample of 810 American adults from a random telephone survey and found that participants were more likely to condemn men's assaults on women than any other gender combinations and they were more likely to report this type of assault to the police. Furthermore, participants' condemnation of male violence to women was unaffected by the level of violence committed by women, suggesting that chivalry is not just reserved for those who comply with traditional gender roles. A final finding from this study that contradicts the feminist view is that violence against a spouse, especially a female spouse, was condemned more harshly than violence against an acquaintance of either sex, suggesting that violence is not normative within marriage.

Sorenson and Taylor (2005) using a vignette design with a large community sample also found that overall women's violence against their male partners was judged less harshly than men's violence against their female partners, and judged less likely to be illegal or to need a variety of interventions. They also found however that judgements of women's violence were more dependent on contextual variables, suggesting that people sought to understand women's violence rather than accept that all violence towards their partners was wrong. Taken together, these studies suggest that, contrary to the feminist perspective, men's violence against their female partners is in fact judged more harshly than is women's IPV. In addition the norm against men's violence to women appears so strong that contextual factors such as assault by their partner, does not diminish its impact.

If violence against women was tolerated in society, we would expect this to be reflected in the literature on reporting and help-seeking. Some feminists (e.g., Herzberger, 1996) would hold that violence between partners is much less likely to be reported than other forms of violence and that third parties would be less likely to report violence against women than other types of violence. Felson and Feld (2009) did find that violence between intimates is much less likely to be reported than stranger violence, but this is likely to be due to the fact that witnesses are less frequently present in the case of IPV. Third parties were also less likely to report assaults by partners. However, this is not restricted to IPV. Felson also found that violence by someone the person knew was less likely to be reported than violence by a stranger. There were significant gender effects within this study: victims and third parties were more likely to report if the victim was female, controlling for the victim-offender relationship and injury/seriousness. This, coupled with the fact that violence by females against their male partners is less likely to be reported, suggests that women do not have special inhibitions about reporting violence by their male partners. Furthermore, IPV was not considered too trivial to be reported: IPV victims were more likely to view the incidents as important and to believe that the police would do too. Some feminists (e.g., Frieze & Browne, 1989; Pagelow 1984) hold that the police do not take this type of violence seriously. Contrary to this, Felson and Paré (2007) found in the National Violence Against Women survey that police are unlikely to arrest women but not men. Felson (2008) further argued that there is no evidence to support the view that men's violence towards their female partners is likely to go underreported or be treated leniently. Rather, it is the opposite.

There is a belief in the feminist literature (e.g., Dobash & Dobash, 1979; Browne, 1987) that IPV and other types of violence are etiologically different, that men who commit IPV are different from men who commit other violent crimes, and that it is only likely to escalate. The violence perspective would hold that the motives of IPV are not much different from those of other types of violence (Felson & Lane, 2010). Research by Felson and Messner (1998) found that men and women who murder their partners were equally likely to have violent criminal records as men and women who kill in other circumstances. The gender perspective here would hold that female offenders would tend to be non-violent in other circumstances and that it is the years of provocation and/or abuse that have led to their partner homicide. Additionally, personality factors and IPV perpetration are similar for men and women (e.g., Ehrensaft, Cohen & Johnson, 2006). Often feminist research that examines these issues has used a prison/treatment sample of male batterers (e.g., Mauricio & Gormley, 2001), or asks women in shelters about their violent partner's behavior (e.g., Saunders, 1986) which biases the study in favour of the gender perspective, as it is more likely that Johnson's (1995) "intimate terrorists" (i.e. extreme male batterers, considered later in this review on pp. 35) are being included.

Contrary to feminist views that men's violence against their female partners is endorsed by themselves and society, evidence presented above supports the opposite view, that men's violence to women is seen as abhorrent but women's violence to men is less condemned. Cross, Tee and Campbell (2011) noted that the usual sex difference (i.e. men as more aggressive) is not found within the home and they examined whether men inhibit their aggression to their partner or women increase their aggression, or if both occur. They presented participants with three conflict scenarios and asked them to rate the likelihood of using physical aggression, verbal aggression, explosive acts and defusing acts against three opponents: a partner, a same-sex friend and an opposite sex friend. This allowed them to separate out the effects of target sex and relationship, or intimacy. They used effect sizes to express the shift in the behavior from the different opponents. Women were more likely to say that they would use physical and verbal acts of aggression against a partner and their increase of aggression to a partner appeared to be as a function of intimacy. They found that when examining the difference in aggression for men, the diminution of their aggression from same-sex to partner was as a direct result of the target sex. This supports Felson's analysis, suggesting that norms of chivalry make men inhibit their aggression towards women.

Cross et al. (2011) suggest here women's increase in their aggression to partners could be due to the knowledge that their partners would not hit a woman (see also Fiebert & Gonzalez, 1997).

It is additionally believed by many of the feminist researchers that if there were to be violence in a relationship, only women would be injured or suffer major psychological effects. For example Tjaden and Thoennes (2000) reported that women (who are married and cohabiting) not only experience significantly more partner physical assaults than the equivalent sample of men but also report injuries and use of medical and justice system services. Studies have shown that women are more likely than men to suffer injuries (e.g., Archer, 2000; Morse, 1995) and also psychological consequences (e.g., Próspero, 2009), although this does not mean that this sort of victimization would not have comparable effects on men. There are a few studies that provide evidence on this, although the body of literature on the consequences for men is much smaller than that for women. Hines, Brown and Dunning (2007) analysed 190 male callers to the Domestic Abuse Helpline for Men (DAHM), a national helpline for abuse men in the US, and found that all of the callers experienced physical abuse from their female partners, over 90% experienced controlling behavior and other reported being stalked. Some of the men reported being fearful of their partners' violence. Furthermore, they reported that the men had experienced frustrations with the domestic violence system in terms of seeking help.

This provides quite the opposite picture to that of believing that a woman slapping or punching a man cannot do any damage. Instead, there are women who seriously abuse their partners, enough to warrant their officially seeking help. Other studies have suggested that men too suffer the mental health problems that are associated with IPV (e.g., Próspero & Kim, 2009; Hines & Douglas, 2011).

The literature review up to this point presents two competing viewpoints on the study of IPV and aggression. To present a direct comparison, Table 1.1 (below) present a summary of the main assumptions of each view point.

Table 1.1: A Summary Table of the Theoretical Assumptions of the Feminist and Violence Perspectives.

Feminist Perspective	**Violence Perspective**
The active norm in society surrounding IPV is patriarchy (e.g. Dobash & Dobash, 1979)	The active norm in society surrounding IPV is chivalry (Felson, 2002)
Women's perpetration of IPV can be attributed to self-defence or in response to years of abuse by a tyrannical partner.	Studies of women's aggression highlights that it is often perpetrated in the absence of their partner's aggression (e.g. Gray & Foshee, 1997) or as part of a mutually violent relationship (e.g. Stets & Straus, 1989)
Women's IPV is thought of as trivial and would not cause any sort of physical or psychological consequences (e.g. Herzberger, 1996). Often due to the comparison of abused men to abused women, rather than non abused men.	Male victims of IPV often report serious physical and psychological problems (e.g. Hines & Saudino, 2003). This includes qualitative analysis of calls to a male victims' helpline (e.g. Hines, Brown & Dunning, 2007)
IPV is perpetrated by patriarchal men against women in a bid to control and dominate them due to social norms that allow its perpetration (e.g. Yllo, 1993)	IPV is perpetrated by men and women due to a series of risk factors that increase the chance of aggressive behaviour due to aspects of the individuals' psychopathology (e.g. Felson, 2006; Finkel, 2007)
Society tolerates violence against women and refuses to reprimand male perpetrators due to patriarchy. This norm allows men to use their violence to maintain control over women (e.g. Dobash & Dobash, 1979)	Chivalry leads to any violence against women being judged much more harshly than women's violence against men (e.g. Harris & Cook, 1994; Felson & Feld, 2009)
IPV is believed to be etiologically different to other types of aggression with the implicit assumption that IPV and same-sex aggression would not be associated (e.g. Browne, 1987)	IPV and same-sex aggression have similar motives and would be best investigated within the same context. (e.g. Felson, & Lane, 2010). Consequently IPV and same-sex aggression perpetrators share similar risk factors for aggression (e.g. Ehrensaft et al., 2006)

1.5 Johnson and Bridging the Gap

Johnson (1995) claimed to build a bridge between the family violence and the feminist research. Where many researchers before him had argued that it was methodology leading to these conflicting findings, Johnson proposed that they were more to do with the sample population used. As mentioned above, family violence researchers tended to use data from representative community samples whereas those that subscribe to the feminist school of thought tended to use samples from women's refuges or men that are in treatment programmes for their violence, and so contained those who have experienced the most serious of incidents. Johnson originally argued that incidents of IPV could be categorised into one of two types of physical aggression. The first he labelled "common couple violence", and is found among representative samples of married, dating and cohabiting couples. This type encompasses the kind of violence that occurs when arguments get out of control: he did not believe it to be of any serious consequence and it was unlikely to escalate (Johnson, 1995). It is this type of violence that Johnson believes is involved when studies show equal numbers of male and female victims.

Johnson labelled the other type of violence "patriarchal terrorism". In this situation, the violence used in the relationship is part of a range of behavior that men use to dominate and control their female partners. It is this type of violence that is more likely to escalate into something more serious, and to have more damaging physical and psychological consequences. He reviewed evidence from large scale surveys, and also data from women's refuges, and concluded that some families were suffering from the occasional outburst of aggression by either the male or female partner, but that other families were in fact suffering from "systematic male violence" (Johnson, 1995, p.283).

Johnson wished to make clear from this evidence that these were two distinct forms of violence and one was not merely a more serious version of the other.

Johnson emphasised that research into the typology needed to include both rather than just one partner's behavior within the relationship. Therefore, patriarchal terrorism was renamed "intimate terrorism" to accommodate women who used high levels of controlling behavior and aggression. Johnson then needed to expand the typology from an individual to a dyadic one to encompass all combinations of controlling aggression, non-controlling aggression and no aggression (Johnson, 2006). Intimate terrorism represents a pattern of controlling aggression with a partner who either is not violent or uses non-controlling violence. Common couple violence (later changed to situational couple violence) represents the use of non-controlling aggression by one partner and either non-controlling aggression or no aggression by the other partner. Johnson then added two new patterns of behavior: the first, named "violent resistance", represents violence of a non-controlling kind in response to controlling aggression from the partner – this often encompasses violence in self-defence but is not confined to this. The other, labelled "mutual violent control", represents a destructive relationship where both partners use controlling aggression. To distinguish between these types of aggression would obviously mean collecting data about self and partner behavior.

Johnson tested these ideas using a set of interview data already collected by Frieze in the 1970s. These were women who were known to be victims of IPV and a matched sample of women from the community. Johnson identified a number of control tactics that the interviews had recorded, which were namely: threats, economic control, use of privilege and punishment, using the children, isolation, emotional abuse and sexual control. He then performed a cluster analysis and identified a two-cluster solution with one exhibiting high levels of control and the other low levels of control (Johnson, 2006). This allowed him to categorise all the patterns of relationship aggression that he had described. Johnson and Leone (2005) also confirmed the two types of IPV within the data from the National Violence Against Women Survey. Victims of intimate terrorists were attacked more often and were more likely to be injured and suffer from posttraumatic stress disorder. Leone, Johnson, Cohan and Lloyd (2004) further confirmed that victims of intimate terrorists were more likely to be injured. The authors concluded that to understand the impact of wife abuse from survey data, the two types must be distinguished.

Since Johnson posited his view of partner violence, there have been a number of researchers who have empirically tested his assumptions. For example, Graham-Kevan and Archer (2003b) used four British samples to test if there were in fact the two distinct sub-groups of intimate terrorism and common couple violence. They chose a diverse range of samples that included women from a Women's refuge and their partners, male and female students, men in a batterer program and their partners and finally male prisoners and their partners. Using cluster analysis to categorise respondents into one of the two types and running frequency analyses, there was broad support found for Johnson's theory. Graham-Kevan and Archer (2003a) reanalysed the same data set using three of the samples – the women from the refuge, the students and the prisoners – chosen to represent each of the groups, intimate terrorism, common couple violence and violent resistant. They found further support for the characteristics described by Johnson in each relationship category.

Laroche (2005) used national survey data from Canada with the aim of examining Johnson's typology. He used lifetime rates of intimate partner victimization, in spite of the fact that such rates are unreliable and that shorter timescales such as one year are preferable (Moffitt, Caspi, Rutter & Silva, 2001; Straus, 1990). He found that the majority of victims, both male and female, who suffered serious physical and psychological consequences were categorised as having been a victim of an intimate terrorist. He emphasised that the percentages of men and women suffering consequences in this category were similar but that the frequency of female victims was higher. This is to be expected as there was a larger proportion of women than men in his overall sample.

Other authors are much more critical of Johnson's theory of IPV with many authors suggesting that control and intimate terrorism is not solely the domain of men (e.g., Graham-Kevan, 2007; Ross & Babcock, 2009; Rosen, Stith, Few, Daly & Tritt, 2005). Archer (2009b) is specifically critical of Johnson's own empirical tests of his typology. Johnson's choice of samples are purposefully either selected for the high proportion of male to female aggression (e.g., women's shelter samples) or cannot be considered completely unbiased (e.g., violence against women surveys).

Denise Hines and her colleagues have published several papers examining the prevalence of male victims of domestic violence and the psychological and physical effects they endure. These studies have included those comparing prevalence of both types of effects amongst men and women (e.g., Hines & Saudino, 2003); associations with binge drinking (Hines & Straus, 2007); qualitative analysis of callers to a domestic abuse help line for men (Hines et al., 2007); associations with personality and personality disorders (e.g., Hines, 2008; Hines & Saudino, 2008) and with posttraumatic stress disorder (e.g., Hines & Douglas, 2011). All of these studies have suggested that men suffer psychological and physical effects of IPV victimization. This is contrary to the picture portrayed by those such as Johnson.

Hines is critical of the lack of research comparing abused and non-abused men: much of the research has focussed on comparing abused men to abused women and concluding that they do not suffer to the same degree (e.g., Hines & Douglas, 2009). Men may be more likely to externalise their behavior (e.g., by using alcohol and drugs) and women to internalise theirs, so that it is not a fair comparison (Hines & Malley-Morrison, 2001). Hines and Douglas (2010) attempted to rectify this in the first study to look quantitatively at men who had sought help after their partner's IPV perpetration. They examined intimate terrorism within 302 men who had sustained IPV from their female partner and had sought help, matched with a sample of men from the community. Their findings supported the two types of IPV found within Johnson's typology; with the men from the community sample closely matching situational couple violence. For the help-seeking sample, women perpetrated all types of IPV at a greater rate and they fitted with the intimate terrorism pattern in the use of control. This group also had higher rates of injury than their female partners. Hines and Douglas concluded that, contrary to many feminist assertions (e.g., Dobash et al., 1992), male victimization of intimate terrorism is not trivial and these men need to be able to seek support.

Taken together, this research contradicts the notion that men are only trivial victims of IPV and that they are not seriously affected by it. Contrary to Johnson's claims, there is also evidence that women are perpetrating controlling behaviors and that they are equally as likely to be classified as "high control" (e.g., Bates & Graham-Kevan, 2011). This lends itself to further investigation into the risk factors affecting the perpetration of IPV, moving away from seeing the cause as being gender.

1.6 Sex Differences in Aggression

There are many studies (e.g., Archer, 2004; Swahn et al., 2008; Hilton, Harris & Rice, 2000), and crime statistics (e.g., Daly & Wilson, 1988, 1990; Povey et al., 2008), that indicate that men are much more likely to be aggressive outside the home and outside intimate relationships. For example: Eagly and Steffen (1986) performed a meta-analysis of sex differences in aggression that had been found by social psychological experiments (most of which occurred in laboratory conditions). They found that some studies had inconsistent results but that overall men were more aggressive than women; they related this to the finding that women were more likely to perceive more negative consequences of their aggression (e.g., they would be more likely to be harmed, more likely to feel guilt and anxiety). They conclude that the sex differences in aggression are a function of these perceived consequences which are learned through socialisation and social roles. Many theories and studies have attempted to explain this difference; especially in the light of the fact the pattern is quite different to that with IPV.

Many authors have examined evolutionary perspectives on aggression (e.g., Archer, 1996, 2004, 2009a; Campbell, 1999; Bjorklund & Kipp, 1996; Goetz, 2010). Sexual selection theory places the origins of the male directional sex difference in human evolutionary history (Archer, 2004). As a consequence of greater male reproductive competition, and lesser male parental investment, there is more overt aggression. Archer (2009c) shows that the magnitude of sex difference in direct aggression can be best explained by using sexual selection theory than the alternative social role theory; arguing that male aggression is part of a sexually-selected adaptive set of behaviors. Competition between males is rife and the use of aggression in such competition is likely to make reproductive success more likely. Evolutionary accounts of aggression emphasise that sex differences emerge early in the life span and it is clear from several studies of childhood aggression that this is the case (e.g., Archer, 2004; Archer & Cote, 2005; Baillargeon et al., 2007).

Campbell (1999) argues that the lower rate of female aggression is an adaptive strategy that is of huge importance in the mother's survival and reproductive success, and is not just an absence of masculine qualities such as risk taking. The greater importance of mothers than fathers to their infants' survival is supported through evidence of gestation periods, lactation, infant dependence, menopause and the greater likelihood of male desertion. With this in mind, women should be less likely to perpetrate forms of physical aggression as these pose a risk of injury and endangering safety, leading women to weight the cost of physical aggression more highly than men. This in turn would lead to women experiencing higher levels of fear in situations that pose a physical threat.

Status is less important to women but they will still compete for resources; in studies with children, however, girls have been shown to prefer verbal behavior and cooperation to competition, i.e. the lower risk option. Campbell's (1999) discussion of intra-sexual aggression amongst women indicates that when women resort to this sort of aggression it is to secure resources (e.g., a valuable male) rather than to maintain status within a dominance hierarchy. For example, Campbell, Muncer and Bibel (1998) investigated explanations of female-to-female aggression from a point of economic dependence, to assess the view that women would be more likely to aggress when resources are scare. They found support for the hypothesis that female-to-female aggression is a function of female poverty in that it results in economic dependence upon men. This is reflected in a positive relationship between assaults and both female unemployment and AFDC receipt (Aid to Families with Dependent Children) with the latter being representative of men's desertion or abandonment of their female partners. Women will be aggressive in order to obtain the necessary resources for their own, and their infants' survival.

This evolutionary account of women's propensity to avoid aggression that puts them in physical danger is then shaped by society, culture and social norms. For example, as Campbell (1999) suggests, women's aggression is then condemned as abnormal, masculine, behavior and due to some sort of pathological disturbance or temporary insanity. She goes further to suggest that feminist researchers would explain this as originating in a patriarchal society that would condemn behavior of this sort by women so as to maintain women's dependence on men. Other theories then seek to explain the sex difference (e.g., Social Role Theory) as being related to culture and society when it may in fact be an innate protective mechanism by women. It leaves women with the need to excuse their aggression.

Campbell (2006) elaborated further on this issue and argued that the sex difference in direct aggression is not due to differences in experiences of anger, but due to different experiences of fear. Archer (2004) had already demonstrated there were no sex difference in anger but other studies have found that women are more likely to experience greater levels of fear and fearfulness of potential danger (e.g., Harris & Miller, 2000). Again, fear driving the avoidance of aggression is an adaptive strategy to enhance survival of themselves, and therefore their offspring. The sex difference in IPV that has been discussed in previous sections would seem incongruent with this explanation: if women were more fearful, it is unlikely that they would be perpetrating this type of aggression at the same rate of their partner. In line with this explanation, their fear of physical injury must be less than for a same-sex or opposite sex stranger opponent. Harris and Miller (2000) found that participants perceived greater danger from strangers than from intimates. A woman's awareness of the social norms that condemn violence against women could work to reduce the fear she may feel in a conflict situation with her partner. This could include the knowledge that if a woman was physically aggressive to her male partner there would be no physical reprisal, and so less, or no physical danger.

An alternative theory of the sex differences in aggression comes from Social Role Theory (Eagly, 1987). Social role theory posits that sex differences in behavior, including aggression, originate from early socialisation in terms of masculine and feminine sex roles (e.g., Eagly & Steffen, 1986). According to this theory, sex differences in social behavior have arisen historically from the positions and status men and women have held in society. This in turn creates expectations about characteristics of each sex that are associated with their roles; so women are viewed with the expectancy of having the characteristics of a homemaker and men as the characteristics as the provider and the worker. This is emphasised by men's choices of careers, for example in the military and other careers where aggressive behavior is common. Sex roles mean that women's aggression is viewed as incongruent with femininity and so women are more likely to use alternative forms of aggression. These expectations are then transformed into behavior with reinforcement of the differences, so for example the sex roles that are encouraged when children develop and play involves girls being nurturing, and playing the role of homemakers, and boys being aggressive and playing the more masculine career roles such as soldier. These activities produce expectations about gendered characteristics, leading to different patterns of behavior developing (Eagly, 1987). It is clear from developmental studies that boys prefer aggressive acts in play: for example Benenson, Carder and Geib-Cole (2007) examined the development of preferential play for boys and girls among groups of four, five, six and nine year olds.

They found that by four years of age, 50% of the boys (but less than 10% of the girls) rated that at least one of their favourite toys was used for inflicting harm through physical aggression on an inanimate object. This effect increased with age and filtered through into TV and media choices.

Archer (2004) performed a meta-analysis examining sex differences in aggression in real world settings and related his results to both the evolutionary and social role theories. This study found that men were more physically aggressive than women were. The sex difference was smaller for verbal aggression, something that has been found in previous reviews of experimental laboratory studies (e.g., Bettencourt & Miller, 1996; Eagly & Steffen, 1986). Sex differences were absent for anger and mostly absent for indirect aggression, something which is normally found in the female direction in studies of aggression in children. Elements of the results supported both theories but Archer argued that the overall pattern was more consistent with sexual selection theory in terms of the fact that males were more likely to use risky forms of aggression when they are angry. This raises the question of what females do when they are angry: the most obvious form would be indirect aggression and yet there was no difference found for adults. It may relate to Finkel's (2007) model in terms of women being better at controlling or inhibiting their anger (should anger be considered an impelling force), to be discussed below.

1.7 Risk Factors and Assessment

Many studies have highlighted the wide range of risk factors that are associated with aggressive behavior. Valois, MacDonald, Bretous, Fischer and Drane (2002) reviewed the risk factors and behaviors associated with aggression and violent behavior among adolescents. They highlighted many important risk factors for higher levels of aggression, grouped into (1) individual factors (e.g., age, gender, psychological characteristics), (2) family factors (e.g., family structure and teen pregnancy), (3) school factors (e.g., low bonding to school, school suspension and expulsion), (4) peer influences (e.g., delinquent siblings and peers, gang membership), (5) community and neighbourhood factors (e.g., poverty) and (6) situational factors (those outside the individual, e.g., the presence of a weapon, alcohol consumption, bystander presence). There is a need to understand the complex set of factors, which have been found to be associated with higher levels of aggression, and the way this understanding could lead to intervention. Valois et al. (2002) believed that intervention can be successful if it is matched, in terms of timing, with the development of the behavior. The research examining risk factors in youths and adolescents often concludes the importance of intervening with those "at risk" whilst behaviors are in their developmental stage (e.g., van der Merwe & Dawes, 2007; Kashani, Jones, Bumby & Thomas, 1999). Tremblay et al. (2004) used developmental trajectories in a large scale longitudinal study and found that risk factors for aggression in middle childhood are found pre-natally or within the first two years of life, for example mothers who started having children early, having younger siblings and mothers who smoked during pregnancy.

Huesmann, Eron and Dubow (2002) highlighted the importance of childhood aggression as a risk factor for predicting aggression and criminality later in life. In their longitudinal study, levels of aggression at 8 years old were the best predictor of criminal events over the next 22 years. This is a clear illustration that the risk of criminality and offending is heavily influenced by much that happens to children in their early years. Again, they concluded that preventative action needs to target the risk factors that appear to have an effect on the developmental pathways of early aggression. Kokko and Pulkkinen (2005) also found that there was significant stability in aggression from child to adulthood. This was demonstrated in both males and females from age 8 to 14 and then 14 to adulthood, but males additionally stayed stable in the interim period, so that their stability was higher than that of women.

There is a wealth of literature that details the risk factors and assessment measures used within the field of adult violence (e.g., Douglas & Skeem, 2005). These include impulsivity (e.g., Campbell, 2006), personality disorder (e.g., Berman, Fallon & Coccaro, 1998) and anxiety (e.g., Gratz, Tull & Gunderson, 2007). Empathy or lack thereof, is also a measure that has often been associated with offending and criminality (Jolliffe & Farrington, 2004). There is evidence that risk factors associated with aggression and offending can also at least partially predict the use of IPV and may in fact also explain differences between the two types of aggression. These risk factors include personality disorders (e.g., Ehrensaft et al., 2006), criminality (e.g., Babcock et al., 2003) and childhood influences such as attachment patterns (e.g., Holtzworth-Munroe et al., 2000). Specific risk factors listed in risk assessments include past physical violence in relationships, violent threats, escalation of violence and other criminality (e.g., Kropp, 2009), these however do not help enhance the understanding of IPV or how to effectively treat it. In addition risk factors and assessment for IPV have frequently been focused solely on the dangerousness of male perpetrators who have been incarcerated or the vulnerability of women who have sought help in shelters. Whilst it is important to study these perpetrators and victims for risk management, this neglects a wide range of other situations in which violence occurs within the home, especially that perpetrated by women.

Dutton (2006) detailed some of the currently available instruments for the assessment of IPV perpetration. B-SAFER (Kropp, Hart & Belfrage, 2005) provides ten questions and two other considerations for practitioners using it. The questions assess spousal violence, for example escalation, threats, and negative attitudes, and also psychosocial adjustment, such as substance abuse problems. From this information, a risk management strategy is formed in terms of monitoring and controlling the perpetrator. Dutton believes that this is a good instrument but is limited in asking victims of IPV to make deductions about the intentions and motivations of their perpetrator. Additionally, it treats all assaults equally, with a blanket approach to IPV.

The Danger Assessment Scale (Campbell, J.C. 1986) is an instrument derived from work with battered women, shelter workers and law enforcement officials. The first portion assesses the frequency and severity of the violence. The second part is a list of 15 yes/no items on risk factors associated with IPV, such as escalation, substance and alcohol abuse, scored by counting the number of yes answers. The instrument was based on a retrospective study, and assessed perceptions of danger: it is well known that women have a generally higher perception of physical danger as demonstrated by numerous studies (e.g., Campbell, A. 2006).

The Spousal Assault Risk Assessment Guide (SARA: Kropp et al., 1995) is a list of 20 pre-defined risk factors (e.g., "Past Assault of Family Members") that were identified through a review of the empirical literature. Rather than being an assessment, it is meant to guide clinicians through their judgements. The evaluator rates the presence of each of the 20 risk factors on a scale of 0 (not present at all) to 2 (definitely present). Grann and Wedin (2002) tested the concurrent and predictive validity of the measure in a follow-up study with male perpetrators from Sweden. During the 7 year follow-up, 28% were reconvicted of spousal assault and there were three SARA items that were associated with an increased risk of recidivism, for example, "Past violation of conditional release of community supervision". They conclude that this instrument had a "marginal but statistically significant improvement over chance".

Dutton (2006) concluded that risk-assessment tools have brought about some structure and guidelines for professionals (e.g., clinicians and police); however, his final word is a criticism that the current risk-assessment tools he described are based solely on perpetrator characteristics, which is outdated considering the plethora of literature that details the mutuality of IPV. Future instruments should assess both members of the relationship to gain a greater understanding of the risk factors involved whilst current measures seemingly only examine dangerousness, which is not useful in treatment planning.

Specialist risk assessments for IPV imply that it is distinct from other types of violent behavior. Feminist theorists hold that IPV has a special etiology and so would not be associated with other types of aggression and criminality. Other researchers have empirically explored whether incidents of IPV are associated with a generally violent or aggressive interpersonal style. Straus and Ramirez (2004) examined the dating relationship of 653 university students, and found that a history of prior criminal acts was associated with a greater risk of using IPV, and this relationship was stronger for women than men. These results suggest that those who are aggressive towards their partners are likely to have a general propensity to crime and aggression. This is inconsistent with the idea that IPV has a special etiology.

Many of the studies of risk factors of aggression and criminality, including those on IPV, have focussed very much on male perpetrators. Addressing this issue, Farrington and Painter (2004) examined sex differences in risk factors based on conviction data. They used brothers and sisters in the Delinquency Developmental Investigation which is a longitudinal survey examining the development of offending and antisocial behavior in 411 males first contacted in the 1960s. The criminality rates were much higher for men than women, with 44% and 12% respectively having convictions. There were similarities in predictive risk factors however: e.g., low family income, large family size and having convicted parents and siblings (the probability of being convicted increased with the number of other convicted children in the family). However, there were differences, firstly in their choice of crime, with men being convicted more for burglary and theft and women more for shop-lifting and crimes of deception. The most predictive risk factors included parental characteristics for men and socioeconomic status and child-rearing factors for women. This study shows that concentrating solely on one sex leaves a gap in understanding and limits the generalisability of the findings. Many of the risk factors that were identified for both sexes here develop early in life, and so this study is important for identifying those at risk and for intervention.

Medeiros and Straus (2006) reported a study of 854 university students and focused on whether risk factors of IPV were similar for men and women. They found that 8 of 21 risk factors were significantly associated with the increased risk of minor acts of IPV perpetration and that all eight were significant for both men and women. These included anger management, dominance, relationship conflict and substance abuse. For severe acts, 12 risk factors were significantly associated, and nine of these were significant for both men and women – including jealousy, communications problems, and sexual abuse history. The authors suggested that the etiology of IPV is “mostly parallel” for men and women (p.10) and the finding that dominance was a risk factor for women as well as men contradicts the assumptions that male dominance alone is at the heart of the cause of IPV. This again points to a more gender-inclusive problem within the family structure that should be tackled as such. However, the authors point out that much of the current prevention and treatment efforts are held firmly in the grasp of those who hold to the patriarchal dominance theory. Straus (2008) found further support for this in his study of university students from across 32 nations (a total of 13,601 participants). He found that the most frequent pattern of IPV was bi-directional, followed by female perpetration only, with male perpetration only being the least frequent. Additionally, both for men and women, dominance was associated with a greater risk of IPV.

Ehrensaft, Moffitt and Caspi (2004) compared clinically abusive relationships (those causing injury, or requiring official intervention, or both), physically aggressive individuals without clinical consequences, and a control group who reported no abusive experiences. There were differences in the associations found, for example, men in these clinically abusive relationships had disinhibitory psychopathology and extensive personality disorders, whereas women had childhood family adversity and aggressive personalities. Similarly, Simmons, Lehmann, Cobb and Fowler (2005) compared men and women arrested for IPV and found (compared to men) that women were more likely to have higher levels of histrionic, narcissistic and compulsive traits and were less likely than men to have dependent traits. Other studies have also found differences in risk factors associated with aggression for men and women (e.g., Henning & Feder, 2004; Busch & Rosenberg, 2004) where as some studies have also found similarities (e.g., Arias, Samios & O'Leary, 1987). The cross-sectional nature of many studies means firm conclusions about relationships and causality cannot be drawn but the broad trends suggest that risk factors associated with men's and women's use of aggression are different.

Longitudinal research is another avenue of investigation into risk factors for aggression and can rectify the shortcomings of cross-sectional research. Many of these studies have linked IPV and aggression with early antisocial behavior (e.g., Lussier, Farrington & Moffitt, 2009), youth violence (e.g., Herrenkohl, Kosterman, Mason &

Hawkins, 2007) and middle school aggression (e.g., O'Donnell, Schwab-Stone & Ruchkin, 2006). One of the best known longitudinal studies of this kind is that by Moffitt et al. (2001). This study involved a birth cohort of 1000 from the Dunedin Study in New Zealand, who were followed using a multi-modal measurement sample at five time points and then at the age of 21. Participants' IPV perpetration was then linked back to various measurements and variables that had been taken during their earlier years. The study revealed that the IPV within the sample was mutual with a large overlap between perpetration and victimization – though women reported perpetrating more IPV than men did. Male perpetrators of IPV had a background of poverty and poor school achievement whereas female perpetrators had a background more associated with disturbed family relationships, weak attachment and conflict between parents. Both men and women who had perpetrated IPV had histories of aggressive behavior problems and for both the strongest risk factor was a record of physically aggressive delinquent behavior. The authors point to the importance of early intervention with violence and conflict education.

Interestingly, they also found that the most violent relationships occur amongst young parents with small children. With the important risk factors being found to emerge earlier on in development, it is perhaps unsurprising that IPV has been found to be repeated through generations. Stith et al. (2000) performed a meta-analysis to examine the relationship between growing up in a violent home and going on to be in a violent relationship: they found a weak to moderate relationship between the two (see also, Roscoe & Callahan, 1985). Taken together, childhood experiences appear to be influential over the development of antisocial and aggressive behavior (both in general and to intimates), and once developed this is often found to remain stable over time. This evidence points to early intervention being key to preventing later aggression and criminality in adulthood. It points to the importance of understanding the way these risk factors interact to influence aggressive, rather than the view that gender is the cause of IPV.

1.8 Protective factors

The literature reviewed on risk factors and risk assessment (both within the general aggression and the IPV arena) has highlighted a number of factors that are associated with higher levels of physical aggression. However, other researchers have sought to investigate the possibility of protective factors; for example Finkel (2007) acknowledged the vast amount of research on risk factors for IPV but considered that there is little that discusses the way in which they interact. Within a relationship, people will experience anger and violent impulses, but not all people act on those impulses and Finkel wished to investigate the strength and power of inhibiting forces and the role they play. He argued that a more complete explanation of IPV would involve an understanding of both the violent impulses (the impelling forces) and the forces that cause a person to refrain from acting on their impulses. He argued that whether IPV occurs is based on the strength of these two forces, and behavior will depend on which outweighs the other. In his 2007 paper, he combined the IPV and self-regulatory literature to create a framework that would encompass the way that risk factors strengthened the impelling forces, weakened the inhibiting forces or both.

The literature on interdependence goes some way to explaining why the frequency of violence within romantic relationship is so high. Finkel (2007) argues that conflict is an inevitable occurrence in close relationships, of which romantic relationships are often the closest. He argues that this may lead to people overriding their impulses. According to his I^3 (pronounced I cubed) theory, three questions are to be asked to determine whether IPV will occur (Finkel, 2008). Firstly, is one partner experiencing a strong instigating trigger? Secondly, is that partner also experiencing strong impelling forces and thirdly is that partner, at that time, characterised by weak inhibiting forces? If the answer to all three questions is yes, then IPV is very likely to occur and the more that are answered yes, the more likely aggression is to occur. The severity of the violence is then determined by the collective power of the above influences. Examples of strong impelling forces include personality disorders and attachment anxiety, whereas examples of weak inhibiting forces include low self-control, low empathy, and beliefs about the consequences of the aggression.

Finkel argued that his model has additional features to its advantage. The first is its flexibility. The structure of the model remains the same but the risk factors that are placed within it as part of the framework are interchangeable and so it can be used to fit with a number of different research questions within the IPV field as well as other forms of aggression. Two further features are that it supports a large number of moderational hypotheses and it allows for the fact there are times when impelling and inhibiting forces will occur simultaneously, leaving the individual with inner tension and conflict.

Support for this model comes from Finkel’s own work (e.g., Slotter & Finkel 2011). Finkel and Foshee (2006) found interaction effects: impelling forces predicted a greater frequency of perpetration of IPV among those who had weak inhibiting forces but not among those with strong inhibiting forces. They discuss the implications for assessment and treatment of those who perpetrate IPV. This could involve teaching, or training, them to regulate their impulses rather than to not experience them at all. Finkel, DeWall, Oaten, Slotter and Foshee (2009) applied the framework to different forces: they found strong support for the hypothesis that self-regulatory failure is an important predictor of IPV perpetration. Within this study they performed a series of studies examining whether self-regulatory processes lead to violent impulses when responding to provocation by their partners. The first study involved the participants recalling the most serious conflict they had had with their partner and reporting both their temptation to behave violently and whether they actually did. Unsurprisingly the result of this study led to the conclusion that some people experienced the impulses without acting on them. Their remaining studies investigated other factors that could affect IPV namely: dispositional self-control, cognitive processing time, ego depletion and self-regulation bolstering regimes. They unsurprisingly found that those with more self-control perpetrated less IPV which supports the inhibiting model but the authors state it could be that these people experienced higher levels of impelling forces as well. Their third study revealed that when comparing reactions following provocation either immediately or after ten seconds those who responded immediately had more verbally aggressively IPV tendencies. Their fourth study suggested that self-regulatory resources are needed to inhibit violent impulses and stop them becoming violent behavior, in the absence of provocation the depletion of self-regulatory resources did not influence IPV. Their final study suggested that self-regulation bolstering may in fact reduce the violent inclination in response to a provoking incident. Taken together, their studies supported the hypothesis that self-regulatory failure is an important predictor of IPV perpetration. These studies highlighted the importance of self-regulatory behavior and provided support for the importance of the I^3 model. People report impulses of aggression more frequently than they report actually perpetrating it so it is important to understand why this is.

Finkel's work provides a flexible framework for examining risk factors for IPV. The different factors can be placed in the model as instigators, impelling or inhibiting forces and furthermore the organisational structure poses a fourth question, how do the effects of the variables in one category interact with one or more variables in other categories (Slotter & Finkel, 2011). The collective power of the variables makes this an attractive framework for researchers to use as it allows the flexibility of a wide variety of variables – including sex. The model is gender neutral but the flexibility within it allows sex difference predictions to be entered (Finkel, 2008).

1.9 The Current Project

This chapter has provided a comprehensive review of the literature surrounding IPV and same-sex aggression. The evidence presented suggests that there is a wealth of research still affecting the treatment and prosecution of IPV perpetrators, that is both out dated and at times, ill informed. The feminist perspective on IPV suggests that its cause is gender and is rooted in patriarchal social norms. This perspective ignores a plethora of research that provides contradictory evidence and alternative theories and frameworks.

With the above research taken into account, the aim of the current project is to investigate risk and protective factors of IPV and same-sex aggression. This will involve testing two opposing perspectives of IPV: the feminist theory and the violence perspective. The first part of the thesis will quantitatively test the feminist perspective by exploring both aggression and controlling behavior within a large sample of students. Specifically, the third chapter will involve testing sex differences in aggression and examining the contrasting pattern of sex differences that have been found in the literature dependent upon whether the opponent is a partner or a same-sex other. Same-sex aggression here specifically referring to aggression between two people of the same sex outside a relationship, this does not refer to homosexual relationships. This is then developed in the fourth chapter by exploring the relationship between aggression (both IPV and same-sex aggression) and the use of controlling behaviors. The fifth chapter will then summarise and discuss the two preceding thoroughly before moving on to introduce the rest of the project which will involve testing an alternative explanation to the feminist theory of IPV.

Chapter 2: Thesis Methodology

The purpose of this chapter is to detail some of the methodology of the project that extends through the different studies. This includes the measures that are used in all the studies and some details about the sampling methodology.

2.1 Measures

There were three measures that were used in all three samples gathered; namely the measure of IPV, same-sex aggression and controlling behaviors. For IPV and same-sex aggression, a modified version of the Conflict Tactics Scale (CTS, Straus, 1979) was used. This included using all the standard CTS items, examples of which included: “discussed the issue calmly” (negotiation scale); “insulted or swore at them” (verbal aggression scale); and “hit or tried to hit with something” (physical aggression). It also included the following items from the Richardson Conflict Response Questionnaire (RCRQ: Green, Richardson & Lago, 1996): “dropped the matter entirely” and “did not show I was angry” were added to the negotiation sub-scale; “yelled or screamed at them” and “tried to make them look stupid” were added to the verbal aggression sub-scale. Additionally, an "explosive" aggression sub-scale was created with the following two items: “destroyed/damaged something that belonged to them” and “threw something (but not at the other one) or smashed something”. The label "explosive" was considered based on discussions by Campbell and Muncer (2007) and Cross et al. (2011) that details "explosive" acts as being fuelled by anger but not involving the intention to hurt someone. (All measures used in this project can be found in Appendix 1, pp.269). The full list of items used in this measure is shown in Table 2.1 below:

Table 2.1: The modified version of the CTS used to measure both partner and same-sex aggression.

1. Discussed the issue calmly
2. Dropped the matter entirely*
3. Did not show I was angry*
4. Got information to back up his/her side
5. Brought in or tried to bring someone in to help settle things
6. Yelled or screamed at them*
7. Insulted or swore at them
8. Tried to make them look stupid*
9. Sulked and/or refused to talk about it
10. Stomped out of the room (or house, yard etc.)
11. Cried
12. Did or said something to spite the other one
13. Destroyed/damaged something that belonged to them*
14. Threatened to hit or throw something at the other one
15. Threw something at the other one
16. Threw something (but not at the other one) or smashed something*
17. Pushed, grabbed or shoved the other one.
18. Slapped the other one
19. Kicked, bit or hit with a fist
20. Hit or tried to hit with something
21. Beat up the other one
22. Threatened with a weapon (e.g., a knife)
23. Used a weapon (e.g., a knife)

* = indicates the items taken from the RCRQ

Negotiation subscale = items1-5, Verbal aggression subscale = 6-10, 12 and 14, Explosive subscale = 13 and 16

Physical aggression subscale – 15, 17-23

There were two versions of the above items. The first asked participants about their experience of IPV during the past 12 months. The responses for these items were recorded on a six-point Likert scale based on the original CTS format – from 0 (this has never happened) to 6 (more than 20 times). For the overall sample, the analysis involved the items being coded into 4 sub-scales: negotiation (∝ = .68), verbal aggression (α = .87), two items for the explosive acts (α = .70) and physical aggression (α = .85). The second version asked about their perpetration of same-sex aggression and used the same items (negotiation, α = .77; verbal, α =.87; explosive, α =.77; physical, α = .91). The CTS was completed both as a perpetrator and as a victim although the victimization scores were only used within the analysis for chapters 3 (pp. 71) and 4 (pp. 83). The reliabilities for this overall victimization scale were as follows: negotiation, α = .63; verbal, α =.88; explosive, α =.74; physical, α = .89.

It was also important to note the reliabilities of the aggression measures for the sub-samples. This was performed to ensure that the analyses within each chapter shared a similar, acceptable reliability. These values are displayed in Table 2.2 for IPV and same-sex aggression (SSA in table):

Table 2.2: Cronbach's Alpha Levels for the CTS subscales within the Study sub-samples

Scale	Study 1		Study 2		Study 3	
	IPV	SSA	IPV	SSA	IPV	SSA
Negotiation	.71	.79	.68	.50	.64	.72
Verbal	.87	.88	.87	.84	.85	.86
Explosive	.75	.81	.76	.77	.61	.72
Physical	.86	.92	.85	.92	.84	.89

It can be seen from this table that the negotiation scale has quite low reliabilities across the studies but for the aggressive scales they are generally good.

At each sampling point data was also gathered on participants' perpetration and victimization of controlling behavior. To measure controlling behaviors the Controlling Behavior Scale was used (CBS-R, Graham-Kevan & Archer, 2005). The CBS-R results were not reported for the individual chapters and instead just with the combined sample due to the model used later in this thesis. Participants are asked to consider relationship influence and to read a list of 24 acts that can be used during their relationship. They then rated how frequently they both perpetrated and experienced these acts on a 5 point Likert scale from 0 (Never did this) to 4 (Always did this). Examples items include: "Want to know whether the other went and who they spoke to when not together", "Use nasty looks and gestures to make the other one feel bad or silly" and "Threaten to leave the relationship". Reliability levels were good with α values of .90 for perpetration and .91 for victimization. All measures used in this project can be found in Appendix 1.

<u>2.2 New Measures Developed</u>

During this project there were also two new measures developed, for anxiety and perceived negative consequences. An examination of the literature revealed there were no appropriate measures for these constructs that could be used with an online data collection.

Consequences of Aggression

Current existing measures of consequences of using aggression tend to focus on fear and/or injuries (e.g., Morse, 1995). Fear as a construct is of limited use as existing scales tend to measure phobias or fear of specific objects. For example, the Fear Survey Schedule (FSS-II; Geer, 1965) rates respondents' intensity of fear towards specific objects or events, examples including rats, blood, death and sharp objects. This was not the desired construct for the current study: instead a measure was created to examine whether participants were aware of the consequences of their physical aggression, including reciprocal aggression from their target. Perceived negative consequences were measured using the initially named Consequences of Physical Aggression (COPA) scale (to be renamed the Likelihood of Physical Retaliation scale due to issues with reliability, detailed below). Participants were asked to imagine that they had hit someone and then rate the likelihood of a number of consequences on an eight item list (this was done with the sub-sample of the aggregate sample, N = 395). Table 2.3 shows the items used; participants were asked to rate them each twice, for if they hit (1) their partner or (2) a same-sex other.

Table 2.3: Mean Item Responses for the LPR Aggressive Scales for both Partner and Same-Sex Other

LPR Partner Scale	Men	Women
They would try defend themselves	3.00	2.39**
They would lose control and hurt you	1.51	.57**
They would hit you back but not hurt you	1.97	.67**
They would hit you, you would suffer minor injuries	1.48	.53**
They would hit you, you would suffer major injuries	.72	.33**
LPR Partner Total	8.68	4.51**
LPR Same-Sex		
They would try defend themselves	2.99	2.88
They would lose control and hurt you	2.42	1.51**
They would hit you back but not hurt you	1.43	1.46
They would hit you, you would suffer minor injuries	2.63	1.35**
They would hit you, you would suffer major injuries	1.77	.63**
LPR Same-Sex Total	11.25	7.83**

* denotes a significant difference at .05 level. ** denotes a significant difference at .001 level

The rating scale was a five-point Likert scale, ranging from 0 (not at all likely), to 4 (very likely). Cronbach's α was .85 for the 16 items. There were two sub-scales: the first three items denote non-aggressive responses and the last five denote physically aggressive responses. Participants with a high overall score for the latter items would have indicated that they would expect a physically aggressive response from someone they had hit. The reliability of the subscales was good for the aggressive scales with Cronbach's α of .73 for partner, α of .72 for same-sex. The reliabilities of the non-aggressive scales, however, were too low and so they were omitted from further analysis (α of .15 for partner and α of .20 for same-sex). This led to the measure being renamed the Likelihood of Physical Retaliation scale (LPR) to encompass the aggressive nature of the consequences that were used in the analysis.

The mean item responses for both aggressive scales show that on average men are scoring higher than women for each item, significantly so in most cases. Men's perception of more consequences to their same-sex aggression fits with the literature on sex differences (e.g., Archer, 2004) which details men's preponderance for this type of aggression compared to women. Their greater perceptions of consequences of their IPV fits with literature on sex differences that suggests women are often more aggressive towards their partners than men (e.g., Archer, 2000). However, it also fits with the literature that details the condemnation of men's violence against women; for example Miller and Simpson (1991) found in a sample of undergraduates, that men perceived greater formal and informal social sanctions if they used violence against their female partners.

Dispositional Anxiety

The new measure developed for anxiety was named the Dispositional Anxiety Measure (DAM). The DAM was created as a short scale to measure the general tendency to become anxious and worried. A review of the existing anxiety measures revealed measures that were either unavailable for online use (due to copyright and financial issues) or inappropriate for the current study. For example, the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970; Spielberger, 1983) is widely used in the research, but not freely available for use online. Other measures which were available but not appropriate for the current study included the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown & Stear, 1988) and the Anxiety

Sensitivity Index (ASI; Reiss, Peterson, Girsky & McNally, 1986) both involved questionnaire items about the state of anxiety, for example dizziness and fainting, and rather than measuring the dispositional aspect of anxiety. The two most similar measures were The Penn Worry Questionnaire (Meyer, Miller, Metzger & Borkovec, 1990) but it specifically measures the propensity to worry and The Hamilton Anxiety Scale (HAM; Hamilton, 1959) which is administered by an interviewer, and so is not a self-report measure. The items on these measures were reviewed and the following measure was constructed: the 10 items of the DAM are presented in Table 2.4 along with the mean item responses.

Table 2.4: Mean Item Responses for the DAM measure for men and women

	Men	Women
I worry about getting into confrontation	1.68	2.07*
I feel secure and adequate[a]	2.69	2.34*
I am scared of losing control	1.27	1.52*
I am generally a calm person[a]	2.69	1.96**
I am scared of angry people	1.51	2.08**
Sometimes my worries overwhelm me	1.63	2.42**
I often worry about silly things	1.83	2.47**
I often feel nervous	1.62	2.11**
I'm frightened of feeling angry	1.10	1.21
I find it easy to stop worrying[a]	1.93	1.28**
DAM Total	15.32	20.31**

a = denotes items that would be reverse scored, * denotes a significant difference at .05 level. ** denotes a significant difference at .001 level

The items were scored on a five-point Likert scale from 0 (doesn't describe me at all) to 4 (describes me perfectly). Cronbach's α was .85 for the 10 items. The brevity of the current scale is advantageous for ensuring completeness of all the measures and with good reliabilities could be considered for future use. It can be seen that women have scored higher on all items when reverse scoring is taken into consideration, significantly so in all but one case. This fits with the existing literature on sex differences in anxiety; overall, women are rated as being more anxious than men (e.g., Lewinsohn et al., 1998). For example, Feingold's (1994) meta-analysis showed that women were rated significantly higher than men in terms of anxiety as well as other personality traits.

2.3 Sampling Methodology

For the first two studies, questionnaires were collected both by hard copy in lectures and around campus, and also by an online questionnaire via e-mail. This was not possible for the third and final set of data collection as it used measures that were not widely available for publication on the Internet and it was not possible for alternatives to be created.

Online data collection has become more common, with the increasing popularity of the Internet for research. Schmidt (1997), whilst a now slightly dated paper, detailed some of the benefits and problems with online research which are still relevant today. Benefits included a greater population access, time and money savings, and the dynamic nature of the online survey tools, for example, the ability to produce summary reports for individual items. The pitfalls included incomplete responses, unacceptable data and multiple submissions. However, these pitfalls are also issues that apply to anonymous paper completions, and developments have occurred within the online survey tools since the paper was written. For example, within Quask, the programme that was used for the current project, there are options that prevent the submission of data unless all questions have been completed.

Other studies (e.g., Stanton, 1998) have compared the use of online surveys with conventional mail delivery and paper completion. For example, Truell, Bartlett II and Alexander (2002) compared questionnaires delivered through the post and an online survey. Those who completed the online survey did so quicker and completed more items on average than those who completed a paper copy. They also had similar response rates. In a review of the literature, Whitehead (2007) concluded that the use of online surveys and the Internet for data collection is “an exciting window of opportunity” (p.789) but with limitations that still need to be addressed, for example sampling biases.

Therefore, an online data collection method was used for the first two studies of the current project. This was advertised to students via lectures and e-mail both within and outside the psychology department. However, for the e-mail advert, which contained the link to the site, it is possible this was then passed on to other students or those outside the university. An additional methodological point to note is the use of students for IPV research has been supported by several studies (e.g., O’Leary, 1999) that suggest that dating violence within students is higher than in other age groups. Further details of each separate sample are given within each empirical chapter.

Chapter 3: Sex Differences in Aggression

3.1 Introduction

The previous literature review discussed the emergence of male victims of IPV. Many studies have found that women are equally as likely to be physically aggressive towards their partner as men, if not more so (e.g., Stets & Straus, 1992; Foo & Margolin, 1995; Gray & Foshee, 1997; Straus, 1999; Moffit et al., 2001; Straus & Ramirez, 2002; Straus, 2006; Gass, Stein, Williams & Seedat, 2010; Jankey, Prospero & Fawson, 2011). This includes longitudinal research: for example, O'Leary et al. (1989) assessed IPV in married couples in their longitudinal study. They found women engaged in all forms of aggressive behavior at a rate of at least equal to, or greater than men. They also noted that women perpetrated IPV in the absence of their partners being violent, which suggests that women's aggression was neither exclusively self-defensive nor always reciprocal. Archer's (2000) meta-analysis was perhaps the most important study in this which data from 82 studies (a total of over 64,000 participants) were combined finding that women were slightly more aggressive to their partners than were men.

Furthermore, the literature (e.g., Archer, 2004; Moffitt, et al., 2001) and crime statistics (e.g., Daly & Wilson, 1988, 1990; Povey et al., 2008) that detail the propensity for men to be more aggressive than women to same-sex others suggests a contrasting pattern of sex differences dependent on the sex and relationship of the opponent. Few studies have studied same-sex aggression and IPV within the same sample, but those that have suggest this same pattern is found. For example, Swahn et al., (2008) examined prevalence data from a large youth violence survey and found that perpetration to peers was higher for men (compared to women) and IPV was higher for women (compared to men). This study used only prevalence rather than frequency rates, and so the current study aims to expand on this.

The different pattern of sex differences found for aggression to same-sex others and to partners raises the question of whether men decrease their violence from same-sex to partner (as emphasized by Felson, 2002) or whether women increase their aggression from same-sex to partner. Cross et al. (2011) noted that the usual sex difference (i.e. men as more aggressive than women) is not found within the home and they examined whether men inhibit their aggression to their partner or women increase their aggression, or if both occur. They presented participants with three conflict scenarios and asked them to rate the likelihood of using physical aggression, verbal aggression, explosive acts and defusing acts. They used effect sizes to express the change in the behavior from a same-sex opponent to an opposite-sex opponent. Women were more likely to say that they would use physical and verbal acts of aggression against a partner. They found that when examining the difference in aggression from same-sex to partner, the diminution of men's physical and verbal aggression was significantly greater than the increase in women's aggression in the same direction. Archer, Parveen and Webb (2011) examined this contrasting pattern with a similar method but expanded it to use self-report measures rather than scenario studies. They found similar results and extended the findings to verbal aggression and argumentativeness. These findings support Felson's analysis (e.g., Felson, 2002), suggesting that norms of chivalry make men inhibit their aggression towards their partner and that women increase theirs due to the lack of social sanctions associated with their aggression. Women are penalised less in both the legal system and judgements of the general public.

The aim of the current study was to examine the sex differences in both IPV and same-sex aggression across the combined samples from this project i.e. that used in Chapters 6, 7, and 8 combined. This was performed to establish whether the contrasting pattern of sex differences outlined above is found in the samples used in these studies. These studies then go onto investigate impelling and inhibiting influences on same-sex aggression and IPV in the same sample. It was predicted that there would be no significant sex difference for IPV but that men would perpetrate more aggression towards same-sex others. A second aim of this study was to use Cross et al.'s (2011) effect size measure to examine whether the sex differences in aggression show the contrasting pattern as they demonstrated. The current study however, used self-report perpetration of IPV and same-sex aggression, involving the same measure and the same sample, rather than scenarios, as used by Cross et al. This included examining the associations between IPV and same-sex aggression as part of the analysis.

3.2 Method

3.2.1. Participants

For the analysis of sex differences, the three samples from the studies reported in Chapters 6-8 were aggregated so that there were 1104 participants used for the final analysis (706 women, 398 men). The participants were aged between 16 and 71 years (M = 23.55, SD = 7.94) with the men being statistically older (M = 26.69, SD = 10.52) than the women (M = 21.82, SD = 5.32), t (500.11) = 8.54, p < .001) The majority of the sample described themselves as "White" (91.2%) with 4.4% describing themselves as "Asian, Asian English or Asian British", 1.4% described themselves as "Black, Black English or Black British" and 3% described themselves as "Mixed Background". Most of the sample stated they had a current partner (63.6%), of which 36.6% lived with their partner. Of those who had a current partner, 85.9% stated that their relationship was long term (of 6 months or more in duration) and of those who did not have a current partner, 53.7% indicated that their previous relationship had been long term. These were exclusively heterosexual relationships; homosexual participants were excluded due to the small number.

3.2.2. Procedure

Participants for all three studies were recruited via e-mail and undergraduate lectures. In two of the three samples collected, questionnaires were available for completion online and by hard copy, with a total of 366 of the final 1104 questionnaires being completed online. To complete the questionnaire, all participants were required to be in a romantic relationship, or have been in a romantic relationship, of at least one month's duration.

3.3 Results

Initial analyses indicated that 18.4% of the sample had perpetrated one or more acts of physical aggression against their partner only and 9.1% had perpetrated one or more acts against a same-sex other only. A further 9.2% of the sample had been physically aggressive to both a partner and a same-sex other in the last 12 months. (Table 3.1) (SPSS output for Chapter 3 can be found on p. 287 of the Appendix onwards)

Table 3.1: Prevalence of type of aggression perpetrated (by sex)

	Male (*N*=398)	Female (*N*=706)	Total (*N*=1104)
Non-Violent	258 (64.6%)	440 (62.3%)	698 (63.2%)
IPV Only	30 (7.5%)	173 (24.5%)	203 (18.4%)
Same-Sex Only	72 (18.1%)	29 (4.1%)	101 (9.1%)
Both	38 (9.5%)	64 (9.1%)	102 (9.2%)

Sex Differences

Sex differences were examined using MANCOVAs. This involved using sex as the independent variable, controlling for age and using the three aggressive scales as dependent variables (verbal aggression, explosive acts and physical aggression) for IPV and same-sex aggression. Crime statistics and empirical studies demonstrate the decrease of aggression with age (e.g., O'Leary, 2006; Walker & Richardson, 1998; Walker, Richardson & Green, 2000). Therefore, due to the older average age of the males in this sample, it was controlled for in the current study and the chapters to follow.

Women were significantly more physically and verbally aggressive to their partners than men were. There was no significant sex difference found for the use of explosive acts. However, men used significantly more physical and verbal aggression, and explosive acts towards a same-sex other than women did (Table 3.2).

Table 3.2: Mean frequency and (standard deviations), *F* and *d* values of acts of physical and verbal aggression and explosive acts perpetrated against intimate partners and same-sex targets

	Male (N=398)	Female (N=706)	Row Mean (N=1104)	d value[a]	F value[b]
IPV Physical Agg	.90 (3.62)	1.56 (3.64)	1.32 (3.65)	-.15	5.78*
IPV Verbal Agg	7.39 (7.87)	11.98 (9.15)	10.32 (8.98)	-.47	57.03**
IPV Explosive	.48 (1.48)	.59 (1.52)	.55 (1.50)	-.05	.68
SSA Physical Agg	1.90 (5.24)	.77 (3.21)	1.18 (4.09)	.32	27.51**
SSA Verbal Agg	7.53 (8.27)	7.12 (7.81)	7.27 (7.98)	.19	8.89*
SSA Explosive	.52 (1.62)	.31 (1.19)	.39 (1.36)	.20	9.79**

** $p < .001$, * $p < .05$

[a] A positive *d* value indicates a higher male score, a negative value indicates a higher female score, controlling for age

[b] This is from a MANCOVA analysis controlling for age, with df of (1, 1089) the *F* denotes univariate *F* values. The multivariate F was found to be significant: F (6, 1084) = 20.97, $p < .001$

These sex differences in physical aggression are displayed in a more illustrative way in Figure 1.

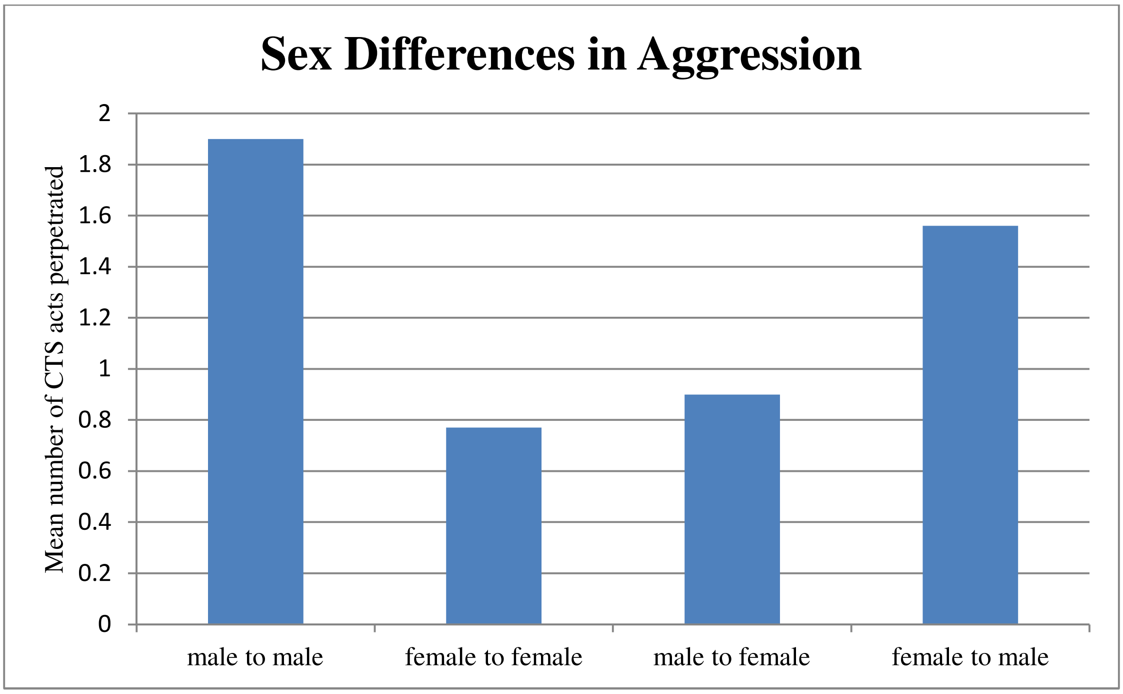

Fig 1: A Graph to illustrate the sex differences for IPV and Same-Sex Physical Aggression as measured by the CTS (Straus, 1979)

The graph illustrates the magnitude of the difference between men and women for both same-sex physical aggression and IPV as measured by the CTS (Straus, 1979). It illustrates well the contrasting patterns of sex differences and the disproportionate difference between the two.

Within Subjects d Value Analysis

Next, a within subjects d value analysis was performed to ascertain the extent to which men and women were increasing or decreasing their aggression from same-sex others to their partners. This was done using an online effect size calculator which can be found at http://cognitiveflexibility.org/effectsize/. This used the means and standard deviations as well as the correlation between the means to correct for dependence using Morris and DeShon's (2002) equation 8. The within subjects *d* value analysis for physical aggression showed *t* values of -4.21 ($d = -.22$, $p < .001$) for men and 5.21 ($d = .20$, p < .001) for women, with both differences being significant. This indicates that men decrease their aggression from same-sex others to their partners whereas women increase their aggression from same-sex to partner to a similar extent. The correlations between IPV and same-sex aggression were significant for both men and women with *r* values of .47 and .32 respectively.

For verbal aggression the *t* values were -.31 ($d = -.02$, $p = .754$) for men and 13.81 ($d = .52$, $p < .001$) for women. Again the correlations between partner and same-sex aggression here were significant for both men ($r = .41$) and women ($r = .40$). Similarly, the *t* values for explosive acts were -.45 ($d = -.03$, p = .652) for men and 4.59 ($d = .18$, p < .001) for women. Again, the correlations between the two, were significant for both men ($r = .42$) and women ($r = .33$). The negligible difference between same-sex aggression and IPV for men indicates their levels do not differ between their two opponents for verbal aggression and explosive acts as they do for physical aggression. In general, women are increasing their physical aggression from a same-sex opponent to their partner to a similar extent as men are decreasing in the same direction. Furthermore, women are also increasing their verbal aggression and explosive acts from same-sex to partner whereas the difference for men is negligible.

3.4 Discussion

The aim of this study was to examine sex difference in aggression, both IPV and same-sex aggression within the same sample. It was predicted that there would be no sex differences in the use of IPV and that men would use significantly more same-sex aggression than women. The results of this study provided mixed support for this. Women were found to be more physically and verbally aggressive to their intimate partners than men were, with *d* values of -.15 and -.47 respectively. This is consistent with previous findings such as Archer (2000) who found a similar effect size for physical aggression (*d* = -.14) for a meta-analysis of combined student samples.

For same-sex aggression, men reported using significantly more physical and verbal aggression as well as more explosive acts than did women, with *d* values of .32, .20 and .19 respectively. The results are consistent with Archer's (2004) meta-analysis of aggression in real-world settings but the effect sizes found here are smaller than his *d* = .79. The current study is also consistent with crime statistics such as the British Crime Survey (Povey et al., 2008). The *d* values and sex differences tested were all controlling for age. In the overall sample, the male participants were found to be significantly older than the females. Studies have demonstrated the decline of aggression with age with IPV (e.g., O'Leary, 2006) and general aggression (e.g., Walker & Richardson, 1998) with some suggesting it may be due to an increase emotional regulation with age. It was therefore important to control for age both within the whole sample and the sex difference in aggression, and within the sub-samples in chapters to follow.

As with Cross et al.'s (2011) paper, an additional step of analysis was performed to further investigate the contrasting pattern of sex differences. A within-subjects *d* value analysis was used based on the method used in their paper. This was carried out separately for physical and verbal aggression as well as explosive acts. For physical aggression, men's aggression decreased from a same-sex other to partners and women increased their aggression in the same direction. The *d* values were -.22 and .20 respectively, with men and women changing in response to target difference to a similar extent but in the opposite direction. For verbal aggression, women's perpetration increased from, same-sex to partner to a greater extent than men's diminution with *d* values of .52 and -.02 for women and men respectively. The same pattern was found for explosive acts, women's use increased from same-sex to partner (d = .18) to a similar greater extent than men's (d = -.03). The decreases in men's verbal aggression and explosive acts were negligible with d values of close to zero, indicating that men's levels of these types of aggression do not differ between the two types of opponents. These results in part support the work of Cross et al. (2011) and Archer et al. (2011) who used the same analysis and found women showed a larger increase from same-sex others to their partners, than men showed a decrease in the same direction.

Both men's and women's IPV and same-sex aggression perpetration were significantly related, which suggests some merit in adopting a "violence perspective" when explaining IPV. This indicates that those who were being the most aggressive to their partners were also showing the most same-sex aggression This finding supports the need to include measures of IPV in studies within the general field of aggression, rather than seeing it as something etiologically difference (e.g., Felson, 2006). Had men's IPV not been associated with their same-sex aggression it could have suggested that it was rooted in different causes, and feminists would have rightly seen this as support for the patriarchal explanation. This is implicit within the theory; feminist researchers such as Dobash and Dobash (1979) suggest that IPV and patriarchal beliefs are learned behaviours, learned from a society where "Socialization into an acceptance of the "rightful" nature of the order and its inequalities can...allow such inequalities to go unquestioned" (p. 44). Similarly, the finding that women's IPV and same-sex aggression are associated does not support the suggestion that women's IPV is exclusively (or mostly) self-defensive, since again those women who show most IPV are also those who show most physical aggression to other women.

The limitations of the project will be discussed in detail in chapter 10 (p.212) but a limitation to be mentioned here is the potential confound of sex of target and relationship to target. Some studies (e.g. Cross et al., 2011) highlight and examine the potential confound by using opposite sex-partner, same-sex friend and opposite-sex friend. The current study chose not to use this methodology due to Archer's (2004) analysis (see Table 1 of his article) that indicates this confound is not important: he reviewed studies that suggested an opposite-sex partner and those that were opposite-sex but not partners (such as school-age children) showed the same direction of difference, indicating that the important variable is the opponents' sex.

In summary, the current study, using a large student sample, has provided further evidence for the contrasting pattern of sex differences found with aggressive behavior. It further supported the diminution of men's aggression from a same-sex other to a partner and the increase of women's aggression in the same direction. The relationships found between the two forms of aggression for both men and women support the need to study IPV within the context of aggression rather than as a separate topic, in the context of gender or patriarchy. The findings here do not support a framework where men's aggression to women is motivated by something unique, to be studied separately to other forms of aggression. The study of both IPV and same-aggression within such a large sample is part of the unique contribution to knowledge this thesis provides. Support for studying IPV within the context of other types of aggression leads on to the later part of the thesis where Finkel's (2007) I^3 model will be utilised – something that has never previously been done.

Chapter 4: The Association between Aggression and Control

4.1 Introduction

In Chapter 1 (pp. 36), the development of Johnson's (1995) typology and empirical tests of it were discussed in detail. The typology was developed as an attempt to build a bridge between the conflicting findings of feminist and family violence researchers. It originally comprised two types of IPV: Intimate Terrorism (previously patriarchal terrorism) and Situational Couple Violence (previously common couple violence). Intimate terrorism represents the serious, controlling aggression of a man motivated by an attempt to dominate and maintain power over his partner. Situational couple violence represents minor aggression that occurs between partners when conflicts get out of control, and it is not considered serious by the author. Johnson later adapted his typology to include the behavior of partners (Johnson, 2006) thus expanding the typology. The addition of Mutual Violent Control, represented a relationship characterised by control and violence by both partners, and Violent Resistance characterised aggression occurring in self-defence or in retaliation from those, predominantly women, who had been abused by a controlling intimate terrorist.

Johnson found support for his typology with his own empirical tests using samples selected for a high proportion of male to female aggression (e.g., women's shelter samples) or those not completely unbiased (e.g., violence against women surveys) (Archer, 2009b). Other tests have found broad support for the distinct sub-groups of intimate terrorism and situational couple violence (e.g., Graham-Kevan & Archer, 2003a; 2003b) including the more damaging effects of intimate terrorism (e.g., Laroache, 2005). However, further studies have questioned the utility of his typology, specifically the assumptions made about the sex differences in the categorisation. Bates and Graham-Kevan (2011) found that men and women were equally likely to be categorised as intimate terrorists and that the use of control within aggression did not affect problem presentation (e.g., seeking help from a friend, the police or other sources). Similarly, Denise Hines (e.g., Hines & Saudino, 2003; Hines et al., 2007; Hines & Douglas, 2010) has published several papers detailing the severe physical and psychological effects that male victims of IPV suffer. Other authors have supported this by finding that control and controlling aggression is not something solely perpetrated by men (e.g., Graham-Kevan, 2007; Graham-Kevan & Archer, 2009).

The present chapter was designed to explore the relationship between IPV and controlling behavior. This involved testing some of Johnson's (1995) assumptions about IPV, control and gender. Johnson's theory predicts that more men than women will perpetrate controlling behavior; specifically that men will be more likely to be classified as high control perpetrators and women would be more likely to be high control victims. This association between IPV and control would not follow a linear pattern: it would form two distinct clusters, following the belief that intimate terrorism is not just a more serious version of common couple violence but qualitatively different in terms of its motivations (Johnson, 1995). Furthermore, it is expected that IPV will be perpetrated more frequently by those who are classified as being "high control". A final assumption would be that there would be no relationship between IPV and same-sex aggression; since IPV is regarded as etiologically different to other types of aggression, therefore it will not be associated with them.

A second aim of this study was to explore this relationship between control and same-sex aggression. This is previously untested, and according to the feminist theory of control, there would be no relationship expected here. If the control used by men towards their female partners is located within patriarchal values and the need for men to dominate and control women, it should not be associated with same-sex aggression, which is believed to be etiologically different (e.g., Browne, 1987). This view holds that IPV has a special etiology that should be studied independently from other forms of aggression. This is in contrast with the violence perspective that maintains that IPV should be studied in the context of other forms of aggression. This perspective involves framing the research of IPV in terms of looking at the perpetrators' psychological characteristics and deficits rather than the norms and societal structure. Researchers from this perspective would maintain that controlling behavior is part of a more stable interpersonal style (e.g., Connolly, Pepler, Craig & Taradash, 2000) rather than originating in patriarchy (e.g., Dobash & Dobash, 1979).

Much of the typology research details the overlap between IPV and same-sex aggression: for example Holtzworth-Munroe and Stuart's (1994) typology includes the "generally violent" category that acknowledges the perpetration of both types of aggression. However, few empirical studies have examined both types of aggression within the same sample: this is something the current study aims to address. An additional area of the literature that can be applied to IPV is research on bullying which details the chronic and coercive nature of the behavior (Corvo & deLara, 2009). This aggressive and coercive interpersonal style displays a range of abuse from psychological, verbal, physical through to life-threatening violence, much like the range of behavior often found with IPV.

The patterns of behavior involved in IPV share much in common with the behavior between a bully and victim. However, few studies have looked at the link between bullying and IPV. Connolly et al. (2000) examined 196 bullies and a matched sample of non-bullies in respect to their relationships and dating aggression. They found that people who reported bullying their peers at school were more likely to report physical aggression with their partners. The authors conclude that adolescents whose peer relationships were characterised by bullying were at risk of not developing healthy adult relationships, specifically with romantic partners. This was supported by Pepler, Jiang, Craig and Connolly (2008) whose longitudinal analysis found of the 871 students who were followed over 7 years, those who bullied were at an elevated risk of developing poor parent and peer relationships. These studies suggest that early aggressive and bullying behavior can affect future adult relationship functioning in terms of quality and potential abusive experiences. It also supports the suggestion that IPV and other aggressive behavior should be studied in terms of the function it serves for the perpetrator, including maladaptive behavior driven by psychopathology.

Corvo and deLara (2009) note in their review paper the lack of research on the link between bullying and IPV but they suggest that adolescent dating violence may be a pathway between bullying behavior in childhood and IPV in adulthood. They suggest there are multiple developmental pathways between bullying and IPV, and that an encompassing ecological model is the best way to frame research in these areas. These studies support the links between IPV and other forms of aggressive behavior. The examination of control within the current study is thorough and will investigate its associations with both IPV and same-sex aggression to draw conclusions about its relationship to aggression in general.

The previous literature and a review of the evidence led to several predictions that would test the associations between control and aggression and test Johnson's typology. These predictions were as follows, if Johnson's typology is accurate then (1) men would perpetrate more controlling behaviors; (2) Men would be more likely than women to be classed as "high control" perpetrators and victimised by "low control" women; (3) Men would be more likely to be classified as intimate terrorists than women, with women being more likely to be classified as "violent resistors"; (4) intimate terrorism and situational couple violence would form two distinct clusters as the former as not merely a more serious form of the latter, it is distinct; (5) more IPV would be found in the high control groups; (6) men's IPV perpetration would be predicted by their control perpetration but this would not be the case for women; (7) there would be no association between control and same-sex aggression perpetration as is implicit in Johnson's work.

4.2 Method

4.2.1 Participants and Procedure

Measures used in this chapter consisted of the modified CTS (Straus, 1979) and the CBS-R (Graham-Kevan & Archer, 2005) as described in Chapter 2 (pp. 58) to measure IPV, same-sex aggression and controlling behaviors. The participants and procedures were described in Chapter 3 (pp. 70); this analysis used the same data set.

4.3 Results

Sex Differences

The previous chapter (Chapter 3, pp. 71) detailed the sex differences in aggressive behavior for the same sample. Results revealed that women were significantly more physically and verbally aggressive to their partners than were men, but there was no significant difference for explosive acts. Men used significantly more physical and verbal aggression and explosive acts towards a same-sex other than women did. Sex differences in aggression and controlling behaviors were examined using MANCOVAs controlling for age. As described in Chapter 3, crime statistics and empirical studies demonstrate the decrease of aggression with age (e.g., O'Leary, 2006; Walker &

Richardson, 1998; Walker et al., 2000). Initial analysis on sex differences for controlling behavior revealed that women reported perpetrating significantly more of these behaviors overall (M = 11.11, SD = 10.65) than did men (M = 8.82, SD = 10.97): F (1, 1089) = 3.95, p < .05. No significant difference was found for reporting of partner's use of controlling behaviors between men (M = 11.74, SD = 13.83) and women (M = 12.90, SD = 12.59): F (1, 1089) = .15, p = .702. These analyses revealed respective d values of -.12 and -.02. (SPSS output for Chapter 4 can be found on p. 297 of the Appendix onwards)

Cluster Analysis

For the purposes of the current study, a cluster typology was set up to distinguish those who would be classed as "high control" and "low control" based on their responses to the CBS-R, (Graham-Kevan & Archer, 2005). This was performed to test whether men or women were more likely to be classified as high or low control. This was undertaken for both perpetration and victimization scores for this measure so that each participant was classified as either high or low control for both. K-Means Cluster analysis was performed using the 24 items that measured control. A two-cluster solution was selected, using Eucilidean distance as a measure of dissimilarity, and named "high control" and "low control". A t-test confirmed that these were significantly different clusters with high control (M = 28.12, SD = 11.40) being significantly higher than low control (M = 6.23, SD = 4.99): t (223.30) = 26.98, p <.001. A two-cluster solution was also selected for victimization scores so that each participant was also classified as being victim of high or low control. Similarly, Eucilidean distances were used as a measure of dissimilarity. A t-test confirmed that these were significantly different clusters with high control (M = 35.05, SD = 12.24) being significantly higher than low control (M = 7.51, SD = 6.11): t (223.92) = 31.14, p < .001.

The next part of the analysis involved testing the sex differences within the control typology. Table 4.1 shows the relevant total figures and percentages:

Table 4.1: Prevalence of type of control typology (by sex)

		Male (N = 398)	Female (N = 706)	Total (N = 1104)
Perpetration	High Control	62 (15.6%)	144 (20.4%)	206 (18.7%)
	Low Control	336 (84.4%)	562 (79.6%)	898 (81.3%)
Victimization	High Control	75 (18.8%)	127 (18%)	202 (18.3%)
	Low Control	323 (81.2%)	579 (82%)	902 (81.7%)

For both perpetration and victimization, a Chi square test was used to determine whether there was a significant association between sex and control categorisation, specifically to see whether men or women were significantly more often categorised as "high" or "low" control. For perpetration, there was a significant difference (χ^2 (1) = .3.89, p < .001), with men being more likely to be classified as "low control" and women were more likely to be classified as "high control". For victimization there was no significant difference found (χ^2 (1) = .13, p = .724), indicating men and women were equally likely to be classed as having a high or low controlling partner. This finding is incongruous to Johnson's (1995) assertion that control is a symptom of men's wish to dominate and control women.

The following graphs show the distribution of participants by controlling behavior and IPV perpetration. From Johnson's theory, we would expect two distinct clusters, the first cluster representing either no control/aggression or those using "situational couple violence" which he perceives to be lacking in control and not of great seriousness. The second cluster would be categorised by high control and high levels of violence – with more men being identified in this extreme. This pattern was not found in the current study: the graphs presented below illustrate more of a linear, than categorical, relationship between the two variables. The first graph (Figure 2) shows the whole sample with Figure 3 and Figure 4 representing men and women respectively.

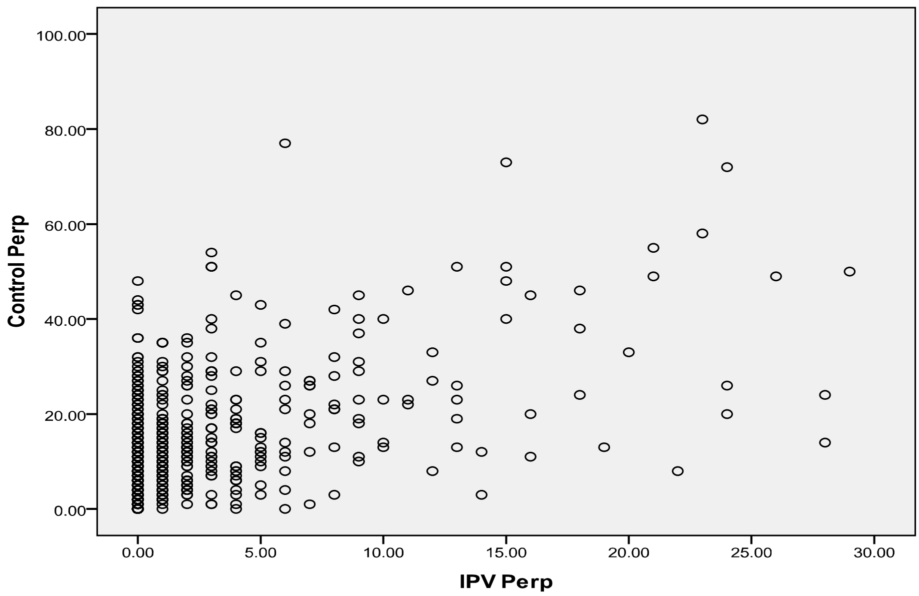

Fig 2: A graph demonstrating the relationship between IPV perpetration and controlling behavior perpetration (β = .53, p < .001)

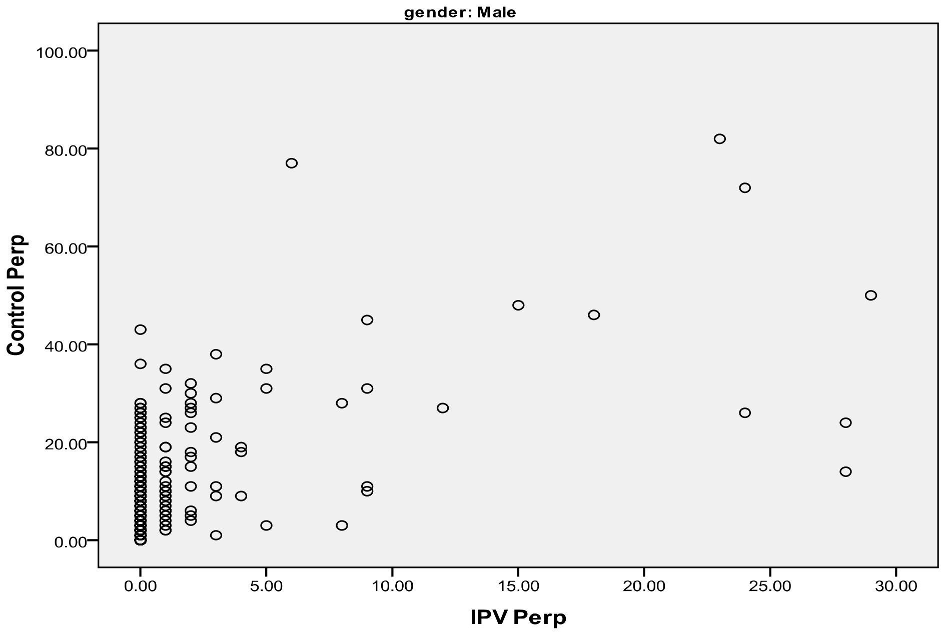

Fig 3: A graph demonstrating the relationship between men's IPV perpetration and controlling behavior perpetration ($\beta = .55$, $p < .001$)

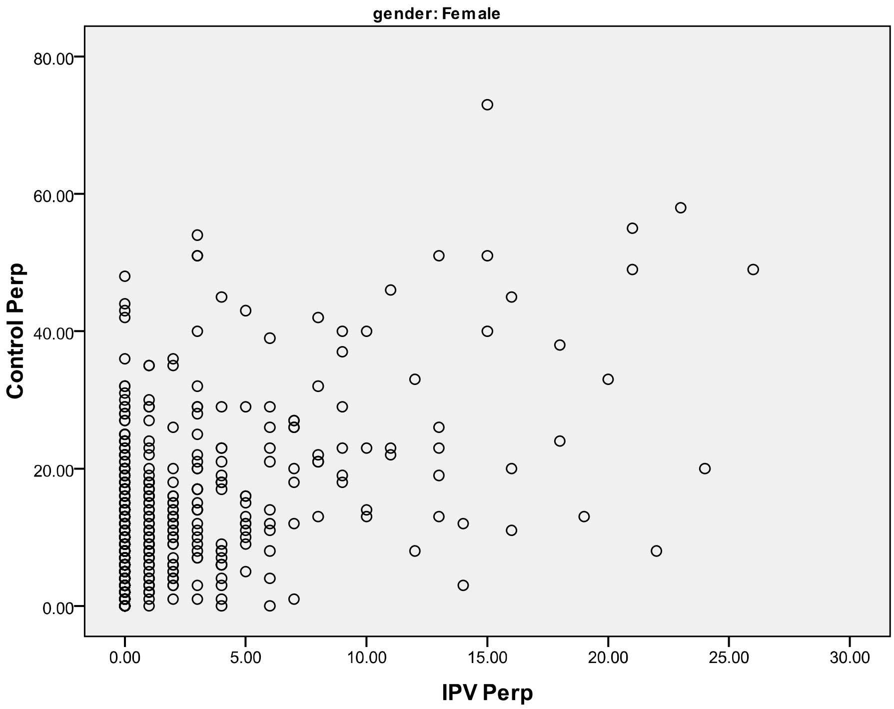

Fig 4: A graph demonstrating the relationship between women's IPV perpetration and controlling behavior perpetration ($\beta = .51$, $p < .001$).

Figure 2 demonstrates more of a linear than a cluster relationship between IPV perpetration and controlling behavior. As is represented in the other results, most people are found at the low control and low aggression end of the scale. However, those who have used controlling behavior and aggression have not done so only at the extreme end of the distribution: as the use of aggression increases, so does the use of controlling behavior. The same pattern is seen in Figures 3 and 4 (for men and women separately), although to a lesser extent in the male sample.

A filter was set up in SPSS to select only the participants who said they had used one or more acts of physical aggression against their partner in the last 12 months. The frequencies and Chi Square values were then recalculated to determine whether the same results were obtained for only the aggressive participants in the sample. The Chi Square value for these participants was non-significant (χ^2 (1) = 1.49, p = .223), meaning that among this sub-sample, men and women were equally likely to be classified as high and low control.

The two cluster analyses were then combined to categorise participants into one of four categories based on their perpetration and victimization of controlling behavior, so as to fit with Johnson's four types: mutual violent control (high control perpetration, high control victimization); intimate terrorism (high control perpetration, low control victimization); violent resistance (low control perpetration, high control victimization) and situational couple violence (low control perpetration, low control victimization). Table 4.2 shows the frequencies for both control typologies of the aggressive sample:

Table 4.2: Prevalence of type of controlling relationships within the sample who had perpetrated IPV (by sex)

	Male (n = 68)	Female (n = 237)	Total (n = 305)
Intimate Terrorism	5 (7%)	26 (11%)	31 (10%)
Mutual Violent Control	27 (40 %)	66 (28%)	93 (31%)
Situation Couple Violence	27 (40%)	126 (53%)	153 (50%)
Violent Resistance	9 (13%)	19 (8%)	28 (9%)

Table 4.2 shows that the majority of participants were categorised in the low control group, situational couple violence. A chi square examining sex differences in categorisation revealed a non-significant finding (χ^2 (3) = 6.59, p = .086). This indicates that men and women were equally as likely to be categorised in all categories. This is inconsistent with Johnson's assumption that men would be more likely to be classified as intimate terrorists and violent women would be more likely to be classified as violent resisters.

The next stage of the analysis involved a 2 (men vs. women) x 2 (high control perpetration vs. low control perpetration) x 2 (high control victimization vs. low control victimization) MANCOVA with IPV perpetration, IPV victimization and same-sex aggression perpetration as the dependent variables and controlling for age. This was carried out to examine the frequency of aggression in the different control categories within the whole sample; Johnson would hold that high controlling relationships would experience the most aggression. Table 4.3 shows the means and standards deviations for this analysis:

Table 4.3: Means and (Standard Deviations) for Aggression Perpetration and Victimization (by control perpetration and victimization and gender)

		Men (*N*=398)	Women (*N*=706)	Row Mean (*N*=1104)
High Control Perp	SS Perp*	5.73 (8.38)	2.02 (5.60)	3.14 (6.76)
	IPV Perp	4.06 (7.44)	4.47 (5.93)	4.35 (6.41)
	IPV Victim	5.73 (8.94)	3.79 (6.61)	4.37 (7.42)
Low Control Perp	SS Perp	1.20 (4.06)	.45 (2.11)	.73 (3.01)
	IPV Perp	.31 (1.80)	.81 (2.23)	.62 (2.09)
	IPV Victim	.82 (3.14)	.55 (1.89)	.65 (2.44)
High Control Victim	SS Perp	5.12 (8.27)	2.19 (5.75)	3.28 (6.92)
	IPV Perp	3.76 (7.48)	4.32 (5.90)	4.17 (6.52)
	IPV Victim	5.88 (8.85)	4.28 (6.71)	4.87 (7.59)
Low Control Victim	SS Perp	1.15 (3.89)	.46 (2.19)	.71 (2.93)
	IPV Perp	.23 (.99)	.95 (2.56)	.70 (2.16)
	IPV Victim	.59 (2.45)	.54 (2.01)	.56 (2.18)

* SS Perp = same-sex perpetration; IPV Perp = Intimate Partner Violence perpetration; IPV Victim = Intimate Partner Violence Victimization

MANCOVAs revealed that those who were classified as “high control” for their perpetration of controlling behaviors also showed more aggression both as perpetrators and victims (Multivariate: F (3, 1081) = 24.29, $p < .001$). For IPV perpetration (F (1, 1083) = 59.40, $p < .001$); same-sex aggression (F (1, 1083) = 31.72, $p < .001$); and IPV victimization (F (1, 1083) = 27.95, $p < .001$), more aggression was found in the high control group compared to low control. This was also the case for "high control" victimization (IPV perpetration: F (1, 1083) = 32.06, $p < .001$; same-sex aggression: F (1, 1083) = 18.83, $p < .001$; and IPV victimization: F (1, 1083) = 61.10, $p < .001$. These results indicate that relationships that are categorised by high levels of control are also categorised by high levels of aggression. This has been investigated before with IPV perpetration and victimization by Johnson (1995): however, he did not test the use of control with perpetration of same-sex aggression as this was not a form of aggression relevant within his theory of patriarchal violence.

Interactions

An exploration of the interactions showed some significant interactions for gender*perpetration cluster (Multivariate: F (3, 1081) = 3.72, $p < .05$). This interactions was only significant for same-sex aggression perpetration (F (1, 1083) = 8.12, $p < .01$). Examination of the interactions indicates that men's same-sex aggression is higher in both the high and low control perpetration groups but that the sex difference is much greater the in high control group.

Significant interactions were found for perpetration cluster*victimization cluster (Multivariate: F (3, 1081) = 10.80, $p < .001$) on same-sex aggression perpetration (F (1, 1083) = 18.04, $p < .001$) and IPV perpetration (F (1, 1083) = 9.56, $p < .01$). Exploration of the interactions indicated that within the high control perpetration group (as compared to the low control group) the differences between high and low victimization in terms of aggression perpetration is greater. These results indicate that more aggression is found in the high control, compared to the low control group and that this difference is often more pronounced when examined by victimization group.

There were no significant interactions for gender*victimization cluster (Multivariate: F (3, 1081) = .94, p = .421).

The next stage of the analysis involved entering the controlling behavior measures for perpetration and victimization into a Negative Binomial Regression to examine the variables that would significantly predict aggression perpetration. This was done using IPV as the criterion variable for the first analysis, followed by same-sex aggression perpetration in the second. Both were done separately for men and women. This part of the analysis was performed to address the final hypothesis made in the introduction (4.1) regarding aggression perpetration and control.

In studies of physical aggression, the majority of participants are typically non-aggressive (Table 3.1, pp. 72), thus creating a skewed data-set that is over-dispersed (i.e., the standard deviation is higher than the mean). This makes the standard regression models inappropriate. Instead, the preferred analytical technique is negative binomial regression (Gardner, Mulvey, & Shaw, 1995; Hilbe, 2007; Hutchinson & Holtman, 2005).

Zero-order Correlations

Table 4.4 shows the zero-order correlations between the measures of aggression (both IPV and same-sex aggression) and controlling behaviors perpetration and victimization

Table 4.4: Zero-order correlations between IPV, Same-Sex Aggression perpetration, Control Perpetration and Control Victimization [men/women]

	IPV Vic	SS Perp	Control Perp	Control Vic
IPV perp	.692**	.364*[a]	.528**	.447**
	[.725**/.693**]	[.471**/.321**]	[.550**/.509**]	[.498**/.415**]
IPV Vic		.357**	.500**	.502**[a]
		[.324**/.398**]	[.539**/.489**]	[.568**/.455**]
SS perp			.352**[a]	.245**[a]
			[.470**/.294**]	[.321**/.192**]
Control Perp				.723**
				[.719**/.727**]

[a] denotes that the correlation coefficients for men and women were significantly different

There were significant, and in some cases strong, positive relationships found between all of the variables in the correlation matrix. Perpetration of controlling behaviors was strongly correlated with all IPV perpetration, victimization and same-sex aggression perpetration.

Negative Binomial Regression Analysis

Three regressions were performed using these variables. Firstly, control perpetration, control victimization, IPV victimization and same-sex aggression perpetration were regressed on IPV perpetration, separately for males and females. Johnson (1995) would hold that control would predict men's, but not women's, IPV perpetration due to its foundations in patriarchy. Table 4.5 shows the results:

Table 4.5: Negative Binomial Regression of controlling behavior perpetration and victimization, IPV victimization and same-sex aggression perpetration onto IPV Perpetration, separately for males and females.

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	-2.40	.22	-2.83	-1.97	119.33	<.001
Control Perp	1	.04	.02	.01	.07	5.13	.024*
Control Vic	1	.02	.01	-.01	.05	2.52	.112
IPV Vic	1	.17	.03	.10	.24	23.54	< .001**
SSA Perp	1	.01	.02	-.04	.06	.23	.028*
Females:							
Intercept	1	-1.12	.14	-1.39	-.85	67.92	< .001
Control Perp	1	.04	.01	.02	.06	20.23	< .001**
Control Vic	1	.02	.01	.00	.03	4.18	.041*
IPV Vic	1	.18	.03	.12	.24	.34.96	< .001**
SSA Perp	1	.07	.03	.01	.13	4.98	.026*

Table 4.5 shows that perpetration of controlling behavior, same-sex aggression perpetration and IPV victimization were significant predictors of men's use of IPV, with the latter being the strongest predictor. For women, all four predictors were significant with IPV victimization being the strongest followed by controlling behaviors perpetration. The goodness of fit statistic was found to be at an acceptable level (deviance = .47 and .60 for men and women respectively). A further calculation was made from the regression results. Paternoster, Brame, Mazerolle and Piquero (1998) detail a calculation to examine the interactive effects within regression analyses, this is done to compare the magnitude of two regression coefficients, for example comparing men and women. Analyses to compare the magnitude of men's and women's beta coefficients revealed that there were no significant sex differences, so predictors had a similar magnitude for both sexes.

Table 4.6 shows the second regression where controlling behavior perpetration and victimization, IPV and same-sex aggression perpetration were regressed onto IPV victimization, again separately for males and females to examine the associations to examine the associations between aggression and control. If Johnson's theory was accurate, then women's IPV victimization would be predicted by their control victimization but this pattern would not be the same for men.

Table 4.6: Negative Binomial Regression of controlling behavior perpetration and victimization, IPV perpetration and same-sex aggression perpetration onto IPV victimization separately for males and females.

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	-1.53	.20	-1.92	-1.13	57.73	<.001
Control Perp	1	.04	.01	.01	.07	6.73	.009
Control Vic	1	.05	.01	.03	.07	27.08	<.001**
IPV Perp	1	.19	.06	.07	.30	10.28	.001*
SSA Perp	1	-.06	.03	-.12	.01	2.89	.089
Females:							
Intercept	1	-2.14	.16	-2.45	-1.83	180.59	< .001
Control Perp	1	-.01	.01	-.03	.02	.25	.615
Control Vic	1	.07	.01	.05	.09	56.48	< .001**
IPV Perp	1	.25	.03	.19	.30	73.07	< .001**
SSA Perp	1	.04	.02	-.00	.01	3.29	.070

* significant at <.05 level, **significant at < .001 level

Table 4.6 shows that for men, the strongest predictor of their IPV victimization was their controlling behaviors victimization. Controlling behavior perpetration and IPV perpetration were also significant predictors but same-sex aggression perpetration was not. For women, the strongest predictor was their IPV perpetration followed by their controlling behavior victimization. Their perpetration of controlling behaviors and same-sex aggression were not significant predictors. The goodness of fit statistic was at an acceptable level (deviance = .58 and .60 for men and women respectively). Analyses to compare the magnitude of men's and women's beta coefficients revealed that there were significant sex differences, for IPV victimization: control perpetration ($Z = 2.33$) and same-sex aggression perpetration ($Z = 2.41$). Examination of the beta coefficients revealed that for control perpetration the beta value was positive for men and negative for women; this indicates the sex specific effects of control on IPV victimization. For same-sex aggression perpetration, the beta values were negative for men and positive for women, again indicating the sex specific effects of this variable in predicting IPV victimization.

Table 4.7 shows the third regression where controlling behavior perpetration and victimization and IPV perpetration and victimization were regressed onto same-sex aggression perpetration separately for males and females. The implication in Johnson's theory would be that control derived from patriarchy would be unlikely to be associated with same-sex aggression perpetration.

Table 4.7 Negative Binomial Regression of controlling behavior perpetration and victimization, IPV perpetration victimization onto same-sex aggression perpetration separately for males and females

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	-.03	.19	-.40	.34	.03	.857
Control Perp	1	.05	.02	.01	.09	5.34	.021*
Control Vic	1	-.01	.02	-.04	.03	.18	.669
IPV Perp	1	.08	.05	-.02	.19	2.38	.123
IPV Vic	1	-.03	.05	-.12	.07	.27	.602
Females:							
Intercept	1	-1.39	.24	-1.85	-.92	34.20	< .001
Control Perp	1	.02	.02	-.03	.06	.56	.454
Control Vic	1	.01	.02	-.03	.05	.41	.524
IPV Perp	1	.14	.07	.01	.27	4.33	.037*
IPV Vic	1	.06	.06	-.06	.18	1.01	.315

* significant at <.05 level

Table 4.7 shows that for men, only their perpetration of controlling behaviors significantly predicted their use of same-sex aggression. For women, only their perpetration of IPV significantly predicted their use of this type of aggression: all other predictors were non- significant. The goodness of fit statistic for this analysis was found to be at an acceptable level (deviance = .61 and .33 for men and women respectively). A further calculation was made from the regression results. Analyses to compare the magnitude of men's and women's beta coefficients revealed that there were no significant sex differences, so predictors had a similar magnitude for both sexes.

4.4 Discussion

The aim of the current study was to examine the associations between control and aggression, both IPV and same-sex aggression, which involved testing several assumptions derived from feminist theory, specifically Johnson's (1995) typology. The first two predictions involved sex differences in controlling behavior and control classification. According to Johnson's typology, it was predicted that men would perpetrate more controlling behaviors than women, and furthermore that they would be more likely than women to be classified as "high control". Within this sample, women self-reported perpetrating significantly more controlling behaviors and were significantly more likely to be classed as high control for their perpetration (20.4% of women compared to 15.6% of men). These results combined provide evidence against Johnson's typology, by indicating that it is not only men who use control and controlling aggression against their partner. This is in support of other authors who have suggested that the use of control is not something that solely lies with men (e.g., Graham-Kevan, 2007; Ross & Babcock, 2009).

The third prediction involved testing whether the relationship between control and IPV formed two distinct clusters. Johnson's typology has two distinct clusters of IPV and he states in his descriptions (e.g., Johnson, 1995) that the first represents those relationships with no/minimal controlling behavior and aggression, i.e. showing "common couple violence", and the other clustered at the other end of the spectrum, representing the controlling aggression characteristic of intimate terrorists. He is clear that they are distinct clusters and that the latter is not merely a more serious version of the former. The implication from this is that there would not be a linear relationship between IPV perpetration and the use of controlling behaviors: instead there would be clustering. The graphical representations of the relationship between IPV perpetration and controlling behavior perpetration did not support this prediction. The figure for the overall sample showed a large number of cases clustered at the "low" end, as is expected, but no cluster at the "high" end. In fact, a linear relationship can be seen showing a gradual increase (β = .53, see Fig. 2), as aggression becomes more frequent so do the use of controlling behaviors. This relationship is replicated for the female sample (β = .51, see Fig. 4), and the male sample (β = .55, see Fig.3) showed a similar pattern, although fewer cases of high control were found in the latter sample, and so a clearer picture could not be established.

The fourth prediction here involved the sex differences in classification of "intimate terrorists" and "violent resisters". Johnson's "Intimate Terrorists" are a group that use aggression towards their partner to control them, aggression being just one way of controlling and dominating their partner. He believed that this "type" of aggressor was almost always a man who was trying to control his female partner. Johnson argues that women would be more likely to be of the "violent resistant" type involved with a controlling partner. This was not the pattern found within the current study. Women were more likely than men to be categorised as intimate terrorists (11% vs. 7%) and men were more likely than women to be classified as using violence resistance (13% vs. 8%). However, these difference were not significant, the Chi Square revealed that men and women were equally as likely to be categorised as both. Men and women who perpetrated IPV were equally as likely to be doing so alongside the perpetration of controlling behaviors.

The fifth prediction involved whether higher levels of aggression would be found within the "high control" group. Johnson (1995) asserted that intimate terrorism would be the more serious and the most likely to escalate, it was therefore expected that those who were classified as being "high control" in this study would report more aggression. This was tested using three different ratings of aggression: IPV perpetration, IPV victimization and same-sex aggression perpetration. The association between same-sex aggression and control was not tested by Johnson; his study of IPV is based on control having its foundations in patriarchy, the implication from this being that control would not be related to other forms of aggression, specifically in this study same-sex aggression. In the present study, there were higher levels of all three types of aggression among those categorised as high control. Thus, those within the high control relationships were perpetrating, and experiencing, more IPV, and were perpetrating more same-sex aggression, than were those categorised as low control. This provides mixed support for Johnson's typology. His typology is supported with the finding that there is more aggression found within the controlling relationships. However, for this to also be applicable for same-sex aggression is not in line with Johnson's theory that the origin of the aggression lies in "patriarchal control". The implication being that the control driving same-sex aggression is unlikely to be motivated by a desire, as a man, to have control over women. Instead, it would appear the use of controlling behaviors and the association they have with aggression is in fact symptomatic of a coercive interpersonal style (discussed more below).

Correlation and regression analyses were used to test the final prediction about associations between the different aggression and control measures. Johnson's hypotheses about control and gender would lead to the predictions that men's IPV perpetration would be predicted by their perpetration of control but that this would not be the case for women. An added implication (as discussed above) would be that control would not be a predictor of same-sex aggression due to the nature of control. Furthermore, IPV and same-sex aggression are rarely studied together within the same sample, and using the same measure. If an association was found between the two types of aggression it would support the "violence perspective" of IPV (e.g., Felson, 2002, 2010) which maintains that it should be studied in the context of aggression and not of gender. Feminists (e.g., Dobash & Dobash, 1979) assert that IPV has a special etiology and should be studied alone, not in the context of family violence or other aggression. The results of the current study indicate that men's same-sex aggression is predicted by their use of control towards their partner and women's by their IPV perpetration. Furthermore, the predictors of men's and women's IPV perpetration and IPV victimization are very similar. These included control, same-sex aggression perpetration and IPV victimization. Overall, these results demonstrate the overlap between IPV, same-sex aggression and controlling behavior. This is relevant to typology studies that have suggested IPV can be part of a more generally aggressive interpersonal style (e.g., Holtzworth-Munroe & Stuart, 1994; Langhinrichsen-Rohling, 2010).

This is further supported by some of the bullying literature that suggests that bullying and IPV perpetration share similar risk factors; Corvo and deLara (2009) suggest that there are multiple developmental pathways that can lead bullies to adult IPV perpetration, including through adolescent dating aggression. Again, this points to a coercive interpersonal style that can originate early in development. Moffitt et al.'s (2001) longitudinal study points to similar conclusions, male perpetrators of IPV had a background of poverty and poor school achievement whereas female perpetrators had a background associated with disturbed family relationships, weak attachment and conflict between parents.

The associations between IPV perpetration and victimization indicate mutuality in IPV perpetration that has been found in many studies. For example, Gray and Foshee (1997) found that 66% of their student sample reported being in a bi-directionally violent relationship. More recently Straus (2011) performed a review of the literature to examine symmetry and mutuality in IPV within different populations. Of the 91 studies of "clinical level" assault in his article, Straus found that both partners assaulted each other in between 17% and 78% of cases, the median of which is 42%. Furthermore, the use of studies of clinical level assault in this review meant that the 42% of mutuality indicated is more likely to be intimate terrorism (or mutual violent control) than situational couple violence. Straus calls for a change in the "academic denial" (p.286) in relation to women's perpetration in IPV

In conclusion, the aims of the present study included a test of the association between aggression and the use of controlling behavior. This included testing some of the assumptions of Johnson's typology (e.g., 1995). The findings of the current study lend little support to feminist theories of IPV and question the utility to Johnson's typology. The associations that were found between IPV, same-sex aggression and control support the need to study IPV within the context of aggression rather than as having a special etiology. By studying IPV in the context of aggression, frameworks such as Finkel's I^3 can be utilised and tested. The next chapter (Chapter 5, pp. 103) aims to summarise the findings of Chapters 3 and 4 and discuss how they fit into the theoretical literature including an introduction to the next stage of the thesis.

Chapter 5: A Summary of Findings on Sex Differences in Aggression and Control

The purpose of this chapter is to summarise the findings of the previous two chapters (Chapter 3 and 4) and introduce the next stage of the thesis. The main aim of the previous aforementioned chapters was to directly test the feminist theory and explanation of IPV. This involved testing several assumptions about sex differences in aggression and IPV; and the associations between aggression and controlling behavior.

The main facets of the feminist theory of IPV involve sex differences in IPV and the use of control and power within relationships. According to feminist researchers (e.g., Dobash & Dobash, 1979; Browne, 1987; Fagan & Browne, 1994; Schwartz & DeKeseredy, 2003; Saunders, 1986; Smith, 1990; Walker, 1989) IPV is mostly perpetrated by men who use their aggression to maintain power and control within the family structure. This power is rooted in a patriarchal societal structure which tolerates the use of violence against women as a tool for control (e.g., Pagelow, 1984). This view of IPV leads to the conclusion that it has a special etiology and should be studied separately, rather than within the wider context of family violence, or aggression in general. There is an acknowledgement of the statistics that indicate women's violence, but this is held to be minor, often in response to the partner's controlling aggression, and is trivial in nature. As a feminist researcher himself, Johnson (1995) attempted to address the conflicting findings surrounding sex differences in IPV perpetration, which led to further claims about the nature of IPV amongst men and women. His typology encompassed the belief that it would be men using damaging aggression characterised by control and that women's aggression would be more likely to involve a loss of self-control as a response to men's aggression.

Feminist theory, as well as Johnson's work, leads to a number of direct hypotheses, which were tested in the first part of this thesis, namely: (1) that men would report being more physically aggressive to their partners; (2) men's but not women's IPV would be associated with controlling behavior; (3) men would be more likely than women to be classed as "high control" and "intimate terrorists" according to Johnson's typology, whereas women would be more likely than men to be classed as showing "violent resistance"; (4) due to the different nature of IPV and same-sex aggression they would not be associated; (5) due to the nature of control, only IPV, and not same-sex aggression would be associated with the use of controlling behaviors.

The results described in the previous chapters generally did not support these hypotheses. To take each in turn: quite the opposite pattern was found to the first hypothesis, that men would use more IPV towards their partners. Across 1104 participants, it was found that women were significantly more physically and verbally aggressive to their partners than men were. This supports much of the previous research, including that summarised in Archer's (2000) meta analysis. Many studies (e.g., Archer, 2004) have found that men are consistently more aggressive to same-sex others than women but the finding of sex parity within IPV is becoming more widely accepted. A reasonable assumption from feminist theory is that men raise their aggression to their female partners from that shown to other men, as part of their dominance over them. The opposite was found within this study: men decreased their aggression from same-sex to partners, significantly so, and women increased theirs from same-sex to partners.

Contrary to the second hypothesis, across the whole sample women were more likely than men to be classed as being high control. This does not support feminist theory and furthermore does not support Johnson's assertion that controlling IPV almost overwhelmingly involves male perpetrators (e.g., Johnson, 2005). Further evidence contradicting this assumption comes from the finding that 7% of men but 11% of women were categorised as being intimate terrorists, which suggests they were using controlling aggression against their partner in the absence (or infrequent use) of controlling behavior from them. Furthermore, 13% of men and 8% of women were found to be categorised as using violent resistance, where they are aggressive to their controlling partner despite not using controlling behavior themselves. Little support was found for Johnson’s typology overall and the significance testing of the categories showed that men and women were equally as likely to be categorised in any of the sub-types. The contention that the control within IPV is purely patriarchal is not supported here. Patriarchal values may motivate some men's aggression towards their female partner but that is unlikely to be the case for most men or any women who also use control in their relationships - both in the presence and absence of IPV.

This supports other research that has suggested that control and the use of controlling aggression is not solely perpetrated by men and is just as much a characteristic of women (e.g., Graham-Kevan, 2007; Graham-Kevan & Archer, 2009; Laroache, 2005; Bates & Graham-Kevan, 2011). Indeed both symmetry and mutual violence perpetration may be typical of relationships, even those characterised by severe assaults that not only caused injury but required agency intervention (Moffitt et al., 2001; Straus, 2011). The findings of this thesis and other research therefore suggests that intimate terrorism is perpetrated by both men and women, and also often mutually within relationships - perhaps fitting more with Johnson's mutual violent control sub-type. Many more recent studies have also demonstrated the damaging physical and psychological effects that men suffer when victim of an intimate terrorist partner (e.g., Hines & Saudino, 2003; Hines et al., 2007; Hines & Douglas, 2010)

The fourth hypothesis above concerns the claim that IPV has a special etiology making it different from other family violence and also from other types of aggression (e.g., Browne, 1987). Therefore it would be fair to predict that there would be no associations between IPV and same-sex aggression due to these different motivations and special etiology. This was not the case in the current study, with IPV and same-sex aggression being significantly associated for both men and women. Of 1104 respondents, 9.2% had perpetrated both IPV and same-sex aggression (this was 9.5% and 9.1% for men and women respectively). This was compared to 9.1% who had perpetrated same-sex aggression only, and 18.4% who had perpetrated IPV only (though this figure was heavily skewed for women with 24.5% falling into this category compared to 7.5% of men). These figures demonstrate the overlap between IPV and other types of aggression, which is supported by other studies using diverse methods. For example, Marvell and Moody (1999) found that men who are violent to their female partners typically had criminal records. Similarly, Felson and Lane (2010) also observed that offenders who perpetrated IPV were similar to other offenders in terms of their criminal convictions, alcohol use and experiences of previous abuse. These similarities are found for men and women: for example Ehrensaft et al. (2006) found the personality factors associated with IPV perpetration were similar for men and women. This evidence taken together suggests those who perpetrate IPV are not wholly etiologically distinct to other violent offenders.

The final hypothesis associated with the feminist perspective of IPV is the implicit assumption that control and same-sex aggression would not be associated. The control that feminist authors (e.g., Dobash & Dobash, 1979), and specifically Johnson (1995), believe is driving men's use of IPV is rooted in patriarchal societal structures and the need for men to maintain control over women. If this is indeed where these behaviors originate, it is unlikely that they would be associated with men's or women's use of same-sex aggression. In contrast, the current findings indicate that there were significant positive relationships between same-sex aggression perpetration and control perpetration for both men and women. Furthermore, control emerged as a significant predictor of men's use of same-sex aggression. Taken together, these results provide evidence contradicting the suggestion that the use of control within IPV is rooted in patriarchy. This part of the project replicates previous findings surrounding sex differences, control and aggression but also contributes to knowledge by testing hypotheses in such a large sample that had not been investigated before. The large sample in itself provided a novel opportunity to study IPV and same-sex aggression together within the same sample which was advantageous for drawing conclusions from the results.

All of the results described above provide evidence against studying IPV within the feminist framework. Rather, the results of the two previous chapters provide support for the study of IPV within the context of aggression in general, as the violence perspective on the study of IPV would suggest. The violence perspective of IPV is a direct challenge to the "gender perspective" or feminist framework. Rather than seeing the cause of IPV as lying in patriarchy and gender, researchers such as Felson (2002) argue that the study of aggression should rely on theories of violence and crime.

Felson, one of the most prominent researchers in this area, has published several papers arguing that IPV does not have a different etiology from other forms of aggression (e.g., Felson & Lane, 2010). Felson argues that contrary to the patriarchal view, the active norm that exists in society, and has done for centuries, is chivalry. This is a norm that protects women not only from other men, but also other women and other forms of threat or danger (see Felson, 2002). Contrary to the feminist assertion that violence against women is tolerated in society, the norm of chivalry works to protect women and condemn those who are aggressive towards them. This argument is supported by studies of benevolent sexism (e.g., Glick & Fiske, 1996), which demonstrate that women are more likely than men to receive help (see Eagly & Crowley, 1986); studies finding the greater moral condemnation of violence against wives (e.g., Harris & Cook, 1994; Felson & Feld, 2009) and that women's violence towards their male partners is judged less harshly than men's violence towards female partners (e.g., Sorenson & Taylor, 2005). From such findings, Felson emphasised the importance of not examining IPV in any sort of special context. In his 2006 paper, Felson demonstrated that the rates of violence against women are high when the rates of violence against men are high. Violence occurs all over the world, but men are consistently more likely to be the victims than women are (Felson, 2006).

Evidence to support studying IPV within this context comes from longitudinal studies of risk factors on this type of aggression. For example, Moffitt et al. (2001) found that the strongest predictor for both men and women who had perpetrated IPV was their record of physically abusive delinquent behavior. Other supporting evidence comes from studies that demonstrate that IPV and same-sex aggression shared similar risk factors (e.g., Straus & Ramirez, 2004), and those that demonstrate the overlap between IPV and same-sex aggression perpetration (e.g., Felson & Messner, 1998; Thornton, Graham-Kevan & Archer, 2010), including typology research (e.g., Holtzworth-Munroe & Stuart, 1994; Langhinrichsen-Rohling, 2010).

To study IPV within the context of other aggression (specifically same-sex aggression as in this project) requires the examination of the characteristics and psychopathology of the perpetrator rather than of the norms in society. For the next part of the current project this will involve examining a number of risk and protective factors that have been found to be associated with either IPV, same-sex aggression or both. These factors are to be examined within the context of Finkel's (2007) I^3 framework, something that has previously been untested with the use of IPV and same-sex aggression. This links in with the self-regulatory literature and poses three questions about the perpetration of IPV: the first regarding its provocation, or instigating trigger; the second concerning the impelling forces; and the third in respect of the inhibiting forces. Finkel's suggestion is that if an instigating trigger to aggression is felt (e.g., jealousy) followed by strong impelling forces and weak inhibiting forces, there is a strong likelihood aggression will occur. The empirical appeal of this model includes its flexibility, the number of possible moderational hypotheses that can be generated and the fact it allows for the impelling and inhibiting forces to co-occur, thus creating inner tension. Furthermore, it is a gender-neutral model but with the ability to enter gender as a variable if the hypothesis requires it.

Several studies have supported the elements of this model (e.g., Slotter, & Finkel, 2011; Finkel & Foshee, 2006), also including Finkel et al.'s (2009) study that showed, through a series of experimental studies, the importance of self-regulatory behavior, and provided support for the importance of this I^3 model in the study of IPV. It further investigated the occurrences of people experiencing the impulses of aggression but not actually acting upon them.

With this research and framework in mind, the next part of the thesis will involve empirically testing the importance of several risk and protective factor associated with IPV and same-sex aggression. Each chapter will be framed from the "violence perspective" and in terms of Finkel's I^3 model, with each factor being presented as either an impelling or inhibiting force. The aggression questionnaire asks respondents about a time when there has been conflict: this acts as a potential instigating trigger, the first step of Finkel's model. Each factor will then be examined in terms of its importance in predicting both IPV and same-sex aggression perpetration.

The next chapter (Chapter 6) will involve examining attachment and psychopathy, which are presented as stable protective/inhibiting factors (specifically secure attachment) and risk/impelling factors (psychopathic traits and insecure attachment styles). Chapter 7 examines a series of factors that are considered to be inhibitory, and which have been shown to be inversely associated with aggressive behavior; namely self-control, empathy, anxiety and perceived negative consequences. The final empirical chapter (Chapter 8) examines two pairs of impelling and inhibiting forces - namely the costs and benefits of aggression, and both instrumental and expressive beliefs about aggression. These will all be examined in terms of their predictive power as examining sex-specific effects. The next part of the thesis will uniquely contribute to knowledge by firstly testing a model which has never been used in this way before. Additionally, the study of IPV and same-sex aggression in the same sample has rarely been done before and never with as many factors or as big a sample.

Chapter 6: Attachment and Psychopathy

6.1 Introduction

The aim of the current chapter is to present an empirical test of the associations between attachment and psychopathy with both IPV and same-sex aggression. This test will be presented within Finkel's I^3 framework (Finkel, 2007) and will test both inhibiting forces (secure attachment) and impelling forces (insecure attachment and psychopathic traits).

Attachment

Attachment and its development have been described in detail by John Bowlby (1969). The core of his theory focussed on internal working models and the emotional bond that forms between the infant and their primary caregiver – usually their mother – through close emotional contact in childhood. His research emphasised that the attachment patterns that form in infancy are central to the emotional and social development of the person through into adulthood. Bowlby's research was further developed by Ainsworth et al. (1978) using a methodology known as the "strange situation". This involves an experimental design with seven short episodes where infants are placed in an unknown environment with new stimuli and their primary caregiver and their exploratory behavior is observed. A "stranger" is introduced and the primary caregiver withdraws, so as to observe separation and later reunion behavior of the infants.

From this research, Ainsworth derived three attachment patterns, and a further fourth type was added at a later date. The first, Type A, is avoidant and is characterised by an avoidance of proximity with the caregiver: the infant is not distressed during the separation and ignores the mother upon her return. Type B is secure and is characterised by using the mother as a secure base from which to explore the room, maintaining proximity through touch or eye contact. Any distress during the separation is due to the mother's absence and proximity is reinforced upon reunion. Type C is known as ambivalent and is characterised by resistance to interaction in the reunion episodes. There is some contact and proximity mixed with the resistance, giving the appearance of being ambivalent. Finally, Type D is disorganised: infants' behavior is disoriented and inconsistent, with no clear pattern fitting the other attachment types. This type was added by Main, Kaplan and Cassidy (1985) as they believed it a useful extension to Ainsworth's original classification by classifying this sometimes bizarre and unclear pattern of behavior.

Hazan and Shaver (1987) went on to explore the possibility that love in romantic relationships is an attachment process: as with the parent-child relationship, emotional bonds are formed between two people. They focused on the three major styles of attachment – Type A, B and C listed above – from Bowlby's and Ainsworth's work. They drew three main conclusions from their research: the first was that the frequencies of the different attachment styles were similar to those reported in infant populations, namely they found 56% were classified as secure, 24% as avoidant and 20% anxious/ambivalent. Secondly they found that the love and relationship experiences were different across the three attachment styles, as they predicted. Finally they found that those with the different attachment styles held different beliefs about the course of romantic love, trustworthiness of their partners and their own worthiness. From this research on attachment styles from infancy to adulthood, it can be seen that experiences within close relationships are affected by peoples' early attachment relationships. Attachment theory appears to be an important framework for understanding emotional and interpersonal development across the lifespan (Shaver & Hazan, 1993) due to the apparent stability of attachment patterns over time (Crowell, Treboux & Waters, 2002). Using Bowlby's (1973) definition of the internal working models of self and others, Bartholomew (1990) developed a four-category classification of adult attachment. A person's "internal working models" help individuals understand the behavior of others as well as develop a sense of self, feeling secure in themselves (Pietromonaco & Barrett, 2000). These classifications are defined by the intersection of the two underlying dimensions discussed by Bowlby – the positivity of a person's model of the self and the positivity of a person's model of others which represent the feelings of self-worth and the expectations about the availability of others. These categories are named secure, preoccupied, dismissing and fearful. Secure individuals are characterised by an internalised sense of self and comfort with intimacy with others; preoccupied individuals have a sense of unworthiness but their positive other model means they seek validation in excessively close intimate relationships; dismissing individuals avoid closeness with others but have a high sense of self-worth through a strong belief in independence; fearful individuals are highly dependent on others' validation of their self worth but are fearful of close, intimate relationships with others. This two dimensional model of adult attachment has been supported by empirical testing (e.g., Griffin & Bartholomew, 1994).

Within infant and school-aged samples there are no apparent sex differences in attachment styles unless they involve high risk children (e.g., Van Ijzendorn, 2000). According to Del Giudice (2009), sex differences are also rarely found when the Adult Attachment Interview (AAI; Main & Goldwyn, 1993) is used[3]. Self-report measures, which were categorical rather than continuous measures, also failed to indicate any sex differences in romantic relationships (e.g., Hazan & Shaver, 1987). When continuous

[3] The AAI is a semi structured interview consisting of 20 questions designed to access respondents' internal working models (Main & Goldwyn, 1993).

measures were first used, sex differences were found, with men regularly scoring higher than women on the avoidant scales (e.g., Del Giudice, 2009). Cross-culturally, Schmitt et al. (2003) examined sex differences in attachment styles within 62 cultural regions across the world and found that men consistently showed more of the dismissing style. Women have been found to score higher on the anxiety scales than men (Del Giudice, 2009). There are no apparent sex differences, however, in the secure attachment style (e.g., Gormley, 2005).

Adult attachment theory is uniquely suited to the understanding of IPV because it describes individual differences in relationship expectations, affect regulation strategies and behavior within romantic relationships (Gormley, 2005). Research that is driven from this theoretical perspective can: a) describe who may be violent or abusive in a romantic relationship, based on individual differences; b) suggest the behavior that might occur under various situations and conditions; c) inform researchers of the consequences of this violence in terms of the perpetrator and their victim, as well as the relationship; and d) help understand the motives of the perpetrator (Gormley, 2005). It describes the way partners will react when there are times of distress, separation or conflict.

From an attachment theory perspective, the use of IPV can be seen as an attempt to establish or maintain security within the relationship (Doumas, Pearson, Elgin & McKinley, 2008). If there is a threat to attachment security, the anxiously attached person may become alarmed and the anxiety this causes leads to measures that will safeguard the attachment security. Collins and Reed (1990) found that for men, it was the extent of their partner's anxiety about being abandoned (a negative relationship) that best predicted their relationship quality, whereas for women it was the extent of their partner's comfortableness with closeness (a positive relationship) that best predicted their relationship quality. A man or woman with high levels of attachment anxiety may respond to a relationship threat by trying to maintain proximity to protect their security; whereas someone with a more avoidant attachment style may respond by trying to enforce distance.

Some unhealthy attachment styles are associated with IPV and it is thought that coping responses may include the wrong interpretations of cues within the relationship, as well as difficulties in regulating affect. Gormley (2005) described these characteristics in terms of the two-dimensional attachment patterns. A person with a secure attachment style is thought to have flexible coping strategies: they are independent and cooperative in their responses to stressful situations, and they negotiate threats productively – this covers around 50% of the population. The other 50% are "insecurely attached" and IPV is likely to occur in this situation, due to the fact it represents difficulties in responding to situations that elicit stress, and little flexibility in coping strategies.

Anxious insecurity is categorised by the fear of abandonment: people struggle with independence and seek help constantly with affect escalation. This style is associated with anger and low levels of self-control, and more displaced forms of aggression. Avoidant attachment is motivated more by the difficulties in being intimate and getting close to a partner: these people restrict themselves in an attempt to maintain their independence. This style is associated with higher levels of self-control but limited awareness of the emotional state of others. When there is conflict within a relationship, individuals with the two attachment styles assert their insecurity in different ways. Anxiously-attached individuals feel negative feelings of self, lack confidence in emotion management, and blame themselves in conflict: they "burn hot" (Gormley, 2005) but they recover from this quickly. Avoidant attachment types experience affect escalation followed by anger. They are slower to “burn” but are thought to bear grudges more easily and post conflict, tend to externalise the blame onto others. In terms of the attachment styles already discussed within Bartholomew’s model, preoccupied attachment would be higher on the anxious scale and dismissive and fearful would be higher on the avoidant scale. Secure attachment would be low on both.

Gormley (2005) pointed towards the two different patterns of behavior within IPV, motivated by anxious and avoidant attachment patterns. IPV perpetrated by someone with an anxious attachment pattern is motivated by the desire to preserve the relationship to avoid abandonment. Their intense fear of loss fuels their attachment-related behavior, almost stalker-like in nature. Avoidant attachment types are motivated by a desire to maintain their independence and avoid intimacy. Bids for closeness by their partners are seen as threatening. Their pattern of IPV might involve devaluing their partner and using controlling behavior to both control others and maintain their own self-control. Their aggression is instrumental in nature and acts of violence tend to be well-controlled – which leads to the assertion that this attachment style is associated with predatory, or proactive, violence.

Mayseless (1991) also argued that IPV is an expression of the attachment system, and that angry protest amongst adults might be an attempt to maintain their relationships in response to threat – whether this is real or perceived. Studies have linked insecure attachment types with IPV perpetration and emotional abuse by both men and women (e.g., Roberts & Noller, 1998; Schumacher, Slep & Heyman, 2001; Follingstad, Bradley, Helff & Laughlin, 2002; Kesner & McKenny, 1998; Lawson, 2008). Bookwala and Zdaniuk (1998) compared nonviolent couples with mutually violent couples. They found that high levels of anxious (or preoccupied) attachment were more likely to be in the abusive group, particularly within the male participants. Furthermore, Gormley and Lopez (2003) found that high levels of avoidance contributed to men's use of psychological abuse to their partners; this was found for women as well but only when they were highly defensive. These studies demonstrate the link between dysfunctional attachment styles and both physical and psychological abuse of partners.

Attachment patterns have been used to study other types of aggression. For example, Adamshick (2010) used in-depth interviews over four months to investigate girl-to-girl aggression in a group of girls aged between 13 and 17. This type of aggression was found to be a form of self-protection and was a means of finding attachment, connections and friendship. Similarly, Lyons-Ruth (1996) discussed attachment patterns and children's aggression, believing that disorganised or controlling attachment patterns are more strongly related to aggressive behavior than are avoidant patterns.

This literature leads to several predictions about attachment styles and aggression. Using the Relationships Scale Questionnaire (Griffin & Bartholomew, 1994), it was predicted that higher levels of aggression would be associated with higher scores on insecure attachment scales, namely preoccupied, dismissing and fearful attachment. Less aggression is expected to be found with higher scores on the secure attachment scale. This is likely to be the case for both IPV and same-sex aggression. Here a secure attachment style is being viewed as a protective/inhibiting variable that is associated with less use of aggression where as insecure attachment styles are seen as potentially impelling forces within Finkel's framework. The literature suggests that those with secure attachment patterns will have better self-regulation, the central tenant to Finkel's model, and so will be less likely to engage in aggression. Those with insecure attachment styles have problems with emotion regulation and so may be more likely to allow their impelling forces to overcome their inhibiting forces. A further prediction was that there would be no sex differences in secure attachments, that men would score higher than women on dismissing attachment and women would score higher than men on anxious attachment.

Dysfunctional attachment has been found to predict personality disorders (e.g., Brennan & Shaver, 1998). Bowlby (e.g., 1979) himself asserted that early separations from attachment figures would predispose an infant to become emotionally cold and affectionless, traits characteristic of psychopathy. Arrigo and Griffin (2004) applied a case study methodology to the study of the behavior of the serial killer Aileen Wuornos. They applied Bowlby's three psychological stages of maladaptive attachment, namely protest, despair and detachment (which becomes an adaptive strategy to combat the first two). Aileen Wuornos was one of the first noted predatory female serial killers: she hitchhiked and prostituted herself, killing seven men. She was allegedly abused by her primary attachment figure, which was believed to have caused the development of an avoidant/dismissive attachment style, resulting in a powerfully intense anger that permanently affected her ability to bond healthily with others. Her internal working model did not include empathy and she showed no remorse or guilt for her goal-directed and instrumental violence. Arrigo and Griffin's review describes how a combination of attachment patterns and a biological predisposition for psychopathy combined to create someone who used such predatory and severe violence.

In a more representative sample, of Swedish incarcerated psychopaths Frodi, Dernevik, Sepa, Philipson and Bragesjö (2001) found that the levels of psychopathy were positively related to convictions, level of violence used in their crimes, and the severity of childhood physical abuse they had endured. Secure attachment classifications in this sample were virtually nonexistent and there was an overrepresentation of the dismissing attachment style (64%). This is consistent with previous research reviewed above that those with insecure attachment patterns and high level of psychopathic traits are more likely to be aggressive to others, including their partners.

Psychopathy

Attachment and IPV have also been studied in relation to psychopathy, often in terms of psychopathic personality and psychopathic traits. The work of Cleckley (1976) represents one of the most significant landmarks within this field. In his book entitled "The Mask of Sanity", psychopaths were described as superficially charming and unreliable but with the absence of delusion and nervousness/neurosis. They are untruthful and insincere, with a lack of remorse or guilt about any of their actions. They have poor judgement and fail to learn from the past, with a specific lack of insight. Psychopaths have a pathological egocentric nature and a general incapacity to love, including a poverty of affective emotions. This means that they are unresponsive in interpersonal relations and are unable to form and maintain healthy relationships: their sex life is impersonal and trivial, and poorly integrated. They perform fantastic and uninviting behavior when drunk (and sometimes when not), make suicide threats that they do not carry out, and fail to follow any sort of life plan. Psychopaths behave with no conscience, shame or feelings of guilt, they seem unable to feel many of the normal stressors, and frequently engage in anti-social activities.

Although Cleckley based his descriptions on the life stories of a sub-criminal population, research has demonstrated that the characteristics listed above are significantly associated with psychopaths (e.g., Holmqvist, 2008; Habel, Kühn, Salloum, Deuces & Schneider, 2002) and that psychopathy is related to delinquent and anti-social behavior (e.g., Kolko, Kazdin & Meyer, 1985).

Many studies have developed and examined the underlying factors within the psychopathic personality. Cleckley (1976) proposed the existence of the primary psychopathic type and Karpman (1941) had proposed the subtype of secondary psychopathy. Karpman believed that primary and secondary psychopathy were similar in their manifestation of antisocial behaviors and deceit, but he believed that the primary psychopathic symptoms involve an affective deficit whereas secondary psychopathic traits represent an affective disturbance, with an underlying anxiety, depression and neuroses. Gray (1987) and Fowles (1980) suggested that within the neuropsychological response system there are two components, the behavioral activation system (BAS) and the behavioral inhibition system (BIS). These systems fit with the early work of Lykken (e.g., 1957) and provide a framework for exploring the subtypes of psychopathy. Lykken (e.g., 1995) built on Karpman's theory and linked it with Gray's biological model. The BIS system regulates the responsiveness to aversive stimuli and is associated with the experience of negative affect (which includes anxiety); this is associated with primary psychopathy, namely that this sub-type is associated with an underactive BIS. BAS regulates the motivation of certain appetites and the experience of positive affect (including impulsivity); this is associated with secondary psychopathy, specifically in terms of an overactive BAS. According to this theory, deficits in the BIS and BAS systems indicate the distinct abnormalities that underlay both primary and secondary psychopathy.

Much research has examined the origins of the pathology of the psychopathic personality from genetic, neurological, social and cognitive disciplines. Blair, Peschardt, Budhani, Mitchell and Pine (2006) commented that the neurocognitive impairments found in psychopathic children are also seen in psychopathic adults. The emotional dysfunction at the heart of psychopathy puts an individual at risk for learning anti-social behavior. Blair et al. considered “ultimate causes” (p.263) that are regarded as giving rise to the pathology of the emotional dysfunction, including a genetic (heritability estimates from 44% to 72% in adults) and a social basis (e.g., resulting from childhood abuse), concluding that the former acts almost as a moderator of the latter. The neural systems that are implicated include amygdala dysfunction during emotional memory and impairment on tasks that require this area of the brain. Studies have shown that psychopathic individuals have an impairment in aversive conditioning and fearful expression recognition (e.g., Flor, Birbaume, Hermann, Ziegler & Patrick, 2002; Blair, Colledge, Murray & Mitchell, 2001). This supports studies indicating that psychopathic individuals have “poor conditionability”. Cognitive dysfunctions also mirror these neurological impairments of ability to form stimulus-reinforcement associations. The cognitive impairments in themselves help to explain an association with some social factors: for example the ability to form stimulus and reinforcement associations can be linked to empathy deficits and can disrupt socialisation in childhood. Thus, a poorly socialised child can be at risk for learning anti-social behaviors.

Many environmental factors are linked to the development of anti-social behavior. Impaired verbal abilities are often the most consistent risk factors for serious anti-social behavior (Muñoz, Frick, Kimonis, & Aucoin, 2008). Psychopathic individuals, however, show the behavior but not the impaired abilities. Muñoz et al. (2008) found that psychopathy, or the callous and unemotional traits which are so characteristic of this personality style moderated the relationship between verbal abilities and violent delinquency.

Studying psychopaths using institutionalised populations means that conclusions cannot be generalised to those who remain outside the criminal sphere. Sub-criminal psychopaths might manage to avoid being caught for their crimes by cultivating their charm and talents to be successful (Lykken, 2006). The media often portray psychopaths incorrectly as always violent and usually incarcerated. Lykken argued that psychopathic personality traits need to be combined with deviant appetites or an aggressive nature to result in more dangerous criminal behavior. Coid, Yang, Ullrich, Roberts and Hare (2009) examined the correlates and prevalence of psychopathy within a large-scale non-institutionalised population. Their prevalence was 0.6%, which is much lower than found in incarcerated populations. They also found that psychopathic traits correlated with younger age, male gender, suicide attempts, imprisonment for violence, drug dependence, and obsessive compulsive disorders. Furthermore, psychopaths have been shown to continue to commit higher rates of violence, compared to violent offenders without psychopathy, even after the age of 40 (Harris, Rico & Cormier, 1991).

Psychopathy is a robust correlate of crime, with a stable and complex pattern of traits, as already described. There is a large body of literature that details the link between psychopathic personalities and both criminality and aggression. These studies have used various populations, for example Pardini (2006) examined the presence of callous and unemotional traits within juvenile populations as the presence of these traits have been associated with some of the most severe forms of violence (and violent recidivism). Children with these traits and low temperamental fear may fail to experience sufficiently high levels of arousal to be able to internalise moral beliefs and socialisation during punishment, putting them at a higher risk of developing this interpersonal style. Pardini (2006) found that lower levels of concern about punishment mediated the relationship between these low levels of temperamental fear and more callousness. Therefore, children who do not experience anxiety when they are disciplined are not internalising the moral emotions and beliefs. Callous and unemotional traits also mediated the relationship between low levels of fear and punishment concern, and greater levels of serious violent conduct. This is consistent with the idea that this lack of fear may be indirectly promoting serious violent behavior by increasing the development of these callous and unemotional traits.

Psychopathy is also strongly associated with predatory behavior and ‘cold-blooded’ instrumental aggression. Predatory behavior often involves aggression, or the threat of it, with minimal automatic arousal, often “planned, purposeful, and emotionless violence” (Meloy, 1997, p.630). Psychopathy can be seen as being well suited to predatory aggression because fear and anxiety would not interfere (Meloy, 1992). Reidy, Zeichner and Martinez (2008) had a sample of 105 non-forensic participants complete a fake aggression paradigm, a competitive interaction with varying levels of provocation. Participants were identified as either unprovoked aggressive, provoked aggressive or provoked non-aggressive. Men who had high levels of psychopathic traits (measured by the Levenson self-report psychopathy scale: LSRP; Levenson, Kiehl and Fitzpatrick, 1995) had 30% greater probability of becoming aggressive in the absence of provocation than those with lower psychopathic traits.

The association between psychopathic traits and IPV has often been examined using incarcerated violent offenders. This research has established a clear link between the two as well as the importance of psychopathy in predicting recidivism of IPV (e.g., Grann & Wedin, 2002) for both men (e.g., Hilton, Harris, Rice, Houghton & Eke, 2008) and women (e.g., Weizmann-Henelius, Viemerö & Eronon, 2004) with some studies indicating it is the strongest predictor (e.g., Harris, Hilton & Rice, 2011). Huss and

Langhinrichsen-Rohling (2000) proposed a sub-type of 'batterers' that can be characterised as exhibiting significant psychopathic characteristics. Studies have found that psychopaths struggle to maintain healthy and long-lasting relationships (e.g., Muñoz, Kerr, & Bešic, 2008). Psychopaths are more likely to victimise strangers but are also more likely to act with a motive of revenge and can rarely use self-defence as a motive. Their abuse, both physically and emotionally, is more likely to be severe and high in frequency. There has been less research examining psychopathic traits and IPV outside an incarcerated population.

There is relatively more research detailing the relationship between psychopathy and aggression for men than for women. However research has demonstrated sex differences in psychopathic personalities that tend to show that men score higher on primary psychopathy, with women slightly higher on secondary psychopathy and significantly higher on harm avoidance (e.g., Levenson et al., 1995). It could be that the cold and tough attitude that is emphasised more in the socialisation of boys means these traits are developed more. Psychopathy within female samples is less often examined, perhaps because of the sex differences that exist in criminal behavior and criminal populations. A popular measurement to study this personality type is the Psychopathy Checklist Revised (PCL-R: Hare, 2003), a clinical rating scale, comprising two correlated factors. Nicholls, Ogloff, Brink and Spidel (2008) examined whether Hare's PCL-R was an accurate tool for measuring women's risk of future offending and violent behavior. Their review of the literature details the consistently lower base rate of psychopathy in women than in men, and this applies within a diverse range of populations. It has led some researchers to doubt the measurement but it is a similar pattern found for other personality disorders as well as for criminality. The correlates of psychopathy within female samples seem to mirror those that are found in men, and

Hare and his colleagues propose that his measure would have predictive validity for women's anti-social behavior.

The utility of using self-report measures of psychopathy has been questioned, based on the potential for dishonesty, lack of insight and semantic aphasia (e.g., Lilienfeld & Fowler, 2006). Levenson et al. (1995) used students to develop a self-report measure representing both the primary and secondary psychopathy scales. Their results supported the need to assess these separately and supported the use of self-report scales to study psychopathy as a continuous dimension. Their measure has been shown to have validity for measuring psychopathic traits (e.g., Brinkley, Schmitt, Smith & Newman, 2001; Falkenbach, Poythress, Falki & Manchak, 2007). Lilienfeld and Fowler (2006) review the conceptual and methodological issues confronting the assessment of psychopathy using self-report measure and their concluding thoughts were "optimistic". They comment that the LSRP holds promise as a measure and exhibits the two-factor structure similar to the PCL-R. It demonstrates theoretically meaningful relations with self-report measures of sensation-seeking and anti-social behavior and it is linked to passive avoidance errors which are often regarded as a deficit within psychopathy.

The current study will use the LSRP to measure psychopathic traits within a student sample. Psychopathy is associated with higher levels of both general aggression and IPV, leading to the prediction that, in the current study, higher levels of both primary and secondary psychopathic traits will be associated with higher levels of IPV and same-sex aggression. Within Finkel's framework this will be viewed as an impelling force that is increasing the use of aggression. Furthermore, it is predicted that men will score higher on primary psychopathic traits and women higher on secondary psychopathic traits.

Aims

The aim of the present study was to examine the relationship between attachment styles and psychopathic traits, and both IPV and same-sex aggression. The study used Finkel's I^3 framework that structures the use of aggression around a series of instigating triggers, inhibiting forces and impelling forces, as a method of conceptualising these variables. This is a novel approach to studying risk factors for IPV and same-sex aggression, Finkel's model has not been used in this way before. It is expected that for the inhibiting factor being studied, that the higher the level of secure attachment, the less of both forms of aggression will be perpetrated. Furthermore, it is expected that of the impelling forces being studied, namely the insecure attachment styles and psychopathy, will be associated with higher levels of both forms of aggression. This prediction is the same for both primary and secondary psychopathy, it is expected that higher levels on both scales will be associated with more aggressive behaviour though the mechanisms are slightly different (i.e. an underactive BIS for primary and an overactive BAS for secondary psychopathy).

6.2 Method

6.2.1 Participants

A mixed-sex sample of 364 participants (241 women, 123 men) was used for the final analysis, aged between 16 and 71 years (M = 22.28, SD = 7.25). The men were significantly older (M = 25.78, SD = 10.88) than the women (M = 20.60, SD = 3.56): t (125.83) = 4.98, p < .001. The majority of the sample described themselves as "White" (89.1%) with 6.4% describing themselves as "Asian, Asian English or Asian British", 1.7% describing themselves as "Black, Black English or Black British" and 2.8% describing themselves as "Mixed Background". Most of the sample stated they had a current partner (63.3%), of whom 29.7% lived with their partner. Of those who had a current partner, 87.5% stated that their relationship was long term (of 6 months or more in duration) and of those who did not have a current partner, 66.2% indicated that their previous relationship had been long term. These were exclusively heterosexual relationships; homosexual participants were excluded due to the small number.

6.2.2 Measures

Alongside the aggression measures presented and described in Chapter 2 (pp. 58), participants' levels of psychopathic traits was measured by the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, et al., 1995). Participants were asked to reflect on a series of 26 statements and to indicate to what extent these apply to them, on a 4-point Likert scale, ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). Within this measure, there are two subscales representing "Primary Psychopathy" and "Secondary Psychopathy". The Primary Psychopathy scale had a $\propto$ value of .86, and a sample item is "I tell other people what they want to hear so they will do what I want them to do." The Secondary Psychopathy Scale had a $\propto$ value of .71 and a sample item is "I find myself in the same kind of trouble, time after time".

To measure attachment, participants completed the Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994). Participants were asked to read a list of statements and rate the extent to which these describe their feelings about close relationships, on a 5-point Likert Scale, ranging from 1 (Not at all like me) to 5 (Very much like me). Within this scale, there were four subscales: Fearful (e.g., "I find it difficult to depend on other people", $\propto$ = .75), Secure (e.g., "I find it easy to get emotionally close to others", $\propto$ = .47), Dismissing (e.g., "I am comfortable without close emotional relationships", $\propto$ = .56) and Preoccupied (e.g., I worry that others don't value me as much as I value them", $\propto$ = .37). The reliabilities for this measure were poor for the subscales. Consequently, Cronbach's alpha was rerun to examine if reliability improved if items were deleted, but this made little difference.

6.2.3. Procedure

The current study was advertised by e-mail and in undergraduate lectures. All participants completed hard copies of the questionnaire, unlike other studies in this thesis. To be consistent with these, there was no counterbalancing. Additionally, participants were required to be in a romantic relationship, or have been in a romantic relationship, of at least one month's duration; only heterosexual relationships were included.

6.3 Results

Sex Differences

A Multivariate Analysis of Covariance (MANCOVA) explored sex-differences on the three subscales of the adapted CTS (verbal, explosive and physical) towards partners whilst controlling for age (see Table 6.1). Crime statistics and empirical studies demonstrate the decrease of aggression with age (e.g., O'Leary, 2006; Walker & Richardson, 1998; Walker, Richardson & Green, 2000) therefore due to the older age of males in this sample, age was controlled for in this analysis. This was a subset of the large sample that was analysed in a previous chapter (Chapter 3, pp. 71); this is representative of the whole sample. The sex differences were included again to demonstrate the over-dispersed nature of the data set. (SPSS output for Chapter 6 can be found on p. 330 of the Appendix onwards)

Women were significantly more physically and verbally aggressive to their partners than were men. There was no significant sex difference found for the use of explosive acts. Additionally men were more physically aggressive towards same-sex others and used more explosive acts than women, but the differences for verbal aggression did not reach significance.

Table 6.1: Mean frequency of acts of physical, verbal aggression and explosive acts perpetrated against intimate partners and same-sex targets

	Male (*N*=123)	Female (*N*=241)	Row Mean (*N*=364)	*d* value[a]	*F* value[b]
IPV Physical[c]	.61 (2.29)	1.72 (3.98)	1.36 (3.55)	-.27	5.72*
IPV Verbal	7.33 (7.58)	13.29 (9.12)	11.35 (9.08)	-.58	25.73**
IPV Explosive	.50 (1.40)	.66 (1.63)	.61 (1.56)	-..05	.17
SSA Physical	1.58 (4.52)	.69 (2.70)	.98 (3.42)	.34	9.01*
SSA Verbal	8.36 (8.76)	7.14 (7.57)	7.55 (8.00)	.31	1.65
SSA Explosive	.44 (1.43)	.35 (1.23)	.38 (1.30)	.16	7.28*

** $p < .001$, * $p < .05$
[a] A positive *d* value indicates a higher male score, a negative value indicates a higher female score
[b] This is a one-way F value, controlling for age with df of (1, 362), with a multivariate *F* of (F (6, 347) = 13.01, $p < .001$)
[c] Maximum score = 48 for physical, 42 for verbal and 12 for explosive.

The next stage of the analysis involved looking at sex differences in the attachment and psychopathy measures, controlling for age as with previous analysis. Table 6.2 shows the means and standard deviations for these measures by sex:

Table 6.2: Mean score (and standard deviations) for the four attachment subscales and both psychopathy subscales by sex

	Male (N=123)	Female (N=241)	Row Mean (N=364)	d value[a]	F value[b]
Dismissing	3.18 (.65)	3.04 (.59)	3.09 (.61)	.21	3.49
Fearful	2.51 (.94)	2.67 (.83)	2.62 (.87)	-.18	2.48
Secure	3.47 (.65)	3.37 (.61)	3.41 (.62)	.12	1.03
Preoccupied	2.59 (.61)	2.79 (.62)	2.72 (.62)	-.27	2.48*
Primary Psychopathy	31.73 (8.35)	29.08 (7.34)	29.98 (7.78)	.51	20.23**
Secondary Psychopathy	20.20 (4.91)	20.49 (4.76)	20.39 (4.81)	-.04	.14

** $p < .001$, * $p < .05$
[a] A positive d value indicates a higher male score, a negative value indicates a higher female score, controlling for age
[b] These are univariate F values from a MANCOVA analysis controlling for age, df = (1, 352), Multivariate F: (F (6, 347) = 5.12, $p < .001$)
Note. Maximum score = 25, 20, 25, 20, 64 and 40 respectively

The table indicates that there were no significant sex differences on the dismissing, secure and the fearful subscales of the attachment measure. Women were found to score significantly higher on the preoccupied subscale. Additionally, men were found to have significantly more primary psychopathic traits whilst there was no significant sex difference for the secondary psychopathic traits scale.

Zero Order Correlations

Table 6.3 shows the zero order correlations for IPV, same-sex aggression, the attachment subscales and both psychopathy measures.

Table 6.3: Zero-order correlations between IPV, General Aggression, Attachment and Psychopathic Traits. [men/women] (N=364)

	SS perp	Secure Attach	Fearful Attach	Preocc Attach	Dismiss Attach	1º Psychopathy	2º Psychopathy
IPV perp	.355**a	-.059	.056	.075	.016	.149**	.252**
	[.625**/.229**]	[-.036/-.059]	[.004/.070]	[.072/.056]	[.012/.036]	[.272**/.121]	[.259**/.248**]
SS perp		-.092	.087	.033	.083	.293**	.259**
		[-.116/-.103]	[.137/.071]	[.084/.038]	[.030/.111]	[.289/.279**]	[.352**/.206**]
Secure Attach			-.666**	-.327**	-.242**	-.066	-.262**
			[-.706**/-.639**]	[-.346**/-.306**]	[-.170/-.303**]	[-.093/-.072]	[-.264**/-.258**]
Fearful Attach				.286**	.407	.061	.315**
				[.276**/.279**]	[.428**/.418**]	[.055/.091]	[.342**/.298**]
Pre Occ Attach					-.186	-.076	.132*
					[-.115/-.203**]	[-.079/-.038]	[.123/.132*]
Dissmiss Attach						.126*	.021
						[.056/.144*]	[-.013/.046]
1º Psychopathy							.451**
							[.430**/.481**]

[a] denotes that the correlation coefficients for men and women were significantly different

There were the predicted positive correlations between both forms of aggression and psychopathic traits – overall, and for both men and women. For primary psychopathy, there was a slightly different pattern shown for men and women. The association between IPV and primary psychopathy was higher (and significant) for male participants than for females; and the association between same-sex aggression and primary psychopathy was higher (and significant) for female but not for male participants. These relationships were all positive but not of great magnitude. Surprisingly, there were no significant relationships between either aggression measure and any of the attachment subscales. The attachment measures did show some significant associations with the secondary psychopathy measure, namely a negative association with secure attachment and positive relationships with both fearful and preoccupied attachment, although the latter was quite weak.

Negative Binomial Regression Analyses

Attachment and psychopathy were then regressed onto IPV and same-sex aggression perpetration for men and women separately. As with the previous chapters, the nature of the over-dispersed aggression data led to the choice of Negative Binomial Regression for this stage of the analysis.

Table 6.4 shows the regression of attachment and psychopathic traits onto IPV perpetration:

Table 6.4 Negative Binomial Regression of attachment and psychopathy scores on to IPV perpetration

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	-15.55	7.60	-30.45	-.65	4.18	.041
Secure Attach	1	.17	1.11	-2.01	2.35	.02	.879
Fearful Attach	1	-.27	.70	-1.64	1.10	.15	.699
Preocc Attach	1	1.64	.81	.05	3.22	4.10	.043
Dismiss Attach	1	1.19	.81	-.39	2.77	2.19	.139
1^o Psychopathy	1	.04	.04	-.04	.12	1.12	.289
2^o Psychopathy	1	.25	.09	.07	.44	7.19	.007*
Females:							
Intercept	1	-.274	2.35	-7.35	1.87	1.36	.244
Secure Attach	1	.08	.37	-.65	.81	.05	.832
Fearful Attach	1	.13	.29	-.43	.69	.20	.653
Preocc Attach	1	-.00	.26	-.51	.51	.00	.996
Dismiss Attach	1	.09	.28	.45	.63	.11	.746
1^o Psychopathy	1	.00	.02	-.05	.05	.00	.980
2^o Psychopathy	1	.11	.04	.03	.19	7.70	.006*

Table 6.4 shows the results for IPV perpetration. For men, secondary psychopathy and to a lesser extent preoccupied attachment were significant predictors of their use of IPV against their partner, whereas for women, only secondary psychopathy significantly predicted their use of IPV. The goodness fit statistic was at an acceptable level (deviance = .41 and .76 for men and women respectively). A further calculation was made from the regression results. Paternoster et al. (1998) present a formula to compare the magnitude of two regression coefficients, for example those for men and women. Using this formula indicated that there were no significant sex differences, between the predictors for men and women.

Table 6.5 shows the regression of attachment and psychopathic traits into same-sex aggression perpetration:

Table 6.5: Negative Binomial Regression of attachment and psychopathy scores on to same-sex aggression perpetration

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	-9.06	4.50	-17.87	-.24	4.06	.044
Secure Attach	1	.28	.74	-1.17	1.74	.15	.702
Fearful Attach	1	.34	.63	-.89	1.58	.30	.584
Preocc Attach	1	.43	.45	-.46	1.32	.91	.341
Dismiss Attach	1	-.12	.57	-1.24	.99	.05	.829
1º Psychopathy	1	.11	.06	.00	.22	3.98	.046*
2º Psychopathy	1	.14	.08	-.03	.30	2.76	.096
Females:							
Intercept	1	-15.18	4.48	-23.95	-6.41	11.50	.001
Secure Attach	1	.13	.51	-.87	1.12	.06	.806
Fearful Attach	1	-.35	.37	-1.07	.37	.89	.344
Preocc Attach	1	1.04	.54	-.02	2.10	3.68	.055
Dismiss Attach	1	.75	.50	-.24	.1.74	2.21	.137
1º Psychopathy	1	.17	.04	.10	.24	22.87	< .001**
2º Psychopathy	1	.19	.06	.08	.30	10.70	.001*

* significant at <.05 level, **significant at < .001 level

Table 6.5 shows the regression of attachment and psychopathy measures on to same-sex aggression perpetration. For men's perpetration, only primary psychopathy was a significant predictor, and this only just reached significance. Both primary and secondary psychopathy were significant predictors of women's use of same-sex aggression, and these were quite large effects, particularly for the primary scale. Again, the goodness fit statistic was at an acceptable level (deviance = .61 and .40 for men and women respectively). A further calculation was made from the regression results using Paternoster et al.'s (1998) formula to compare the magnitude of two regression coefficients. Using this formula indicated that there were no significant sex differences, between the predictors for men and women.

6.4 Discussion

The aim of this study was to explore the extent to which attachment patterns and psychopathic traits predict the perpetration of both IPV and same-sex aggression. This was framed within Finkel's I^3 model (2007) by presenting the variables as either inhibiting or impelling forces. Secure attachment was presented as an inhibiting force with insecure attachment, primary and secondary psychopathy presented as potential impelling forces. Finkel's framework suggests that if inhibiting forces are weak and impelling forces strong then aggression is more likely to occur.

The results of the current study found that psychopathy but not attachment had some predictive power for both IPV and same-sex aggression. Secondary psychopathy predicted both men's and women's IPV as well as women's same-sex aggression. Primary psychopathy was a significant predictor of both men's and women's use of same-sex aggression but was not predictive of IPV. The finding that psychopathy is associated with aggression is supported by many studies that have previously found the same association for general aggression (e.g., Pardini, 2006; Reidy et al., 2008) and for IPV (e.g., Huss & Langhinrichsen-Rohling, 2000). Furthermore, the finding that men scored significantly higher on the primary scale whereas there was no significant sex difference for the secondary psychopathy scale, also partially supports previous literature. Sex differences in psychopathic personalities have shown that men score higher on primary psychopathy and women slightly higher on secondary psychopathy (e.g., Levenson et al., 1995). Primary psychopathy is thought to be linked to an underactive BIS system, as discussed earlier, which is characterised by regulating behavior such as anxiety, something that is usually associated with a sex difference in the female direction, many studies have demonstrated women's greater levels of anxiety (e.g., Feingold, 1994). This could go some way to explaining why men are more likely to have this deficit demonstrated in primary psychopathic traits. Secondary psychopathy is more associated with impulsivity which is often found to be higher in men (e.g., Cross, Copping & Campbell, 2011) however there is often found to be no sex difference for self-control (e.g., Rutter & Hine, 2005) which may go some way to explaining the not significant finding here.

For attachment, only preoccupied attachment showed any predictive power, and this was only for IPV and only for men. The zero order correlations demonstrated no significant associations between attachment and aggression. This is in contrast to previous research. Much of the literature details an association between the insecure attachment types and the use of aggressive behavior with both same-sex others (e.g., Adamshick, 2010) and for IPV (e.g., Roberts & Noller, 1998; Schumacher, Slep & Heyman, 2001; Follingstad, Bradley, Helff & Laughlin, 2002; Kesner & McKenny, 1998; Lawson, 2008). The finding, both in the zero-order correlations and in the regression, of associations between aggression and the attachment measures was negligible. This shows that the lack of significant effects in the regression is not due to their being relayed via the psychopathy measures. Explanations for the null result here are speculative, but a possible explanation might involve the measurement of attachment. There is a view that attachment cannot be measured by self-report questionnaires or at the least that these measures could be improved (e.g., Fraley, Waller & Brennan, 2000). The reliability scores for the attachment measure in this study were overall very low. Studies in the past have discussed issues with self-report measures of attachment (see Mikulincer & Shaver, 2003; Sibley, Fischer & Liu, 2005).

An additional consideration involves both respondents' and their partners' attachment styles. A man or woman with high levels of attachment anxiety may respond to a relationship threat by trying to maintain proximity to protect their security; whereas someone with a more avoidant attachment style may respond by trying to enforce distance. Doumas et al. (2008) found this closeness-distance struggle, or "mispairing" as they labelled it, was associated with male and female IPV. The "mispairing" of attachment styles, whilst involving richer data, is harder to access as it requires data from both respondents and their partners: this was not thought to be a viable option for the current project, however should be a consideration for future research.

There are additionally those who believe that attachment theory in general could be improved to develop more testable explanations. Fraley and Shaver (2000) targeted some of the less well-developed aspects of attachment theory and remarked that one of the major erroneous assumptions is that all romantic relationships are attachment relationships. This is something that is not encompassed in any instrument that currently measures adult attachment. They further believe that there needs to be some testable explanations for the evolution of attachment in romantic relationships, since attachment patterns in the early developmental stages of a relationship will be different to those several years on. Attachment measures would be better if they embraced the prospect of this change.

The variables examined here were chosen to be consistent with Finkel's I^3 theory of IPV. This model provides a framework for studying risk factors of aggression in terms of being inhibiting or impelling forces to aggression. The stronger the impelling forces and the weaker the inhibiting forces, the more likely an aggressive act is to occur. The variables in the current study were presented as either inhibiting forces (secure attachment) or impelling forces (insecure attachment and psychopathy).

For this study, the strongest predictor of men's and women's same-sex aggression was scores on the primary psychopathy scale, whereas for IPV the strongest predictor of both men's and women's perpetration was their score on the secondary psychopathy scale. The results suggest that the impelling forces were more important for predicting the use of both IPV and same-sex aggression. The predictive power of psychopathic traits suggests that the impelling forces felt by those with these personality characteristics overrides any inhibiting forces present. Alternatively, rather than working specifically as an impelling force, psychopathic traits could actually work by reducing inhibiting/protective factors such as fear of the consequences or feeling empathy for another person. It is likely that both of these explanations are applicable, further study could examine this by gathering data on psychopathic traits as well as a broad range of inhibiting variables and empirically testing which holds the most predictive power. This could be done with mediational analysis that would allow interactions between the two types (i.e. impelling and inhibiting) to see which holds the most importance.

Possible reasons for the differences in predictors of IPV and same-sex aggression could reflect differences in the nature of both. Secondary psychopathy, the only significant predictor of men's and women's IPV perpetration, is characterised by impulsivity and a lack of responsibility perhaps representing the more impulsive nature of IPV. Finkel (2007) describes the link between the interdependence literature and the frequency of IPV; he argues that conflict is inevitable in close relationships, of which relationships with partners are often the closest. This may lead to people overriding their impulses. Same-sex aggression (and other aggression that occurs outside the home) is often instrumental in nature, whether to right a wrong, or gain revenge. Studies have demonstrated that instrumental beliefs about aggression have been found to significantly predict its use (e.g., Archer & Haigh, 1997a), however these beliefs (as opposed to expressive beliefs) are thought to be more context dependent and are found to be associated with same-sex aggression but not IPV (e.g., Archer & Haigh, 1999). It is clear to see how the callous and manipulative nature of primary psychopathy can be linked with same-sex aggression, something often characterised as instrumental in nature. This supports the possibility of IPV and same-sex aggression having different etiologies, however, this study revealed psychopathic traits as a whole have predictive power over both. It supports similarities and differences in the etiology of both types of aggression.

The similarity between men's and women's risk factors in this study is a noteworthy finding. The strongest predictors of IPV and same-sex aggression were the same for men and women indicating similar forces influencing their behavior. This fits with a gender neutral model, and it provides further contradictory evidence to the feminist view of IPV, which implies that men's and women's IPV is motivated by different influences. It suggests that models, such as the feminist theory of IPV, that are based on the assumption that men and women are motivated by wholly different things (e.g., power, control, dominance) are not necessarily accurate. This similarity between the two sexes points to the importance of understanding the personality and psychopathology of the perpetrators and that this understanding then informs future research and interventions.

Future directions for this research include exploring the possibility of developing a new attachment measure, which could include developing a study to examine both respondent's and their partner's behaviors – both for attachment and aggression. Furthermore, in terms of developing Finkel's model, a future research suggestion could involve exploring the possible interaction between self-control and secondary psychopathy scores. Both self-control and psychopathy, as demonstrated here, are associated with aggression with secondary psychopathy in particular being characterised by impulsivity and a lack of long-term goals. It is possible that a greater presence of these traits combined with a lack of self-control could both contribute to a greater risk of aggression, rather than it just being one or the other. Finkel's framework presents psychopathy as an impelling force and self-control as an inhibiting force with the possibility that an increase of the former and a lack of the latter will lead to aggressive behavior. A study that included both measures in the same sample would allow the most important predictor to be determined; it may be that there are sex and aggression specific effects.

In conclusion, the associations found between aggression and both attachment and psychopathy have provided mixed support for previous studies. Attachment was not found to be related to either type of aggression, which was surprising considering previous evidence of a relationship, however there were very low reliabilities on the measure here. Psychopathy was found to be associated with IPV and same-sex aggression, something that is supported by the previous literature. The results support the study of IPV and same-sex aggression together and within the same theoretical framework. Despite there being differences between the two types of aggression, the similarities also suggest that IPV does not have an entirely different etiology to same-sex aggression. Similar associations between aggression and the variables studied were found for men and women. It is important to see within Finkel's framework the importance of the inhibiting forces as well as the impelling ones. This will be examined in more detail in the next chapter.

Chapter 7: Self-Control, Empathy, Anxiety and Perceived Consequences

7.1 Introduction

The majority of the evidence described so far has explored factors that are associated with the greater use of aggression. Several individual difference variables have been found to be associated with the greater use of aggression, both generally and within relationships. These are varied but include impulsivity (e.g., Campbell, 2006), personality disorder (e.g., Berman, et al., 1998), anxiety (e.g., Gratz, et al., 2007), criminality (e.g., Babcock et al. 2003) and growing up in an abusive home (Stith, et al., 2000).

Finkel (2007) proposed that a more complete understanding of IPV would emerge if scientists devoted more attention to investigating and distinguishing between experiencing violent impulses and abstaining from perpetrating violent acts. It was this that led him to develop his theoretical model ("I^3 theory") that asserted the chance of IPV perpetration is not only based on experiencing strong violence-impelling forces but also experiencing weak violence-inhibiting forces. Finkel posited that many people experience these strong impelling forces but their inhibitory forces stop them from actually being violent. Therefore he suggested that a more successful intervention may involve helping people develop these inhibitory forces rather than trying to train them not to experience violent impulses in the first place.

The previous chapter (Chapter 6; pp. 111) explored the links between two other such variables that are found to be associated with higher aggression, namely attachment patterns and psychopathic traits. These variables were presented as either inhibiting forces (secure attachment) or impelling forces (insecure attachment and psychopathy). The current study further investigates the possible protective power of several variables focusing on inhibiting forces. The following variables will be examined: empathy, self-control, likelihood of physical retaliation, and anxiety: they are now introduced in turn.

Empathy

Jolliffe and Farrington (2004) argued that a comprehensive definition of empathy should involve the acknowledgement that it is both a cognitive process and an affective capacity. Cognitive empathy is thought to be centred on the ability to understand the emotions of others whereas affective empathy is about experiencing another person's emotions. In terms of Finkel's framework, it is thought that the ability to understand and experience the emotions of others would act as an inhibiting force over an aggressive impulse. To understand the pain and upset that the potential aggression could create, or to experience it vicariously, should reduce the possibility of it occurring.

Eisenberg and Lennon (1983) described the stereotypic perception that the tendency to empathise is one of the characteristics that is more often attributed to females. Their review of sex differences in empathy did indeed find a large sex difference in favour of women, but mainly when questionnaire-based designs were used. This difference tended to disappear when any sort of observation or other method was used. Many other studies have found this sex difference with self-report measures, and it seems quite a robust finding when this design issue is taken into account (e.g., Baron-Cohen & Wheelwright, 2004). Nettle (2007) empirically tested Baron-Cohen's "empathizing-systemising" theory of psychological sex differences that finds women are higher than men in empathizing and men higher than women in systemizing. Empathizing is more a drive to identify and understand the emotions of another person where as systemising is more to analyse and explore a system and understand the workings behind it. Nettle's findings supported this sex differences.

Miller and Eisenberg (1988) performed a meta-analysis and found an overall negative relationship between empathy and aggressive behavior – this was stronger for questionnaire-based studies. They found some sex differences amongst the studies but concluded overall that the relationship between empathy and aggression was similar for both sexes. This link is one that has often been replicated with both IPV and same-sex aggression (e.g., Kaukiainen et al., 1999; Gini, Albiero, Benelli & Altoè, 2007; Covell, Huss & Langhinrichsen-Rohling, 2007).

In a later review, Jolliffe and Farrington (2004) examined the role of empathy in general offending behavior: they concluded that although the two are negatively related, the relationship appears to be more complex than this. For example, cognitive empathy has a stronger negative relationship with offending than does affective empathy. They also noted that violent offenders have relatively low empathy. Unfortunately, due to a lack of available studies including women offenders, gender was not included in this analysis. The authors do note however, the importance of investigating aggression and empathy for both sexes, especially in the light of the robust sex differences that are found. They later expanded on these conclusions in a study using adolescents' self-reported offending in a classroom setting, rather than incarcerated individuals (Jolliffe & Farrington, 2007). They found that for violent offenses only affective empathy was lower in these individuals, compared to those who were not violent; this finding was for both men and women. These studies suggest the relatively robust finding of a negative relationship between empathy and offending can be complicated by samples and measurement type.

Clements, Holtzworth-Munroe, Schweinle and Ickes (2007) examined empathic accuracy in men and women who were in violent relationships (and had perpetrated IPV) compared with those who were in non-violent relationships. They found that violent men were significantly less accurate at inferring their female partner's thoughts and feelings than were the non-violent men. Interestingly, this difference was not replicated for the women in this sample, but because this was contradictory to previous findings (e.g., Anglin & Holtzworth-Munroe, 1997) that suggest violent women may also exhibit poorer performance in "marital situations" (p.370), the authors believed that this issue required further study. It is possible, therefore, that the protective power of empathy may partially explain the sex differences found in violence against same-sex others and may also explain the diminution of men's violence from same-sex to partner violence, as men would be expected to have more empathy for their intimate partner than a for same-sex other. The same would not hold for women's IPV, as aggression has been found to increase from same-sex other to intimate partner. For the current study it was predicted that women would have higher levels of empathy than men and that lower levels of empathy would be associated with both IPV and same-sex aggression perpetration.

Self-Control

Gottfredson and Hirschi (1995) conceptualise self-control as being a combination of different dispositions such as impulsivity, risk seeking and carelessness. They described their theory of crime as being based on a lack of self-control. Criminal or deviant behavior always produces an immediate sense of gratification and benefit, but has many long-term costs (Avahame, 1998). This suggests that the possible problems and consequences are of little relevance and not effective deterrents to their criminal behavior. Gottfredson and Hirschi (1995) described this “here and now” attitude as a lack of self-control. To apply this specifically to aggression, the short-term catharsis and benefit of hitting or being aggressive to someone outweighs the thought of social and legal ramifications as well as potential reprisal by the victim. People with low self-control are not analytical and so may not consider the possibility of being hurt or hurting others – this could be seen to be related to empathy and an awareness of others. There is a large body of literature that finds an association between self-control and aggression. These include studies that have looked specifically at self-control or conversely those that have examined impulsivity. The following are a selected example.

Stanford, Houston, Villemarette-Pitman, and Greve (2003) examined groups of premeditated aggressive psychiatric outpatients and a control group of normal, nonaggressive members of the community, on a number of personality and neuropsychological measures. They found that impulsivity levels were significantly higher in the premeditated group. This suggests that this group were not merely responding to a lack of inhibiting variables in the context of Finkel's framework. Rather their impelling forces, perhaps the need to control or seek revenge, was motivating their aggression. Archer and Southall (2009) investigated whether a lack of self-control or the perceived costs and benefits of aggression provide a better predictor of bullying behavior and direct aggression perpetration in male prisoners. They found that both were associated with the perpetration of direct aggression and bullying behavior by prisoners. Thus a lack of self-control is associated with bullying behavior and direct aggression in these inmate samples. Archer, Fernández-Fuertes and Thanzami (2010) performed a follow up study examining cost-benefits analysis and self-control with Spanish adolescents’ dating aggression and found that self-control was negatively associated with IPV perpetration. Archer and Webb (2006) found that impulsiveness correlated at a low but consistent level with all four of the Buss-Perry Aggression Questionnaire (BPAQ) sub-scales, namely physical, verbal, anger and hostility. This supports to some extent the link between the two: however, in multiple regression analyses, impulsivity only predicted anger. Furthermore, Campbell (2006) in her comprehensive review on the possible mediators of the sex difference in aggression discussed the numerous studies that have investigated Gottfredson and Hirschi's (1995) conceptualisation of self-control and have consistently found the negative association with aggression. These studies combined detail the robust negative relationship found between direct/general aggression and self-control.

Whilst there has been much research on impulsivity and self-control for same-sex aggression, there has been less that specifically measured IPV (e.g Archer & Webb, 2006). To explore his I^3 framework, Finkel et al. (2009) examined four variables that they believed played an important role in determining whether aggressive impulses were acted on in terms of IPV perpetration. One such important factor was self-control: those who perpetrated IPV in this study had significantly lower levels of dispositional self-control. Another study found that impulsivity was significantly more common amongst those who perpetrate this type of violence, which was more common amongst the males in their sample (Field, Caetano & Nelson, 2004). Together these findings suggest that those with lower self control are more likely to be aggressive for both IPV and same-sex aggression.

Evolutionary theory, specifically the theory of parental investment, would predict that higher risk taking would occur in men and less so in women due to their lower threshold for fear (Campbell, 1999). There are many studies that detail men's higher levels of impulsivity (e.g., Hadiyono & Kahn, 2001; Tiet et al., 2001; Moffit et al., 2001) but there are also studies that suggest there are no sex differences in self-control (e.g., Rutter & Hine, 2005; Feingold, 1994). Cross et al., (2011) performed a meta-analysis on 741 effect sizes from 277 studies. The authors highlighted the three theoretical distinctions within impulsivity and framed their analysis around it, these being namely; reward hypersensitivity, punishment hypersensitivity and inadequate effortful control. They found a sex difference in the direction of men for sensation seeking (both on questionnaires and behavioral tasks), risk-taking and inadequate effortful control. They found sex differences in favour of women for punishment sensitivity. There were no sex differences found on reward sensitivity. This meta-analysis pointed towards the more complex nature of sex differences in impulsivity when the theoretical distinctions are highlighted.

Other studies have found mixed results in terms of sex difference in impulsivity and self-control. Rutter and Hine (2005) investigated sex differences in three types of workplace aggression, namely, expressions of hostility, obstructionism and overt aggression and found that self-control was a significant predictor of all three types of behavior. However, there were no significant sex differences found. Rutter and Hine suggest that the differences often found in children (e.g., Kendal & Wilcox, 1979) are weakened by biological maturation and socialisation processes. Campbell (2006) argues reactive inhibition and effortful control are the developmental stages before self-control/impulsivity is experienced as an adult. For both these early stages there is a female advantage and mixed results for adults. She further adds in her review that the different findings on sex differences could be due to measurement issues in trying to draw conclusions across studies using different measures.

There are many different measures of self-control and impulsivity used, Tangney, Baumeister and Boone’s (2004) used a comprehensive study to design and test their new measure as well as aiming to demonstrate the psychological benefits and advantages of self-control. Their large scale study involved developing their measure and studying it alongside other constructs such as self-esteem, alcohol abuse, empathy, forgiveness and maladaptive responses (including physical, verbal, displaced aggression and anger). They found self-control was negatively correlated with outwardly directed aggression. They further note that whilst other studies have suggested negative effects of high self-control (e.g., being over-controlled), they conclude that their results offer "no support for the view that high levels of self-control are bad" (p. 313). Studies using this scale have found it negatively associated with aggression (e.g., Archer & Southall, 2009). Archer et al., (2010) used the measure with a sample of young Indian men and a sample of Spanish adolescents. They found it as negatively associated with same-sex aggression, IPV and also that there were no sex differences in self-control. This measure was chosen for the current study due to the previous findings; their conceptualisation of self-control is most like Cross et al.'s (2011) "effortful control" distinction from their meta-analysis.

With regards the current study, it was expected that levels of self-control, as measured by Tangney et al.'s (2004) scale, would be associated with use of both partner and general aggression, explicitly that a higher level of self-control would act as an inhibiting factor and will mean lower levels of both types of aggression. This study adds to the existing literature by examining the predictive power of self-control in the context of other inhibiting variables. In terms of sex differences, the mixed evidence has led to the expectation that there would be no sex difference in levels of self-control.

Perceived Likelihood of Physical Retaliation

The rationale for studying this is that people who perceive more chance of a physical retaliation for their aggression would be less likely to use it. Previous studies of the sex differences in IPV and same-sex aggression indicate the likelihood of there being sex differences in the perception of retaliation, at least for those who have adequate self-control. For example Cross et al.'s (2011) meta analysis found that women were consistently more punishment sensitive (d = -.33). The current study examined retaliation specifically in terms of a physical retaliation.

Eagly and Steffen (1986) argue that sex roles may discourage women from placing themselves in physical jeopardy whereas men, who are perhaps more likely to enter more dangerous workplaces such as the military, may have learnt to disregard possible harm to themselves. Consequently, Eagly and Steffen posit, the magnitude of sex differences in aggression could be due to women perceiving more physical danger if they were to be physically aggressive to anyone. Their meta-analysis found that, compared to women, men believed that their aggressive behavior would cause them less guilt and anxiety about others' suffering as well as less harm to others. Women believed that their aggressive behavior would mean that they were putting themselves in danger. This analysis was only for general aggression, not IPV however. The evidence used was mainly experimental and mostly from laboratory studies.

In contrast to this view, Campbell (1999) argued that biological factors (e.g., foetal gestation and subsequent lactation) and infant dependence mean that the mother is more critical to an infants' survival than is the father. For the infant to survive a mother must be cautious with her own life; this has produced an evolved psychology that means that females should be less likely to perpetrate forms of physical aggression as these pose a risk of injury and endangering safety, leading women to weight the cost of physical and direct aggression more highly than men. This in turn would lead to women experiencing higher levels of fear in situations that pose a physical threat.

In keeping with this idea, Harris and Miller (2000) found a greater perceived danger for women than for men in a study that required participants to evaluate potentially dangerous scenarios. Furthermore, they found that participants also perceived greater danger from strangers than from intimates. This would fit with the pattern of sex differences found for same-sex aggression: women are much less likely to be aggressive in this situation outside the home. Within the home however, women are just as likely to be physically aggressive, if not more so, than men. It could be that due to social norms that condemn violence against women, women feel that they could strike out at their partner anticipating that he would not strike them back: hence there would be no actual physical danger. Consistent with this explanation Miller and Simpson (1991) found that, in their sample of undergraduates, men perceived greater formal and informal social sanctions if they used violence against their female partners. Women's violence was perceived as trivial and unlikely to cause any injury.

The present study assessed the perceived likelihood of a physical retaliation when using physical aggression against a partner or against a same-sex other. It was expected that those who perceived that physical retaliation would be a consequence of their physical aggression would be less likely to be physically aggressive, both to their partner and to a same-sex other, subject to sex-specific effects, namely that men may perceive a greater chance of retaliation when aggressing against a female partner and women may perceive more for a same-sex other.

Anxiety

Anxiety Sensitivity (AS) has been defined as a fear of anxiety-related sensations (Lang, Kennedy & Stein, 2002). A lot of the research on anxiety and IPV has focused on anxiety as a harmful consequence of the incidents rather than assessing the effects it might have as an antecedent to aggression. For example, Pico-Alfonso et al. (2006) assessed the impact of men's IPV on their female partners' mental health, including state anxiety. They found that the severity of state anxiety was high in women who had been abused and had depressive or other related symptoms.

In terms of sex differences, many studies have found that, overall, women self report being more anxious than men do (e.g., Feingold, 1994; Lewinsohn et al. 1998) Retrospective data suggests that sex differences start early in childhood, and that by age 6, girls are already twice as likely to have experienced anxiety than boys. .

Studies of anxiety and aggression typically reveal a positive relationship with both victimization (e.g., Kashani, Deuser & Reid, 1991; Jouriles, McDonald, Garrido, Rosenfield, & Brown, 2005) and perpetration (e.g., Taft et al., 2006). Much of the research assesses anxiety as a consequence of aggression. For example, Stuart, Moore, Gordon, Ramsey, and Kahler (2006) studied the psychopathology of women who had been arrested for IPV. They found that these women scored highly on measures of Post Traumatic Stress Disorder (PTSD), depression and General Anxiety Disorder (GAD). In the current study, whether anxiety could act as a protective factor was explored: if people are high in anxiety they may avoid confrontation and aggression and so relationships with perpetration, rather than victimization, were measured. Additionally, it was expected that the current study would replicate the previous findings that women reported being more anxious than men (e.g., Lewinsohn, et al., 1998).

Aims

The aim of this study was to examine the potential inhibiting or protective effects of empathy, self-control, perceived physical retaliation of aggression, and anxiety, on the use of IPV and same-sex aggression using Finkel's framework. This includes exploring sex differences in, and sex-specific effects of, the variables. It was predicted that low levels of these variables would be associated with the use of both types of aggression being studied.

7.2 Method

7.2.1 Participants

These were a mixed-sex sample of 395 participants for the final analysis (246 women, 149 men), aged between 18 to 63 years (M = 24.04; SD = 8.37). On average, the men were significantly older (M = 27.07, SD = 11.46) than the women (M = 22.20, SD = 4.95): t (181.93) = 4.92, p < .001. The majority of the sample described themselves as "White" (93.4%) with 3% describing themselves as "Asian, Asian English or Asian British", 0.8% describing themselves as "Black, Black English or Black British"; 2.8% describing themselves as "other". Most of the sample (62.4%) had a current partner and 38.9% lived with them. Of those with a current partner, 84.2% stated that their relationship was long-term (over 6 months). Of those who did not have a current partner, 42.3% indicated that their most recent previous relationship had been long-term. These were exclusively heterosexual relationships; homosexual participants were excluded due to the small number.

7.2.2 Measures

Measures used here included the aggression measures, the Likelihood of Physical Retaliation (LPR) scale and the Dispositional Anxiety Measure (DAM) already presented and described in an earlier chapter (see Chapter 2, pp. 58). Empathy was measured using the Interpersonal Reactivity Index (IRI, Davis, 1980), which asks participants to rate how much they agree with a number of statements about their thoughts and feelings. They were asked to rate on a Likert scale of 0 (doesn't describe me at all) to 4 (describes me perfectly). In the present study, this scale had a Cronbach's α of .82 for the 28 items that were combined.

Self-control was measured using the Tangney, et al. (2004) scale, which asks participants to rate a list of 36 statements in terms of how well each one describes them, from 1 (not at all) to 5 (very much). For the present study, this scale had a Cronbach's α of .85 for the 36 items.

7.2.3. Procedure

The current study was advertised to undergraduate students by e-mail and in lectures. Questionnaires were available for completion either online or by hard copy (196 and 200 respectively). Due to the partial online nature of the study counterbalancing measures were not taken. All participants were required to be in a romantic relationship or to have had a romantic relationship of at least one month's duration: only heterosexual relationships were included.

7.3. Results

Sex-differences in the frequency of aggression

A Multivariate Analysis of Covariance (MANCOVA) explored sex-differences on the three subscales of the adapted CTS (verbal, explosive and physical) towards partners whilst controlling for age (see Table 7.1). Crime statistics and empirical studies demonstrate the decrease of aggression with age (e.g., O'Leary, 2006) therefore due to the older males in this sample, age was controlled for during analysis. Furthermore, this was a subset of the combined sample analysed in a previous chapter (Chapter 3, pp. 71), this is representative of the whole sample. The sex differences were included again to demonstrate the over-dispersed nature of the data set.

Women were significantly more verbally aggressive towards a partner than men were, but the sexes did not differ for physical aggression or explosive acts. For same-sex aggression, men perpetrated significantly more verbal and physical aggression as well as explosive acts, than women. Further analysis in this study used only the physically aggressive scale, verbal aggression and explosive acts were not further analysed. (SPSS output for Chapter 7 can be found on p. 349 of the Appendix onwards)

Table 7.1: Means and (standard deviations), *F* and *d* values (controlling for age) for CTS Verbal, Explosive and Physical Aggression Scores for IPV and Same-Sex Aggression Perpetration

	Male (*n*=149)	Female (*n*=246)	Row Mean (*n*=395)	*d* value[a]	*F* Value[b]
IPV Physical[c]	.78 (3.29)	1.60 (3.66)	1.29 (3.54)	-.17	2.78
IPV Verbal	7.22 (7.53)	11.09 (9.34)	9.63 (8.90)	-.38	13.66**
IPV Explosive	.40 (1.25)	.63 (1.60)	.54 (1.48)	-.12	1.54
SSA Physical	2.02 (5.28)	.93 (3.88)	1.34 (4.48)	.31	9.29*
SSA Verbal	7.04 (8.10)	6.50 (7.65)	6.70 (7.82)	.23	5.01*
SSA Explosive	.47 (1.47)	.25 (1.09)	.33 (1.25)	.23	4.92*

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

[a] A positive *d* value indicates a higher male score, a negative value indicates a higher female score

[b] This is a one-way univariate *F* value with df of 1, 393, controlling for age. Multivariate *F*: (F (6, 387) = 5.82, $p < .001$)

Maximum score = 48 for physical, 42 for verbal and 12 for explosive.

Sex-differences in the frequency of inhibiting variables

For the inhibiting variables, there was a significant sex difference for anxiety, with women rating being more anxious than men (see Table 7.2). There was no significant sex difference in self-control but women reported higher levels of empathy than men. For the LPR same-sex aggression scale, men reported a higher likelihood than women that they would experience a physical retaliation if they were physically aggressive towards another man. Men also reported being much more likely than women to believe that if they struck out against their partner, a physical response would ensue.

Table 7.2: Mean scores (and standard deviations) for Situationally-Inhibiting Variables by Sex in a MANCOVA

	Male	Female	Row Mean	*d* value[a]	*F* value[b]
Empathy	57.93	65.82	62.84	-.69	43.55**
	(11.32)	(10.78)	(11.62)		
Self-Control	122.22	109.59	110.58	.02	.05
	(21.03)	(17.19)	(18.75)		
LPR Partner	8.68	4.50	6.08	1.07	106.67**
	(4.16)	(3.61)	(4.33)		
LPR SS	11.25	7.83	9.12	.81	6.06**
	(3.84)	(4.63)	(4.65)		
Anxiety	15.32	20.30	18.42	-.58	31.14**
	(7.21)	(7.50)	(7.77)		

** $p < .001$,

[a] A positive *d* value indicates a higher male score, a negative value indicates a higher female score, controlling for age

[b] This is a one-way F value with df of (1, 392) controlling for age Multivariate *F*: (F (5, 388) = 38.97, $p < .001$)

Zero-order Correlations

Table 7.3 shows the zero-order correlations between the measures of aggression (both IPV and same-sex aggression) and the situationally-inhibiting variables.

Table 7.3: Zero-order correlations between IPV, Same-Sex Aggression, Empathy, Anxiety, Self-Control and Perceived Negative Consequences [men/women] (N=395)

	SSA perp	Anxiety	Empathy	Self Control	LPR partner	LPR same-sex
IPV perp	.475**a	.132**	.081	-.187**	.000	-.018
	[.632**/.411*]	[.123/.090]	[.005/.074]	[-.218**/-.166**]	[.089/.038]	[.039/.019]
SS perp		.084	-.036	-.259**a	.159*	.022
		[.229**/.050]	[-.024/.027]	[-.404**/-.137*]	[.133/.103]	[.061/-.079]
Anxiety			.431	-.348**	-.007	-.022
			[.345**/.381**]	[-.413**/-.306**]	[.191*/.146*]	[.144/.081]
Empathy				-.068	-0.87	-.153**
				[-.065/-.032]	[-.014/.134*]	[-.086/-.018]
Self Control					-.075	-.034
					[-.137/-.119]	[-.018/-.089]
LPR partner						.558**
						[.548**/.445**]

** p < .01, * p < .05; Overall [men/women]
[a] denotes that the correlation coefficients for men and women were significantly different

IPV was significantly correlated with self-control and anxiety but not empathy or the LPR measure. Same-sex aggression was also significantly correlated with self-control. Table 7.3 also shows the separate correlations for men and women, which differed only slightly from the overall correlations. For IPV, the relationship with self-control was significant for both sexes. The positive relationship with anxiety became non-significant when examined by sex. For same-sex aggression perpetration, the relationship with self-control was again significant for both sexes. A significant, positive relationship also occurred with anxiety, but only for men.

Negative Binomial Regression Analysis

In keeping with the previous chapters, the preferred analytical technique to accommodate the over-dispersed data on the aggression measures (Table 7.1) is negative binomial regression (Gardner, et al., 1995; Hilbe, 2007; Hutchinson & Holtman, 2005). This was used to analyze the association between physical aggression and the inhibiting variables.

Perceived negative consequences, anxiety, empathy and self-control were regressed onto IPV perpetration and then to same-sex aggression perpetration separately for men and women. Tables 7.4 and 7.5 show the results of the regressions:

Table 7.4: Negative Binomial Regression of same-sex aggression onto self-control, empathy, anxiety and perceived likelihood of physical retaliation, separately for males and females

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	12.91	3.47	6.10	19.72	13.80	<.001
Self-Control	1	-.09	.02	-.13	-.05	19.84	<.001*
LPR $_{\text{same-sex}}$	1	.05	.11	-.16	.25	.19	.666
Anxiety	1	.07	.07	-.06	.20	1.27	.259
Empathy	1	-.04	.04	-.11	.04	.98	.321
Females:							
Intercept	1	4.59	2.37	-.05	9.23	3.75	.053
Self-Control	1	-.03	.02	-.06	-.00	4.59	.032*
LPR $_{\text{same-sex}}$	1	-.08	.05	-.18	.03	2.12	.146
Anxiety	1	.00	.04	-.07	.08	.01	.921
Empathy	1	.01	.02	-.04	.06	.07	.795

* significant at <.05 level,

Table 7.5: Negative binomial Regression of IPV onto self-control, empathy, anxiety and perceived likelihood of physical retaliation

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	3.94	2.27	-.51	8.39	3.01	.083
Self-Control	1	-.03	.01	-.06	-.00	4.89	.027*
LPR $_{partner}$	1	.04	.06	-.08	.17	.46	.499
Anxiety	1	.02	.04	-.07	.10	.17	.681
Empathy	1	-.01	.02	-.06	.04	.07	.794
Females:							
Intercept	1	3.75	2.18	-.53	8.03	2.95	.086
Self-Control	1	-.03	.01	-.06	-.00	5.67	.017*
LPR $_{partner}$	1	.01	.07	-.12	.14	.02	.896
Anxiety	1	.01	.04	-.06	.08	.05	.820
Empathy	1	.02	.02	-.03	.07	.81	.369

Tables 7.4 and 7.5 show that self-control was the only significant predictor for both IPV and same-sex aggression perpetration. Both analyses revealed a goodness of fit statistics that was at an acceptable level for men (deviance = .67 for same-sex aggression and .44 for IPV) and women (deviance = .26 for same-sex aggression and .72 for IPV). A further calculation was made from the regression results. Paternoster, et al. (1998) present a formula to compare the magnitude of two regression coefficients, for example those for men and women. Using this formula indicated that there were no significant sex differences, between the predictors for men and women.

7.4. Discussion

The aim of this study was to explore the importance of several inhibiting factors in predicting both IPV and same-sex aggression for men and women, presented within

Finkel's I^3 framework. The current study found that anxiety and self-control were associated with both IPV and same-sex aggression perpetration in the zero-order correlations, but only self-control remained significant in the regression analysis. This was the same for both men and women, and only self-control remained a significant predictor of both IPV and same-sex aggression.

The general theory of crime (Gottfredson & Hirschi, 1995) suggests the "here and now" attitude of criminal behavior and the immediate gratification that results can be seen as a general lack of self-control (e.g., Campbell, 2006). Furthermore, it supports existing studies demonstrating self-control and its predictive power over aggression both for IPV (e.g., Finkel et al., 2009; Archer, et al., 2010), same-sex aggression (e.g., Archer & Southall, 2007) and workplace aggression (e.g., Rutter & Hine, 2005).

The variables presented in the current study were considered within Finkel's I^3 framework of the study of IPV. Finkel's work frames IPV perpetration as being the consequences of strong impelling forces and weak inhibiting forces, the combination of the two being the reason aggressive impulses turn into aggressive behavior. The current study focused specifically on inhibiting forces and whether the weakness of these was associated with aggression; they were found to be so. However, only self-control remained a significant predictor of both IPV and same-sex aggression, for both men and women. It could be that self-control underlies the other inhibiting variables, and these work through, or are mediated by it. Finkel's (2007) model stresses the importance of studying inhibiting and impelling forces, with the latter often encompassing the most research attention. The results of the current study support this assertion of the importance of inhibiting variables with self-control being a strong and consistent predictor of aggression for both men and women.

Women self reported higher anxiety and empathy than men, whereas men reported a higher expectation of a physical retaliation to their own aggression (for both IPV and same-sex aggression) than women. There were no sex differences for self-control. The sex difference for empathy was expected and this supports many previous studies (e.g., Baron-Cohen & Wheelwright, 2004; Nettle, 2007). Similarly, the expected sex difference was found for anxiety, in accordance with previous findings (e.g., Lewinsohn et al., 1998). The lack of sex difference in self-control supports the prediction made earlier. Some studies have found a sex difference, usually with men scoring lower on self-control or higher on impulsivity (e.g., Moffitt et al., 2001). However, Cross et al.'s (2011) meta-analysis stressed that men and women scored differently on the different theoretical underpinnings of impulsivity. Other studies that have used the Tangney et al. (2004) measure of self-control (most like the effortful control distinction in Cross et al.'s meta-analysis) and also found no sex difference (e.g., Archer et al., 2010), as with the current study. Rutter and Hine (2005) in particular believe that socialisation and biological factors can alter the sex difference that is usually found with younger children (e.g., Kendall & Wilcox, 1979; Gupta & Singh, 2001) whereas other studies suggest that the measurement used can affect the presence or absence of sex differences in self-control and impulsivity (e.g., Cross et al., 2011; Campbell, 2006). It is likely that because several different measures are used to assess this concept, which varies from self-control through many different types of impulsivity, that this masks the underlying findings.

It was predicted that men would be more likely than women to perceive a physical retaliation for their IPV perpetration and women would perceive a more likely physical retaliation for their same-sex aggression perpetration. Men anticipated physical retaliation as more likely than women for both striking their partner but also striking a same-sex other, which did not support the prediction. It was predicted that women would have lower thresholds for fear (Campbell, 1999) and women would be more likely to be aware of the potential negative consequences of their aggression to a same-sex other. This could be explained by participants using past experiences to make judgements about this, or simply that men are more likely to expect physical retaliation if they hit a man, than a women is if she hits a woman. It is most likely that it is affected by their socialisation experiences through childhood and into adulthood that helps men develop an awareness of how respective opponents would react. As children, boys would be more likely than girls to engage in aggressive behavior and play (e.g., Benenson et al., 2007) and this would then socialise boys (outside of romantic relationships) into learning that men are more aggressive than women.

The lack of significant relationships between aggression and the other inhibiting variables is not in accord with other studies, however the current study did look at the combination of variables rather than individually. In terms of empathy and aggression, much of the literature (e.g., Miller & Eisenberg, 1988) has found a negative relationship between empathy and offending (Jolliffe & Farrington, 2004) and empathy and aggression (e.g., Kaukiainen et al., 1999; Gini, et al., 2007). Fernandez and Marshall (2003) suggest that an offenders' level of empathy could be situation-specific. People who become very aroused through stress often use aggression, as shown in several studies (e.g., Verona, Patrick & Lang, 2002; Verona & Sullivan, 2008). In this case, other emotions, such as anger and frustration, could work to overcome the inhibiting power of empathy within a heated argument, which means that it does not protect them from lashing out. Future research should seek to investigate the impact of arousal or threat on empathy to help understand this further.

It was predicted that higher levels of anxiety would contribute towards inhibiting people from using aggression. This was not found in the current study with anxiety having little predictive power. There are some previous studies examining its relationship with aggression perpetration: for example, Wasserman, McReynolds, Ko, Katz and Carpenter (2005) reported that violent girls were three to five times more likely to report an anxiety disorder than were non-violent girls. It is surprising, considering the sex difference in anxiety found in this study, that anxiety was only significantly correlated with same-sex aggression perpetration for men. Considering the link between anxiety and victimization, it could be related to their own same-sex aggression victimization or to IPV victimization, which were not measured in this study. Chapter 4 (pp. 77) of this project already demonstrated the close relationships between IPV perpetration and victimization.

The current study has a potential limitation associated with the two novel measures that were designed for it. Both need further development and analyses to confirm the validity of the measures. The new measure of dispositional anxiety was created because other measures of anxiety were not widely available for online use. Another limitation was that the present analyses only involved perpetration measures. Whilst this is a limitation of the project in general, it could be a specific issue in the current study for variables such as anxiety, as any associations found with aggression may have been primarily related to victimization (and so due to its high correlation with perpetration, it could also be related to perpetration). The results for anxiety could be explained by the perpetrators also being victims; whether in the past or currently within a mutually violent relationship, since many studies demonstrate the mutuality in IPV (e.g., Archer et al., 2010; Gray & Foshee, 1997; Próspero & Kim, 2009; Straus &

Ramirez, 2007). However, having found only one correlation with anxiety in this study, it is unlikely that it would have had a significant effect on the results.

In conclusion, the results of the current study, specifically the similarity between the associations for IPV and same-sex aggression, as well as between men and women, support the study of IPV within the context of aggression, rather than studying it separately within the context of IPV. Furthermore, there is the suggestion that the same predictor, notably self-control, is the main variable associated with aggression used by both sexes, and to both opponents. This self-control is not consistent with self-defence as an explanation of women's aggression, as this would be related to the opponents' behavior rather than a person's general level of self-control. In terms of Finkel's I^3 model, only one of the four potential inhibiting variables studied was consistently predictive of aggression. It may in fact be the case that self-control underlies the other inhibiting variables studied: this will need further examination. The next chapter (Chapter 8 pp. 164) builds on the current study by examining two pairs of impelling/inhibiting forces.

Self-control is associated with an emphasis on aggressive behavior as an automatic process (e.g., Berkowitz, 1983). An alternative view is that it is largely controlled by rational choice/decision making (e.g., Tedeschi & Felson, 1994) and is thus goal-directed. The next chapter involves variables that fit more into the latter view, namely the cost-benefit assessment of aggression. These further fit into Finkel's framework by being presented as an impelling (benefits) and an inhibiting force (costs). Linked to this goal-directed behavior, the next study also examines beliefs about aggression. Based on qualitative interviews with small groups of men and women discussing the use of aggression, Campbell and Muncer (1987) argued that men tend to view their aggression in an "instrumental" way, to control other people; women viewed it in a more "expressive" way, being linked more to a loss of self-control. Instrumental and expressive beliefs will also be presented within Finkel's I^3 model with the former being considered as an impelling force and the latter an inhibiting force.

The importance of studying the interactions between the inhibiting and impelling variables is highlighted by Tangney et al.'s (2004) study. They found that self-control was negatively related to outwardly-directed aggression; they also found that higher levels of self-control were significantly related to an absence (or relative absence) of anger. Within Finkel's framework anger is considered an impelling force, and self-control an inhibiting force. The conclusion here could initially be the importance of an inhibiting variable but when examined further, there are few impelling forces present to test the strength of the inhibiting forces.

Chapter 8: Cost-Benefit Assessment and Beliefs about Aggression

8.1 Introduction

The previous chapter explored the extent to which inhibiting variables can predict the perpetration of IPV and same-sex aggression. Only self-control was consistently found to be a predictor of both types of aggression, for both men and women. The current chapter aimed to build on this by examining more variables within Finkel's impelling and inhibiting forces framework. As indicated at the end of Chapter 7, these were a cost-benefit assessment and beliefs about aggression. These are now introduced.

Cost-Benefit Assessment

The importance of the relationship between self-control and aggression is associated with viewing aggressive behavior as being a more automatic process (e.g., Berkowitz, 1983; 1989; 2008). Other researchers view it more as being controlled by rational-choice and decision-making (e.g., Tedeschi & Felson, 1994) and thus goal-directed. Bushman and Anderson (2001) discussed the hostile-instrumental aggression dichotomy with this partly in mind. By definition, hostile aggression would involve a lack of self-control (and so automatic processing) and would not be instrumental in nature, involving an awareness of the cost and benefits of the actions. Bushman and Anderson state a number of problems with this definition and the relevant one here regards motive. They use the example of a man who is insulted in front of his peers: the decision to hit back has the appearance of being hostile as it is fuelled by anger, but if he is trying to regain social standing, there must have been an element of processing where he saw this as a likely benefit to his aggressive response.

Studies that have assessed the two have typically come to the conclusion that both have predictive value. Rutter & Hine (2005), as described in Chapter 7 (p.147) found that men's higher levels of aggression, compared to women's, were mediated by both costs and benefits. Costs and benefits were found to mediate expressions of hostility but only expected benefits mediated the difference for obstructionism and overt aggression. However, Rutter and Hine's categorisation of aggression is different to those usually used in aggression research and does not fit with the typical categories of physical and verbal aggression.

Archer, et al., (2010) further supported this conclusion that both processes are important. He extended the evidence further by using an Indian and a Spanish sample, involving young men's aggression and dating violence. They found that perceived benefits were the strongest predictor of physical aggression among a sample of young Indian men but that self-control had a significant, yet smaller, influence. Their second sample involved Spanish adolescents reporting on their relationships – both for themselves and their partners' behavior. Here males were found to report more perceived costs and fewer benefits than females did. Again, perceived benefits were found to be the strongest predictor with self-control also independently predicting physical aggression to a partner.

Feminist-informed views of intimate partner violence (IPV) hold that it is the consequence of male patriarchal control within the relationship (e.g., Dobash & Dobash, 1979), which would suggest that, relative to women, men would perceive more benefits and fewer costs of their own aggression towards their partners. Similarly, women perceive more costs than men would for their own aggression to a male partner as a consequence of his greater control. This view of IPV holds that it is etiologically different from other types of aggression in its motivations. Violence against women by men is seen as reflecting sexism and a need to try and maintain men's dominance over women (Felson, 2010). As already discussed in Chapter 1 (pp. 31), these expectations are also inconsistent with research that has found that men's IPV is judged more harshly than women's (e.g., Sorenson & Taylor, 2005) and that women's physical aggression is found to be generally more acceptable than men's (e.g., Basow, Cahill, Phelan, Longshore & McGillicuddy-DeLisi, 2007). Discussions of the sanctions associated with IPV and aggression are often discussed in terms of formal and informal sanctions. For example, Piliavin, Gartner, Thornton and Matsueda (1986) examined the deterrent effect of formal sanctions on criminal behavior. Studies have assessed both internal controls (norms and beliefs) that individuals have, and external sanctions such as the threat of punishment. Research on deterrents has employed either macro or micro level analysis. Macro-analysis involves crime rates and criminal justice actions such as arrests and convictions, whereas micro-level analysis involves the examination of individual variables and the offenders' own assessment of risk.

Piliavin et al. (1986) examined how people's perceptions of the costs and benefits of legal and illegal behavior are related to subsequent acts of criminality. The authors had found mixed evidence on the effect of these sanctions. The studies had some methodological issues which may have attributed to some of these mixed findings. In their study, they found evidence that supported the opportunity and reward component of the rational-choice model of crime, but there was no support for the importance of risk in this decision-making process. In other words, they found support for the benefit but not the costs element of the cost-benefit analysis. They conclude that the rational-choice model may be too simple to explain the cognitive processes that a person undergoes.

Winstock (2006) found that men showed more restraint in conflict with women. This study explored the escalatory tendencies that were represented by an intention to act when confronted with the possibility of aggression from others. They found that for men and women these escalatory tendencies are higher for verbal than physical aggression, which is not surprising considering the greater frequencies of verbal compared to physical aggression. The finding that men exercise greater restraint when in conflict with women than their own sex supports Felson's argument that the motivations behind IPV and any other type of violence are the same (Felson, 2002, 2006, 2010). Felson (2002), as already discussed in Chapter 1 (pp. 27), argues that violence against women is not motivated by sexism. Instead longstanding norms of chivalry (or benevolent sexism: Glick & Fiske, 1996; 2001) mean that men are much less likely to use violence against women arising from the belief that men should protect women. Their study supports the cost-benefit analysis being studied here, in that a restriction of aggression towards women by men indicates a possible assessment of the consequences of this aggression and that the costs would likely outweigh the benefits.

Within Winstock's (2006) study, the restraint on escalatory tendencies could be said to be motivated by an awareness of the formal sanctions, i.e. the punishment would be greater should a man hit a woman rather than another man. However, it is also likely that their behavioral decisions are motivated by an awareness of informal sanctions too. Taylor and Sorenson (2005) argued, due to the volume of public awareness of IPV, that informal social sanctions could be a powerful motivating influence. They state that half of the general population in the state of California knew someone personally who had been a victim of IPV, a third of these whilst the abuse was current. A further one in five knew a close friend or a relative who was being abused.

Studies have suggested that because there is such a wide awareness of the subject, it will affect the perceptions of fault and blame of the persons involved (e.g., Taylor and Sorenson, 2005). Harris and Cook (1994) used a scenario study with three conditions, husband to wife assault, wife to husband assault and gay male aggression, and further manipulated it by having the scenario with or without provocation from the victim. Harshest evaluations were attributed to any perpetrator who was not provoked. More responsibility was placed on the male victim and it was thought, due to the lack of severity in their situation, that they should stay with their partner. The male perpetrator was held most responsible and women respondents reacted most strongly to all scenarios regardless of the targets. Cook and Harris (1995) then extended this research by examining bidirectional violence. Again they used a scenario-based design, comparing third-party attributions of asymmetric and symmetric battering, both of which involved one person being seriously injured. They also varied the sex of the instigator of the aggression and the perpetrator was judged more harshly having been given more responsibility in both conditions. Less violent partners in the asymmetric scenario were judged to have more of a right to use force to defend themselves. The scenario was judged to be more violent when the husband instigated the attack.

The weight of the formal and informal social sanctions should make a man's potential aggression against a female partner seem more costly. On the other hand, neither formal nor informal sanctions suggest that a woman's aggression against her male partner would be judged particularly harshly and so women would be less dissuaded from using this type of aggression. Outside the home, and with strangers as targets, women are less likely to use aggression, seeing the costs as far outweighing the benefits. They would fear the harm, and any associated guilt or anxiety, produced, in addition to the fear of the physical danger they may encounter. The same does not apply in the context of IPV.

Costs and benefits here are presented as a conscious evaluation of the outcomes of any potential aggressive behavior. This is in contrast with studies that examine the predictive power of self-control (including a previous chapter in this project, see Chapter 7, pp. 141). Several theoretical models, some of which exist in the cognition literature, have proposed that behavior is determined through two modes of processing that are both "simultaneous but somewhat distinct" (Carver, Johnson & Joorman, 2008; p. 913). Dual processing (e.g. Evans, 2008) distinguishes between processes that are unconscious, fast and automatic and those that are slower but more conscious. Evans (2008) refers to these are System I and System II respectively but they have also been referred to as automatic/controlled (Schneider & Shiffrin, 1977); intuitive/analytic (Hammond, 1996) and reflexive/reflective (Lierberman, 2003). For aggressive behavior and the evaluations of the outcomes self-control (or a lack of) could be applied to System I and the cost-benefit assessment would be applied to System II. As detailed above (p. 169) studies that have measured the two conclude the importance of both self-control and cost-benefit assessment in predicting aggressive behaviour and the theory of dual processing would allow for both to be important in behavior as well.

The evidence presented suggests that an assessment of the costs and benefits of aggression could act as a pair of impelling and inhibiting forces. The benefits of aggression (e.g., "saving face", teaching someone a lesson) are an important part of the impelling forces a person would feel upon experiencing an instigating trigger. The costs (e.g., threat of physical injury, fear of punishment) would then act as an inhibiting force. If someone assesses there are more costs than benefits to their aggression then it is likely they will override their impelling forces. However, if the benefits outweigh the costs then there may not be enough inhibiting forces to stop an aggressive impulse being acted upon and IPV or same-sex aggression would be more likely to occur. In terms of sex differences, feminist theory would predict that men perceive more benefits and fewer costs of their aggression to a partner, and for women the opposite pattern would occur. However, the evidence on the perceptions of men's and women's violence against their partner described above would lead to a different prediction about the sex difference. It was therefore predicted that men would perceive more costs and fewer benefits of their aggression towards their partner and that women would perceive the opposite. For same-sex aggression, the opposite pattern was expected, that men would perceive more benefits and fewer costs for their aggression to a same-sex other, and that women would perceive more costs and fewer benefits

Beliefs about Aggression

Campbell and Muncer (1987) proposed a theory to explain sex differences in aggression in terms of social representations of anger and aggression. Based on qualitative interviews with small groups of men and women in New York, discussing the use of aggression, they argued that men tend to use aggression in an "instrumental" way, to control other people, whereas women use it in a more "expressive" way, involving a loss of control. From this theory, they developed a measure, the EXPAGG, to assess the extent of instrumental and expressive beliefs about aggression. Studies using this measure have often found the predicted sex difference, in terms of expressive beliefs being higher in women and instrumental beliefs being higher in men (Campbell et al., 1992; 1993, 1999).

Archer and Haigh (1997a) developed the scale and changed it from a dichotomous forced choice response, to a five-point scale of 40 items. They viewed beliefs as being on a continuum rather than as a categorical variable. Their study confirmed the sex differences, as well as instrumental beliefs being strongly associated with physical aggression and moderately associated with verbal aggression. Social representations (or "beliefs about aggression" as they are known when referring to an individuals' behavior) of aggression have also been examined in the context of IPV. Archer & Haigh (1999) used a design that manipulated the type of opponent, the type of aggression and also modified the EXPAGG from the original. They found that women were more expressive in all conditions, including situations with IPV and with same-sex aggression. Instrumental beliefs were also lower in the situations involving partners and lower in situations involving physical compared to verbal aggression. Thus instrumental, rather than expressive beliefs, are context-dependent and will vary in situations with different opponents. The expected sex difference was found for expressive beliefs with women scoring higher on this scale; however this was not the case for the instrumental scale. Men scored higher than women for instrumental beliefs but only for same-sex aggression, not IPV where the sex difference was not significant.

Archer & Graham-Kevan (2003) investigated whether beliefs about aggression would also predict the extent of IPV within three different samples; students, men from a prison and women from a shelter. Instrumental beliefs did predict IPV and this relationship was strongest for the student sample. There were no significant associations between expressive beliefs and IPV. It was expected that the strongest association for instrumental beliefs would be found amongst the most violent men (the prison sample) but this was not the case. The association was also found for women, although it was weaker. These results support the general finding that instrumental beliefs are associated with aggression, but that this would not be restricted purely to violent men.

Astin, Redston and Campbell (2003) had participants complete the EXPAGG with reference to either a same-sex other or an opposite sex opponent, as well as rating the moral acceptability of the behavior. This study confirmed the robust sex difference found in previous research, but found no main effect of sex or target interactions. Women found their actions more morally acceptable than did men– supporting the studies described earlier. This study asked participants to imagine a same-sex other or an opposite sex other when completing the measure but it is not clear whether the opposite-sex other was their partner. The authors did not note this as a possible confounding variable. Archer's (2004) analysis (see Table 1 of his article) indicates that this is not important: he reviewed studies that suggested an opposite-sex partner and those that were opposite-sex but not partners (such as school-age children) showed the same direction of difference, indicating that the important variable is the opponents' sex.

Archer and Haigh (1997a, 1997b) had found that when scoring the EXPAGG nearly all the men in their samples had been thinking of a same-sex opponent. For the women, half had thought of a same-sex opponent and half had thought of their partner. The authors believed, considering the studies already described in this chapter that show the condemnation of violence against women both formally and informally, that if men were thinking of their female partner they would show more expressive and less instrumental beliefs.

Finkel's I^3 model can also be applied to beliefs about aggression as instrumental beliefs are associated with a higher level of aggression and expressive beliefs are associated with a lower level aggression. Social representations are retrospective and so it is possible that they are used to explain aggressive behavior rather than as a casual factor. Campbell et al. (1999) asserted that beliefs are devices that are used to justify aggression and the benefits of it, whereas expressive beliefs are used more to excuse outbursts. This would limit the extent to which they could fit into Finkel's framework as this looks specifically at causal factors. However, they are entered here as it is possible that a reflection on previous behavior will affect future aggressive behavior. Aspect of social learning theory (e.g., Bandura, 1973) would support this as post-hoc excuses have an impact on negative emotions, which then in turn impact on an individual's readiness to engage in this behavior again in the future. Any conclusions drawn within this framework will be cautious and suggestions of how this concept can be fully investigated will be discussed.

In terms of sex differences, it was predicted in line with previous research, that men would hold more instrumental and women more expressive beliefs about aggression. It was further predicted that, in line with the results of Archer and Haigh (1999) that the associations between instrumental beliefs and IPV would be weaker than those for same-sex aggression. It is not thought that expressive beliefs will differ between IPV and same-sex aggression. Archer and Haigh (1999) concluded these were not context-dependent in the same way instrumental beliefs can be. This was a scenario based study however, rather than people rating their own behavior.

Aims

As with previous chapters (6 and 7), the aim of this study was to examine the potential power of inhibiting and impelling variables on the use of IPV and same-sex aggression using Finkel's framework. This was done using two pairs of impelling and inhibiting forces, namely: benefits/costs and instrumental/expressive beliefs. This includes exploring sex differences in, and sex-specific effects of, the variables. It is thought that instrumental beliefs will map onto the rewards/benefits element of the cost-benefit analysis, both involve conscious evaluations of aggression and the advantageous use of it (fitting with System 1 of dual processing theory; Evans, 2008). The same cannot be said for the expressive beliefs and costs. Expressive beliefs are more impulsive and seen as associated with a lack of self-control where as the costs are still thought of as more conscious in their determination. Expressive beliefs would map onto self-control which was not chosen for analysis in the current study.

8.2 Method

8.2.1. Participants

A mixed-sex sample of 345 participants (219 women, 126 men) was used for the final analysis, aged between 18 and 58 years (M = 24.30; SD = 7.97). The men were significantly older (M = 27.05, SD = 8.93) than the women (M = 22.72, SD = 6.90): t (209.78) = 4.68, $p < .001$. The majority of the sample described themselves as "White" (91%) with 3.8% describing themselves as "Asian, Asian English or Asian British", 1.7% describing themselves as "Black, Black English or Black British"; 3.5% describing themselves as "other". Most of the sample (65.6%) had a current partner and 41.1% lived with them. Of those with a current partner, 82.2% stated that their relationship was long-term (over 6 months). Of those who did not have a current partner, 50% indicated that their most recent previous relationship had been long-term. These were exclusively heterosexual relationships; homosexual participants were excluded due to the smaller number.

8.2.2 Measures

Measures used included the aggression measures already presented and described in Chapter 2 (pp. 58). To measure participants' assessment of costs and benefits the Aggression Consequences Questionnaire (ACQ, Archer, et al., 2010) was used. Participants completed two versions of this scale: in the first, they were asked to imagine that their partner had been annoying them and that they had ended up hitting them; and in the second they were to imagine that it was a same-sex other that had been annoying them. They were then asked to rate 22 items that represented various costs and benefits of their actions. Participants scored how likely each cost/benefit would be on a Likert Scale of 5 (very likely) to 1 (very unlikely). The ACQ for partners is shown in Table 8.1. The partner scale had a Cronbach's $\propto$ of .83 for the costs and .89 for benefits scale. For the "same-sex other" scale the values were .88 for costs and .95 for benefits.

Table 8.1: The modified version of the ACQ for partners

1. I would worry that other people would not like me because of what I'd done.
2. My partner would learn a lesson.
3. My partner would think the relationship was not working.
4. My partner would stop loving me.
5. I would feel proud for standing up for myself.
6. I would feel better.
7. I would worry that I would get reported.
8. My partner would retaliate physically.
9. I would be concerned that my partner would be upset.
10. My friends would respect me more because of what I'd done.
11. My partner would get the message that he/she shouldn't mess with me.
12. I would worry that friends and family of my partner would want to get back at me.
13. My partner would know not to make fun of me.
14. It would adversely affect my relationship.
15. I'd worry that my partner might be seriously hurt.
16. It would make me feel I had done the right thing.
17. I'd worry that my partner would attack me later.
18. I'd feel satisfied with what I'd done.
19. I would worry that I'd get into trouble.
20. It would be more likely that my partner would do what I wanted them to.
21. In the future I'd have some control over my partner.
22. I would feel good about myself.

Beliefs about aggression were measured using the shorter, 16-item version of the EXPAGG (Campbell et al., 1999). Participants were asked to imagine they had been in a physical fight with someone and to then rate a list of statements about the use of their aggression. This was rated on a Likert scale of 1 (strongly agree) to 5 (strongly disagree). It included items that represented both instrumental aggression and expressive aggression. Cronbach's $\propto$ was .84 (instrumental) and .67 (expressive). The expressive scale has been found to have lower reliability levels before (Campbell et al, 1999).

8.2.3 Procedure

The current study was advertised by e-mail and in undergraduate lectures. Questionnaires were available for completion either online or by hard copy: 170 people filled in the online version. Due to the partial online nature of the study, there was no counterbalancing. All participants were required to be in a romantic relationship or to have had a romantic relationship of at least one month's duration: only heterosexual relationships were included.

8.3 Results

Sex Differences in Aggression

Multivariate Analysis of Covariance (MANCOVA) explored sex-differences on the three subscales of the adapted CTS (verbal, explosive and physical) towards partners whilst controlling for age (see Table 8.2). Crime statistics and empirical studies demonstrate the decrease of aggression with age (e.g., O'Leary, 2006). Therefore due to the older age of males in this sample, age was controlled for in the aggression, cost-benefit and EXPAGG analyses of sex differences. Furthermore, this was a subset of the combined sample analysed in a previous chapter (Chapter 3, pp. 71), this is representative of the whole sample.

Women were significantly more verbally aggressive to their partner than were men. The differences in the means for explosive acts and physical aggression were not statistically significant. Men reported using significantly more physical aggression against a same-sex other than women did, but the differences for verbal aggression and explosive acts were not significant. Further analysis in this study used only the physically aggressive scale, verbal aggression and explosive acts were not further analysed. (SPSS output for Chapter 8 can be found on p. 361 of the Appendix onwards)

Table 8.2: Means (and standard deviations), *F* and *d* values (controlling for age) for CTS Verbal, Explosive and Physical Aggression Scores for IPV and Same-Sex Aggression Perpetration

	Male (*N*=126)	Female (*N*=219)	Row Mean (*N*=345)	*d* value[a]	*F* Value[c]
IPV Physical[b]	1.06 (4.16)	1.42 (3.48)	1.29 (3.74)	-.08	.12
IPV Verbal	7.22 (8.05)	11.51(8.93)	9.94 (8.85)	-.46	18.00**
IPV Explosive	.46 (1.58)	.47 (1.26)	.46 (1.39)	-.01	.09
SSA Physical	1.78 (5.37)	.69 (2.89)	1.09 (4.01)	.32	8.95*
SSA Verbal	7.29 (7.96)	7.93 (8.48)	7.70 (8.29)	-.08	.05
SSA Explosive	.56 (1.81)	.35 (1.25)	.42 (1.48)	.14	3.59

** $p < .001$, * $p < .05$, df = (1, 343)

[a] A positive *d* value indicates a higher male score, a negative value indicates a higher female score

[b] Maximum score of 48 for physical, 42 for verbal and 12 for explosive..

[c]F value is a one way univariate from a MANCOVA controlling for age with df of (1,339). Multivariate F (6, 334) = 5.58, $p < .001$)

Sex Differences in Cost-Benefit and EXPAGG Scores

Men perceived significantly more benefits and fewer costs of same-sex aggression than women did. However, women perceived significantly fewer costs of IPV than men did. There was no significant difference found for IPV benefits (Table 8.3). Men held significantly more instrumental beliefs than women but there was no sex difference in expressive beliefs with little difference in the means.

Table 8.3: Means (and standard deviations), *F* and *d* values (controlling for age) for Costs, and Benefits of IPV and same-sex aggression, and EXPAGG scores by Sex.

	Male (N=126)	Female (N=219)	Row Mean (N=345)	*d* value[a]	*F* Value[c]
SS Costs[b]	39.33 (9.78)	41.41 (8.54)	40.65 (9.05)	-.24	4.52*
SS Benefits	23.14(10.43)	20.11 (8.61)	21.22 (9.41)	.49	19.29**
IPV Costs	42.99 (7.33)	37.23 (8.18)	39.34 (8.34)	.72	41.10**
IPV Benefits	16.49 (6.94)	17.86 (7.21)	17.36 (7.13)	-.11	.98
Instrumental	20.24 (7.22)	17.97 (6.28)	18.80 (6.72)	.47	17.35**
Expressive	25.25 (5.64)	25.95 (5.23)	25.70 (5.38)	-.09	.58

** $p < .001$, * $p < .05$,

[a] A positive *d* value indicates a higher male score, a negative value indicates a higher female score, controlling for age

[b] Maximum score of 55 for the first four scales, for last two range was 8-40

[c]F value is a one way univariate from a MANCOVA controlling for age with df of (1,339). Multivariate *F*: (F (6, 334) = 23.38, p < .001)

Zero-order Correlations

Table 8.4 shows the zero-order correlations between the aggression measures, the cost-benefit assessment, and the EXPAGG scores.

Table 8.4: Zero-order correlations between IPV, Same-Sex Aggression, Costs, Benefits (for IPV and same-sex) and EXPAGG scores [men/women]. (N=345)

	SS perp	IPV Costs	IPV Benefits	SS Costs	SS Benefits	Instrumental	Expressive
IPV perp	.295**a	-.214**	.204**	-..49	.155**	.105	.021
	[.218*/.432**]	[-.199*/-.222**]	[.193*/.208**]	[-.058/-.051]	[.106/.213**]	[.063/.155*]	[-.031/.054]
SS perp		-.049	.255**	-.095	.256**	.303**	.055
		[-.088/-.124]	[.310**/.261**]	[-.043/-.134*]	[.260**/.228**]	[.345**/.234**]	[.113/.013]
IPV Costs			-.123*	-513**	-.026	-.009	.105
			[-.173/-.061]	[.651**/.555**]	[-.096/-.077]	[-.172/-.007]	[.105/.150*]
IPV Benefits				-.070	.571**	.399**	.130*
				[-.061/-.095]	[.546**/.634**]	[.404**/.435**]	[.190*/.087]
SS Costs					-.191**a	-.125*	.129*
					[-.284**/.093]	[-.182**/-.054]	[.110/.132]
SS Benefits						.610**	.238**
						[.568**/.626**]	[.288**/.225**]
Instrumental							.427**
							[.405**/.473**]

[a] denotes that the correlation coefficients for men and women were significantly different

IPV showed the predicted positive correlation with perceived benefits of IPV, and the predicted negative correlation with perceived costs of IPV, although the effect sizes are quite low. This pattern was also found when examined separately by sex. Same-sex aggression also showed the predicted positive correlation with perceived benefits but the predicted negative correlation with perceived costs was only significant for women. Instrumental beliefs were significantly associated with same-sex aggression for the overall sample and for men and women separately but they were only associated with IPV perpetration for women. This supports the prediction that instrumental beliefs would be more strongly associated with same-sex aggression compared to IPV. There were also significant associations between the EXPAGG scores and the cost-benefit measures. The magnitudes of all these correlations were quite small, although the relationships with same sex aggression were stronger than IPV. Interestingly, instrumental beliefs and both benefits for IPV and same-sex aggression, were quite highly correlated with each other.

Negative Binomial Regression analyses

These variables were then regressed on IPV and same-sex aggression perpetration for men and women separately. In keeping with the previous chapters, the preferred analytical technique to accommodate the over-dispersed data on the aggression measures (Table 8.2) is negative binomial regression (Gardner, et al., 1995; Hilbe, 2007; Hutchinson & Holtman, 2005). Table 8.5 show the results of this regression with IPV perpetration:

Table 8.5: Negative Binomial Regression of cost, benefits and EXPAGG scores onto IPV perpetration

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	4.09	3.21	-2.28	10.32	1.57	.211
IPV Costs	1	-.08	.05	-.17	.02	2.69	.101
IPV Benefits	1	.03	.05	-.07	.13	.35	.554
Instrumental	1	.05	.06	-.08	.18	.54	.461
Expressive	1	-.10	.10	-.07	.09	1.03	.309
Females:							
Intercept	1	.18	1.10	-1.97	2.33	.03	.870
IPV Costs	1	-.08	.02	-.12	-.04	13.81	< .001**
IPV Benefits	1	.05	.03	-.01	.11	3.22	.073
Instrumental	1	-.01	.03	-.08	.06	.07	.788
Expressive	1	.08	.04	.01	.16	5.14	.023*

* significant at <.05 level, ** significant at < .001 level

Table 8.5 shows that none of the variables in this study significantly predicted men's use of IPV against their partner. For women, their IPV perpetration was significantly predicted by both IPV costs and their score on the expressive scale of the EXPAGG. The goodness of fit statistic was demonstrated to be at an acceptable level (deviance = .41 and .70 for men and women respectively). A further calculation was made from the regression results. Paternoster, et al. (1998) present a formula to compare the magnitude of two regression coefficients, for example those for men and women. Using this formula indicated that there were no significant sex differences between the predictors for men and women.

Table 8.6 shows the results of the regression of costs, benefits and beliefs onto same-sex aggression perpetration.

Table 8.6: Negative binomial Regression of Costs, Benefits and EXPAGG scores onto same-sex aggression

Parameter	df	B	SE	Wald 95% CI		χ^2	*p*
Males:							
Intercept	1	-3.23	1.57	-6.30	-.15	4.23	.040
SSA Costs	1	-.05	.03	-.17	.01	2.98	.084
SSA Benefits	1	.08	.03	.02	.13	7.14	.008*
Instrumental	1	.11	.04	.04	.18	9.63	.002*
Expressive	1	.03	.06	-.09	.15	.25	.617
Females:							
Intercept	1	-.62	1.57	-3.96	2.72	.13	.716
SSA Costs	1	-.07	.03	-.12	-.02	6.88	.009*
SSA Benefits	1	.03	.03	-.04	.09	.68	.411
Instrumental	1	.11	.05	.02	.21	5.27	.022*
Expressive	1	-.01	.06	-.12	.10	.01	.909

* significant at <.05 level

Table 8.6 shows that both benefits and instrumental beliefs significantly predicted men's use of same-sex aggression. This follows from the zero order correlations that demonstrated the strong correlation between these two variables. Instrumental beliefs also significantly predicted women's use of this type of aggression, as well as the perceived costs. Again, the goodness of fit statistic was demonstrated to be at an acceptable level (deviance = .63 and .36 for men and women respectively). Analysis to compare the magnitude of men's and women's beta coefficients revealed that there were no significant sex differences, so predictors had a similar magnitude for both sexes

8.4 Discussion

The aim of the current study was to examine perceived costs and benefits of aggression, together with beliefs about aggression and their relationship with IPV and same-sex aggression. This was presented within Finkel's I^3 framework as a series of impelling and inhibiting forces that affect whether an aggressive impulse is turned into an aggressive act. Finkel's theory states that when an aggressive impulse is experienced (or an instigating trigger), there are impelling forces that increase the chance of aggression and inhibiting forces that reduce it: if the latter does not outweigh the former then it is likely that aggression will occur.

For same-sex aggression, both costs and instrumental beliefs were significant predictors for women's perpetration with the former being the strongest. For men, instrumental beliefs and perceived benefits were significant predictors. The zero order correlations revealed that these two variables were moderately correlated, both for the benefits of IPV and the benefits of same-sex aggression. Perceived benefits were a strong predictor in previous studies. Archer et al (2010) found that benefits were the strongest of three predictors of aggression in a sample of young Indian men, as did Rutter and Hine (2005) for workplace aggression, and Archer and Southall (2009) for prisoners' aggression. Instrumental beliefs have also been demonstrated to be associated with aggression in numerous studies (e.g., Archer & Haigh 1997a; 1997b; 1999; Campbell et al., 1992).

For IPV, women's perpetration was significantly predicted by more expressive beliefs and a lack of perceived costs. However, none of the variables within the current study predicted men's perpetration. In contrast with this, Archer et al.'s (2010) examined costs, benefits and a measure of inhibition (namely self-control). They found that self-control and perceived benefits were the strongest predictors of IPV perpetration amongst Spanish adolescents (they did not report separate regressions for men and women). Reasons for the differing results could include that their sample were younger (aged between 15 and 19) than that of the current study (aged between 18 and 58). Crime statistics and empirical studies demonstrate the decrease of IPV and same-sex aggression with age (e.g., O'Leary, 2006; Walker & Richardson, 1998; Walker, Richardson et al., 2000). The finding that instrumental beliefs were not a significant predictor of IPV but were for same-sex aggression is in partial support of Archer and Haigh's (1999) study that found instrumental beliefs to be context dependent, varying depending upon the conditions of the aggressive situation. The authors also suggested this was not the case for expressive beliefs: however, the current study found that expressive beliefs were only a significant predictor of women's IPV perpetration, suggesting some context-dependency here. A methodological note of caution in comparisons here would be that Archer & Haigh (1999) and the current study used slightly different versions of the EXPAGG.

In terms of Finkel's model, the predictive power of the variables studied within this chapter provides support for the idea that men and women both experience impelling forces but perhaps differ on their experience of inhibiting forces. Whereas in the previous chapter self-control (an inhibiting force) was the most important predictor of both men's and women's aggression, in this study women's aggression was predicted more by the two inhibiting forces (costs and expressive beliefs) and men's was predicted more by the impelling forces (instrumental beliefs and benefits). This supports the assertion by Campbell and Muncer (2007) that whilst both sexes experience the anger behind aggression the sex difference in direct aggression could be due to women's stronger ability to divert or suppress these impulses.

These conclusions are drawn cautiously, due to the nature of the social representations of aggression, namely that they are retrospective and are devices used to explain behavior. Instrumental beliefs were entered as a potential impelling force and expressive beliefs as a potential inhibiting or protective factor. There is a lack of research that directly tests the possible causal nature of the beliefs as the EXPAGG asks respondents to consider a past aggressive event. However, the potential causal nature of them could be explored to understand whether they can be used within Finkel's framework in this manner. Both the EXPAGG, and cost-benefit analysis, may involve attributions made about past aggressive events.

The results here link in with those of the previous chapter (Chapter 7; pp. 141) in the comparison of different models described in the introduction to the current chapter (pp. 166). In the previous chapter, there was support for the automatic-process model of aggressive behavior whereas the current study provides evidence for the rational-choice element. Whilst obviously not comparable, as they were separate samples, with different measures, the two combined provides evidence for both being important, as has been found in other studies (e.g., Archer et al., 2010).

For IPV, women perceived significantly fewer costs than men and more benefits, although the latter difference did not reach statistical significance. This is consistent with the findings of Archer et al. (2010), who also found that the sex difference in costs was the larger of the two within a sample of Spanish adolescents. It further supports findings in previous research that men's use of aggression towards a partner is less acceptable than women's (e.g., Sorenson & Taylor, 2005). Men perceived significantly fewer costs and significantly more benefits of their use of same-sex aggression than women. This fits with the pattern of this type of aggression as men are more likely to engage in it. Interestingly, these can also be examined in the context of the previous chapter (Chapter 7, pp. 141) which concerned perceived negative consequences of aggression, specifically the potential for physical retaliation if respondents were aggressive to a partner and a same-sex other. Men were found to be more likely than women to expect a physical retaliation from both opponents. This links to the cost-benefit analysis in that women perceive significantly fewer costs and significantly fewer consequences of their IPV. This is indicative of women feeling less inhibited about being aggressive to their partners than to same-sex others. This could be because they have a lower level of fear in this situation (e.g., Campbell, 1999); or because they are aware that men are judged more harshly if they are violent towards women (e.g., Felson & Feld, 2009); or that women's violence is judged less likely to be illegal (e.g., Sorenson & Taylor, 2005); or because they are aware that they are less likely to be arrested (e.g., Felson & Paré, 2007).

As was predicted, men held significantly more instrumental beliefs than women. This is consistent with much previous evidence (e.g., Archer & Haigh, 1997a; Archer & Parker, 1994; Campbell et al, 1992; 1993; 1999). However, there was no sex difference for expressive beliefs, the means for men and women being very similar. This finding is inconsistent with studies discussed in the introduction (e.g., Campbell, 2007). However, Alexander, Allen, Brooks, Cole and Campbell (2004) found within their student sample that men had higher instrumental beliefs but there was no significant sex difference for expressive beliefs. It has previously been found (e.g., Campbell et al., 1999) that the magnitude of the sex difference on the expressive scale tends to be smaller than that for instrumental beliefs.

In conclusion, the findings of the current study indicate that within this sample, the predictive power of cost-benefit assessment and beliefs about aggression are dependent on sex and the type of aggression. Within Finkel's framework, it suggests that broadly speaking, within the current study, impelling forces were more important in predicting men's use of aggression whereas women's was predicted more by inhibiting forces. Costs were found to be the strongest predictor of women's IPV perpetration whereas none of the variables studied were significant predictors of men's IPV perpetration. Instrumental beliefs were the strongest predictor of men's same-sex aggression perpetration, whereas the strongest predictor for women's perpetration was perceived costs.

The next chapter of this project summarises the key findings from the last three empirical chapters (Chapter 6, pp.111 and 7, pp. 141). These chapters applied Finkel's I^3 theory to both IPV and same-sex aggression in the same sample, to explore the predictive power of certain inhibiting and impelling forces. This was in light of the findings from the first part of this project that found evidence contradicting many of the facets of the feminist theory of IPV. This latter part of the project moved onto explore IPV and same-sex aggression together within the same context, an idea proposed by those such as Felson (e.g., 2002).

Chapter 9: A Summary of the Empirical Chapters considered within Finkel's I^3 Framework

The purpose of this chapter is to summarise the findings of the three previous chapters (Chapters 6, 7 and 8) and to draw conclusions about the study of IPV within the context of aggression, rather than gender. The main aim of these chapters was to examine IPV and same-sex aggression within the context of Finkel's I^3 framework and to test the predictive power of several potential inhibiting and impelling forces.

After failing to find support for several facets of the feminist theory of IPV (see Chapter 5, pp. 103) about gender and control, the next stage of the thesis was devoted to investigating an alternative framework. The proponents of the Feminist theory (e.g., Dobash & Dobash, 1979) of IPV argue that its special etiology means it should be studied alone, not in the context of family aggression or aggression in general. Felson (e.g., 2002; 2006; 2010) contended that there was too much contradictory evidence for the feminist theory to still be a valid way of studying IPV. Rather, he proposed that "chivalry" protected women from violence by men, women and other forms of threat, detailing many sources of supporting evidence, such as the following: the evidence men's violence towards women is judged more harshly than women's violence towards men (e.g., Sorenson & Taylor, 2005, Felson & Feld, 2009); the study of benevolent sexism (e.g., Glick & Fiske, 1996); the finding that women consistently receive more help than men, especially when there is an audience (see the meta-analysis by Eagly & Crowley, 1986) and the finding that men are more likely to be arrested for IPV perpetration than women are (e.g., Felson & Paré, 2007).

The first two empirical chapters of this project (Chapters 3 and 4, pp. 68 and 79 respectively) supported this view that is not appropriate to study IPV only within the feminist framework. Felson (e.g., Felson & Lane, 2010) suggested IPV does not have a different etiology and it should be studied within the context of aggression in general, as the violence perspective would suggest. From this, the next three chapters (Chapter 6, 7 and 8, pp. 111, 141 and 166 respectively) investigated the risk and protective factors associated with both IPV and same-sex aggression within the same sample, as had already been introduced in Chapter 3 with an overall analysis of data from the three chapters combined. This meant investigating the alternative "violence perspective" in the study of IPV. These studies were presented within Finkel's (2007) previously untested I^3 framework, which links the study of IPV with the self-regulatory literature. Finkel wished to explore what forces were active when an instigating trigger was experienced and how they affected whether or not aggressive behavior occurred. He argued that a complete explanation of IPV would involve an understanding of both the impelling forces, and the inhibiting forces that “protect” that person from acting on their impulses. He argued that whether IPV occurs is based on the strength of these two forces, and behavior will depend on which is stronger within any given context. Several studies have supported this model (e.g., Slotter, & Finkel, 2011; Finkel & Foshee, 2006), including Finkel et al. (2009), who, through a comprehensive series of studies, demonstrated the importance of self-regulatory behavior and this model.

The relevant empirical chapters in this thesis were then presented within this novel framework and each variable was viewed as either an inhibiting or an impelling factor. The analyses performed showed the extent of their power in predicting both IPV and same-sex aggression. The first of these chapters (Chapter 6, pp. 111) investigated the more stable correlates of aggression, namely attachment patterns and psychopathic traits. A secure attachment style was presented as an inhibiting or protective factor. Insecure attachment styles (namely preoccupied, dismissing and fearful) and psychopathic traits (both primary and secondary) were presented as impelling forces.

The results indicated, surprisingly, that attachment patterns were not significant predictors of either IPV or same-sex aggression: this was unusual considering the previous literature that has shown the associations (e.g., Adamshick, 2010; Roberts & Noller 1998; Schumacher, Slep, & Heyman 2001). Secondary psychopathy was a significant predictor of IPV for both men and women and primary psychopathy was a significant predictor for same-sex aggression. This suggests, broadly speaking, that within this study, impelling forces were more important than inhibiting forces in predicting IPV and same-sex aggression for both men and women. However, secure attachment was the only inhibiting factor presented and due to limitations with the measure (specifically its very low reliabilities and weaknesses with self-report measures of attachment in general), it is impossible to draw firm conclusions from this.

The next chapter (Chapter 7, pp. 141) investigated the importance of a series of inhibiting factors in predicting aggression, namely self-control, empathy, perceived consequences of aggression (specifically physical retaliation) and anxiety. Finkel's framework is built upon the importance of examining impelling and inhibiting forces, however a comparison of studies on the two indicates than inhibiting forces are given less research attention. Results from this study revealed that of these inhibiting factors, only self-control remained a significant predictor for both IPV and same-sex aggression, and this was the case for both men and women. Speculation about these results included the possibility that self-control is the underlying influence amongst the inhibiting forces and that the effect of the others are diminished when analysed together. The other variables had been found to be associated with aggression in the previous literature but when entered with self-control their collective power was diminished.

The last empirical chapter (Chapter 8, pp. 166) examined two pairs of inhibiting and impelling forces. These were the costs and benefits of aggression, and instrumental and expressive beliefs about aggression. These were considered to be inhibiting (costs and expressive beliefs) and impelling forces (benefits and instrumental beliefs) and a slightly different pattern of results emerged for men and women. For men, their IPV perpetration was not predicted by any of the variables studied but their same-sex aggression perpetration was predicted by benefits and instrumental beliefs about aggression. For women, their IPV was predicted by costs and expressive beliefs whereas their same-sex aggression was predicted by instrumental beliefs and costs. This different pattern suggested that within this study the impelling forces were more important in predicting men's aggression but the inhibiting forces were more important in predicting women's aggression.

The results of these studies were presented within Finkel's (2007) I^3 model and they suggest the model has future research potential. Throughout the three empirical chapters, the importance of both impelling and inhibiting forces was demonstrated. Finkel used his model to demonstrate the importance of self-regulatory failure and the interaction between impelling and inhibiting forces. Much of the literature has focussed on the impelling forces such as impulsivity (e.g., Campbell, 2006), personality disorder (e.g., borderline and antisocial personality disorder; Berman, et al., 1998), criminality (e.g., Babcock, et al., 2003) and growing up in an abusive home (Stith, et al, 2000). Finkel wished also to highlight the importance of inhibiting variables. Influences that are considered "protective", in that they are associated with lower levels of aggression, have been studied before but within different contexts: for example, anxiety is frequently studied as a consequence of aggression (e.g., Pico-Alfonso et al., 2006). They are rarely studied together to examine their shared power. Finkel et al. (2009) examined several potential inhibiting factors in separate studies but the current study built on this by examining four variables in the same study. By examining these variables together it was found that only self-control was consistently significant in predicting both IPV and same-sex aggression, indicating the other variables may be mediated by this. A project of this magnitude being undertaken and giving the ability to study these variables for both types of aggression within the same sample – to allow direct comparison – is novel in itself. This novelty was further expanded by using these variables within Finkel's previously untested model.

Studying the impelling and inhibiting forces together has found that there are sex-specific effects in predicting aggression. Broadly speaking, men's aggression has been best predicted by impelling forces and women's more by inhibiting forces. This supports Campbell and Muncer (2007), who proposed that whilst both sexes experience anger, the sex difference in direct aggression could be accounting for women's stronger ability to divert or suppress these impulses indicating their potentially stronger inhibiting forces. This is also supported by studies that demonstrate sex differences in the female direction on a number of inhibiting variables such as anxiety (e.g., Lewinsohn et al., 1998) and empathy (e.g., Nettle, 2007); and impelling forces that are in the male direction, for example impulsivity (e.g., Cross et al., 2011) and instrumental beliefs about aggression (e.g., Archer & Haigh, 1999).

Studying this series of inhibiting and impelling forces has further revealed which variables are important in predicting aggression. In terms of future research, there would be utility in performing more studies like those in the current project, that identify the inhibiting and impelling forces that are important in predicting aggression, both IPV and same-sex aggression. A further step would be then to develop the model and combine these to examine further interactions between them. For example, within the current project, the separate findings in two of the studies were that self-control and secondary psychopathy were important in predicting aggression. Secondary psychopathy is characterised by lack of responsibility, boredom and impulsivity, so a study that encompassed self-control, psychopathic traits and some mediation analysis would further be able to explore the interaction between these two variables. The existing literature provides a large basis to start studying the interactions between different risk and protective factors.

These results, and this model, have further implications for the treatment and intervention with IPV offenders. Current legislation and policy surrounding the interventions with, and treatment of, IPV perpetrators has often been founded on theories derived from feminism, and which are not supported by empirical research. For many decades, the policies and responses to IPV have been defined as the socially acceptable use of dominance and control by men over their female partners (Dutton & Corvo, 2006). This fits with the patriarchal view of IPV, previously described, that is held by feminists. Despite a wealth of research (both in the current project and previous literature) that has now demonstrated the flaws in this theory, and the sexual parity that is found in IPV perpetration, this paradigm is still the most influential in the area of intervention and treatment, in the UK, the US and Canada.

The Duluth Model was established in the United States in 1981 as an intervention derived from the Duluth Domestic Abuse Intervention Project (Pence & Paymar, 1993). It was designed to protect women from the tyranny of abusive men. The curriculum of the model is based on power and control, viewed as an exclusively male problem, within the relationship with a “Power and Control Wheel” as their signature symbol. Their treatment of aggression within a relationship was based on the assumption that men’s violence was always driven by power and control and that any aggression perpetrated by a female partner must be self-defensive. The empirical basis of their model came from a sample of 9 clients made up of men who had perpetrated

IPV, and women who had been victim of it. The authors of the model omitted to acknowledge the problems that are associated with generalising from such a small and unrepresentative sample (Dutton & Corvo, 2006).

The motivation for, and treatment outcomes of, the Duluth program are to make men understand that their aggression and control was the cause of the abuse in the relationship. They are required to keep a record of their use of control and to learn about the beliefs behind their values. It treats IPV as the consequence of men's desire to control, rather than IPV and control being functionally equivalent and symptoms of other psychological processes. It ignores any of the risk factors that have been demonstrated through much more rigorous empirical research, that are associated with both aggressive behavior generally and IPV in particular. There is a wealth of research already described that links IPV with personality disorders, antisocial behavior, problems with anger, social, biological and developmental factors. Yet all this is ignored in favour of the belief that society sanctions the use of IPV against women, and that men use these patriarchal beliefs and their aggression to maintain dominance over their female partners. In addition to ignoring the research on risk factors, this paradigm also ignores the research detailing men's and women's equality in IPV frequency and prevalence of perpetration (e.g., Archer, 2000), the bi-directional nature of most IPV (e.g., Stets and Straus, 1992), and the finding that people perceive women's use of IPV to be more acceptable and men's use to be abhorrent (e.g., Sorenson & Taylor, 2005).

Despite this wealth of contradictory evidence, the feminist paradigm and the Duluth Model of treatment are still hugely influential within the legal and forensic settings in the US and the UK. By ignoring the range of influences (e.g., social, developmental, and biological) that contribute to the perpetration of IPV, interventions and treatments are unlikely to be successful. Studies that have examined the success rates of the Duluth Model intervention program have unsurprisingly found it to be unsuccessful. Babcock, Green and Robie (2002) performed a meta-analysis of 22 studies that evaluated such treatment program for domestically violent men, and found minimal effects, concluding that the current interventions are inadequate in reducing recidivism much beyond "the effect of being arrested" (p.1). Dutton (2006) reviewed both its lack of efficacy and the wealth of evidence contradicting its feminist foundations, concluding that its continued use is impeding effective treatment and judicial responses.

Many researchers (e.g., Ehrensaft, 2008) argue that a movement beyond gendered theories of treatment is imperative, and to negotiate a move towards a developmental approach; taking in all the important associated risk factors and developmental correlates. New treatment programmes must be built on strong, empirically-tested foundations based on the wealth of information that exists about the risk factors involved. This project was an attempt to scientifically and more rigorously examine risk factors associated with aggression and to move away from the biased feminist perspective which is built on unrepresentative empirical foundations and biases. Research that informs IPV interventions should come from empirical research, including the general violence literature. Many researchers have suggested improvements for intervention strategies. For example, Graham-Kevan (2009) argued that violence programmes that are currently in place for non-family violence should be examined in the context of IPV perpetrators. This could include programmes such as stress or anger management. Other researchers argue that risk assessment should encompass both perpetrator and victim characteristics (e.g., Kropp, 2009) combining to form a more comprehensive assessment. It is imperative that assessments are informed by rigorous scientific analysis rather than social ideology. Ireland (2009) stated that any risk assessment needs to be informed by the correct literature base. She was specifically referring to generally violent offenders but the same applies to IPV, especially when there are many different bodies of literature in this area; for example the feminist and violence perspectives examined in this project.

Finkel et al. (2009) suggested their results showed it is not rare for someone to experience violent impulses during serious relationship conflict. Their first study involved the participants recalling the most serious conflict they had experienced with their partner and reporting the temptation to behave violently as well as whether they actually did. The results demonstrated that some people experienced the impulses without acting on them. Finkel et al. feel that is it "essential...to understand the psychological mechanisms by which individuals override these impulses in favour of nonviolent conflict behavior" (p. 495). So, contrary to the belief of some (e.g., Dobash & Dobash, 1979), violent impulses towards partners are not something solely experienced by patriarchal men. Implications from Finkel's work and the current study are that interventions should be focusing on individuals and their characteristics rather than seeing IPV as a macro, societal problem that requires social change. Rather than educating men about power and control using a "one size fits all" approach, practice should be tailored to different circumstances. Finkel et al. (2009) suggested an approach based on self-regulatory training and demonstrated the effectiveness of a similar self-regulation bolstering in one of their studies. After two weeks of self-regulation practice participants reported reduced violent intentions towards their partners. Additionally, another study in the same paper demonstrated a ten second "time out" also lowered intentions. If techniques such as these could be incorporated into treatment programmes then they may become more effective. It is important, however, to note that these suggestions are based on IPV perpetrators who see their IPV as a loss of control, something they regret after the fact. These methods or training ideas would not work with someone who saw their aggression as something right or "good", those that use their aggression as part of a pattern of control for example (Finkel, 2007; Finkel et al, 2009). This further highlights the individual nature of IPV perpetration and how interventions should reflect this.

In conclusion, the findings of the current studies fit very much within a "violence perspective" approach to the study of IPV. As detailed above, Felson is a strong proponent of this perspective and argues that the study of IPV should occur within the context and framework of the study of other types of aggression. By doing so within this novel study it has revealed the associations between IPV and same-sex aggression, both in terms of their similarities and differences. Furthermore, studying it in this manner has allowed sex differences and sex parity to be highlighted with this large sample. The findings suggest that a risk-based approach to the study of IPV is appropriate but there may still be differences emerging between IPV and same-sex aggression, and at times these may be sex-specific. The studies were further considered within Finkel's previously untested I^3 framework and the results highlighted the utility of studying both impelling and inhibiting forces together to fully understand the interactions. The aim of the next chapter is to provide an overall summary and discussion of the whole project, including any limitations, and implications for future research and interventions.

Chapter 10: General Discussion and Conclusions

10.1 General Discussion

The aim of the current project was to test two competing views on the study of IPV; namely, that of the feminist and violence perspectives. The first part of this thesis embarked upon empirically testing some of the assumptions of the feminist perspective by examining sex differences in, and associations between, IPV, same-sex aggression and controlling behaviors. As previously discussed, (see Chapters 1 and 5), the feminist or patriarchal theory views IPV as being perpetrated by men who use their aggression to control and dominate their female partner. From this theory and the work of several authors (e.g., Johnson, 1995), a number of predictions were made and tested using a large sample of students ($N = 1104$).

The results described in Chapters 3 and 4 were inconsistent with this model. The major findings were fourfold: (1) sex parity was found in IPV perpetration; (2) men reduced their aggression from same-sex to partner and women increased theirs in the same direction; (3) using Johnson's (1995) typology, more women than men were classified as intimate terrorists; and (4) controlling behaviors were significant predictors of both IPV (for both men and women) and same-sex aggression (for men). To briefly discuss each in turn; firstly, the sexual parity found here in IPV perpetration mirrors the findings from many studies including most importantly Archer's (2000) meta-analysis. Sexual parity is the most common finding when using representative samples and the CTS (Straus, 1979) and it is important that interventions and policy reflect this. Furthermore, men's diminution of aggression from same-sex to partner demonstrates the possibility that, contrary to men's IPV being accepted by society, men are aware of the condemnation that violence against women attracts. Felson (e.g., 2002; 2010) asserts that "chivalry" protects women from aggression by men and also means that women's perpetration is viewed and judged less harshly than men's. In addition to chivalry (and probably partly due to it) feminist advocates have successfully framed men's IPV towards women as an equality issue that negatively impacts upon women worldwide. For example Kofi Annan (1999), Secretary General to the United Nations, described violence against women as "perhaps the most shameful human rights violation, and the most pervasive." Not only are men who assault women unchivalrous, they are worse than slavers and torturers, and it is therefore not surprising that men would be more reluctant to use aggression towards women than men.

In the current study, the increase of women's IPV in the same direction indicates that their inhibiting forces (e.g., Finkel, 2007) or their fear threshold (e.g., Campbell, 1999) may be lower in situations that involve conflict with a partner in comparison with a same-sex other. Women's IPV perpetration is becoming more frequent but less condemned. Campbell (cited in Goodchild, 2000) states that "... women's violence has become increasingly legitimised. There is a sense now that it's OK to 'slap the bastard'". This supports Steinmetz's (1978) article which details men's appearance in comic strips that mock and make fun of men who are hit by their wives. Men's reluctance to perpetrate IPV, motivated by chivalry and the condemnation from society, could increase women's perpetration by reducing their fear threshold. Women's likelihood of perpetrating IPV will increase with the knowledge that their male partner is unlikely to retaliate, and thus the chance of physical danger is much reduced.

The finding of sex similarities in both IPV and controlling behavior perpetration suggested that feminist predictions about sex and control in Johnson's (1995) typology could not be supported. Johnson (1995) argued that it is men who are more likely to be controlling and use their aggression as a method of controlling their partner – he classified this as intimate terrorism. This project found that women were more likely than men to use controlling behaviors and also more likely to be classified as intimate terrorists. Men were more likely than women to be classified as "violent resistance". The control discussed in the feminist theory of IPV, and by Johnson, is motivated by patriarchy and the need for a man to have control over a woman. The implication is that control would not be associated with women's use of IPV, but also that it would not be associated with men's use of same-sex aggression. Yet, controlling behaviors were found to be significantly and positively associated with same-sex aggression perpetration, and they emerged as a significant predictor of men's use of this type of aggression. Rather than control being associated with patriarchy, an alternative theory would be that control here is more a symptom of a generally aggressive interpersonal style. The need to control others can be seen here for both men and women, and towards partners and same-sex others. These conclusions are similar to those of Graham-Kevan and Archer (2008; 2009); as their studies found that the association between control and IPV was not just a male characteristic. They note that if men and women are using control and IPV in a similar way then it may be more important to look at the personality and psychopathology of the individual in order to understand why aggression occurs.

The wider theoretical implications here include implications for the feminist theory of IPV, Johnson's (1995) typology and the current treatment of IPV perpetrators (see Chapter 5 for a detailed discussion). The findings enhance a growing body of literature that details the sex parity in IPV perpetration, or women's higher perpetration (e.g., Archer, 2000; Straus, 2011; Straus & Ramirez, 2007; Saewyc et al., 2009; Thornton et al., 2010). Furthermore, they contradict both the feminist viewpoint generally, and specifically question the utility of Johnson's (1995) typology. The findings with regard to aggression and control, as well as the sex differences observed, question several facets of the feminist theory; this is important because despite the contradictory evidence, it is still influential within the sphere of IPV treatment and intervention.

After finding no support for many of the predictions from feminist theory, the next stage of the thesis was to investigate an alternative method of studying IPV. This involved studying it from a "violence perspective" within the context of other aggression. Felson (e.g., 2002, 2010) was one of the first proponents of studying IPV in this way and presented convincing evidence against the feminist perspective, arguing that chivalry was the active norm in society. This concept is supported by several studies that demonstrate the condemnation of violence against women (e.g., Sorenson & Taylor, 2005, Felson & Feld, 2009). Felson argued that rather than studying IPV solely from a patriarchal perspective, it should be examined in terms of the characteristics of the perpetrator (at a micro level), instead of society (at a macro level).

Consistent with this, the next stage of empirical analysis involved examining IPV in this way. It was considered within Finkel's I^3 framework (e.g., Finkel, 2007; Finkel et al., 2009) which emphasised the importance of investigating both impelling and inhibiting forces that cause an aggressive impulse to become aggressive behavior. Several stable (e.g., attachment styles, psychopathic traits) and dynamic (e.g., self-control, beliefs about aggression and cost-benefit assessment) correlates of aggression were presented as either inhibiting or impelling forces and their predictive power for both IPV and same-sex aggression was examined. The results showed a number of important findings in terms of the overall study of IPV and same-sex aggression: (1) that a variety of risk factors are associated with the use of IPV, supporting its study in this perspective; (2) that both inhibiting and impelling forces had predictive power for

IPV and same-sex aggression; (3) that IPV and same-sex aggression shared similar risk factors with some variables significantly predicting both types of aggression, and (4) that there were both similarities and differences between predictors for men and women. The finding that many risk factors predict both IPV and same-sex aggression supports the assertion that IPV motivations and causes are more complex than models that concentrate on patriarchy and control, such as the Duluth model (Pence & Paymar, 1993) would suggest. This finding supports other research in the area that details the importance of many different factors in predicting the perpetration of IPV. For example, Valois et al. (2002) and Stith et al. (2000) highlighted the importance of individual, family, school, peer, community and situational factors in predicting IPV, demonstrating the complex nature of it and the potential interactions between risk factors. This finding supports studying IPV within the violence perspective and viewing it as an individual rather than a societal level cause. This provides further support of individual/tailored treatment interventions rather than a "one size fits all" model that is based on outdated and unscientific research. Intervention should be based on a screening process that identifies issues with personality and psychopathology that contribute to IPV perpetration, and treatment should be based around this accordingly. This is more in line with the approach that occurs with treatment of other violent offenders who engage in anger management programmes.

The results also provided support for studying IPV and same-sex aggression within Finkel's framework and suggest that the model has potential for future research. The finding that both impelling and inhibiting forces were significant predictors of aggression indicates its complex nature. Individual studies have demonstrated the predictive power of impelling forces (e.g., Ehrensaft et al., 2006; Babcock et al., 2003; Holtzworth-Munroe et al., 2000; Berman et al., 1998) and inhibiting forces (Miller &

Eisenberg, 1988; Stanford et al., 2003) separately; however, they have rarely been studied together in the same sample and with both types of aggression, as were examined here. This is highlighted as an important avenue of future research with this model. Furthermore, inhibiting variables have been researched relatively less than those considered to be impelling forces. The finding in the current study that these inhibiting factors had predictive power with both IPV and same-sex aggression indicates their importance and that they require further research as a group of risk/protective factors. The research potential of this model (to be discussed below with other future research), highlighted by this finding, provides this topic area with a new model in which to inform future research. The model can form the basis of future risk factor research and develop it by providing a framework to explore the interactions between different factors. As discussed, the feminist theory that currently informs existing treatment is not supported by many empirical studies, including the current project.

Whilst highlighting the research potential in this model, there are limitations of the current project in respect to Finkel's I^3 theory. The variables were presented as either potentially inhibiting or impelling forces but as they were only framed within his framework, it was not a direct test. Rather, this study has acted as a preliminary analysis and has identified important variables that could be considered within the framework. For example, when the inhibiting variables were examined together it emerged that self-control was the only significant predictor of both IPV and same-sex aggression. Self-control could then be entered into the model, having already established its importance, along with potential impelling forces to examine the interactions between them and their effect on aggressive behavior. The finding that self-control was the most important predictor has implications for the study of other inhibiting forces, such as anxiety, empathy and fear. Further research in this area could look at the mediational effects of self-control with these variables to see if it actually is self-control that mediates the relationship between these variables and aggression. This is something that needs to be explored further when using this model as a basis for investigating risk factors; this project could be utilised as the one stage in the identification of important risk factors that are then considered within the framework. .

Whilst a theoretically appealing framework, Finkel's model does present difficulties when putting it into practice. Whereas some variables are clearly impelling (e.g., instrumental beliefs) others could be considered more ambiguous and present the question of whether disinhibition can be considered the same as impelling. For example, with the attachment scale that was considered as either inhibiting (secure attachment styles) or impelling (insecure attachment styles). Here the insecure attachment styles are considered as impelling forces but could really be representing a lack of inhibiting forces. This is something that requires more research to understand fully.

The relative strength between impelling and inhibiting forces is very much dependent upon the way these two variables are operationalized and measured. For example, self-control and impulsivity share a great deal of conceptual overlap but due to the way they are operationalized and measured they present different results. Self-control was presented here as an inhibiting variable, impulsivity could be presented as impelling or disinhibiting dependent on the way the study treat the concept. This is something that needs to be explored further when using this model as a basis for investigating risk factors of aggression. and could be utilised as the identification of important risk factors that are then considered within the framework. .

The results provide support for the similarities between IPV and same-sex aggression with the finding that similar risk factors had predictive power for both. This suggests that IPV perpetration could be a symptom of a generally aggressive and controlling interpersonal style (e.g., Corvo & deLara, 2009) rather than of a patriarchal society. This argument is supported by studies that link IPV perpetration with other forms of aggression and criminality (e.g. Felson & Paré, 2005), with youth violence (e.g., Herrenkohl et al., 2007), and with middle school aggression (e.g., O'Donnell et al., 2006). It is further supported by Moffitt et al.'s (2001) longitudinal study which found that for both men and women the strongest risk factor of their IPV perpetration was a record of physically aggressive delinquent behavior. Other studies have suggested the overlap between IPV and general violence (e.g., Farrington et al., 2006; Gottfredson & Hirschi, 2007), violent offending (e.g., Thornton et al., 2010) and bullying (e.g., Corvo & DeLara, 2009). The current study extends the existing body of literature in highlighting risk factors for aggression, as well as the overlap between these factors for IPV and same-sex aggression. It adds to the literature by considering these findings within Finkel's model and suggesting the potential for interactional effects between the different variables. The similarities between the risk factors suggest that IPV should be studied within a violence perspective, as mentioned above, that encompasses the characteristics of the perpetrator rather than the society. Recall the finding in Chapter 7 (pp. 151) that self-control emerged as the only significant predictor of both IPV and same-sex aggression, this itself points to the possibility that there may be variables underlying the risk factors which predict both types of aggression and further demonstrate the similarity between the two.

However, it is important to note the differences in predictors; this finding suggests that IPV and same-sex aggression do not necessarily share the exact same etiology, although it would appear to be similar. These differences may indeed reflect the different circumstances that lead to conflict between couples and same-sex others.

Finkel (2007) points to the inevitability of conflict within romantic relationships due to their nature and the interdependence that occurs. Moreover, other variables might situationally affect IPV but not same-sex aggression, such as attachment styles. Although their empirical merit has been questioned within the current project, they have been supported in previous literature. The situational and context dependent nature of conflict between couples is inevitably going to lead to differences between IPV and same-sex aggression.

The current project also found that men and women demonstrated similarities and differences in their predictors of aggression. This further highlights the need for IPV to be studied in the wider context of aggression, looking at sex-specific effects rather than making a priori assumptions about sex, control and IPV. Previous studies examining the risk factors for men's and women's IPV and same-sex aggression perpetration have highlighted similarities and differences. Recall that Medeiros and Straus (2006) found that in their sample of 854 university students, 8 out of 21 risk factors studied were shared for men and women, these included anger management and substance abuse. They concluded that the etiology of IPV was mostly parallel for men and women. Some studies have found such similarities (e.g., Arias et al., 1987) whereas others have found differences (e.g., Henning & Feder, 2004; Simmons et al., 2005). Moffitt et al.'s (2001) longitudinal study found that men who had perpetrated IPV had a history of poverty and poor schooling, whereas women had more of a history of attachment and family issues. However, their study further showed, as aforementioned that the most important risk factor for both men and women was their previous delinquent and aggressive behavior. These studies, as well as the current project, indicate that whilst there are sex-specific effects in risk factors of aggression, there is also a degree of overlap between men and women, for both IPV and same-sex aggression. These findings are not surprising considering the wealth of literature that details sex differences on other personality variables such as impulsivity (e.g., Cross et al., 2011), instrumental beliefs (e.g., Campbell and Muncer, 1987), empathy (e.g., Eisenberg & Lennon, 1983), and anxiety (e.g., Feingold, 1994). It follows that the sex-specific effects on these variables would then lead to sex-specific effects when these variables are considered with aggression.

Despite the sex-specific effects, the similarities between predictors for men and women are enough to empirically suggest that men's sole motivation when perpetrating IPV is not patriarchy and control. Similarly, women's IPV cannot be claimed to be self-defence when so many other variables, including control perpetration, are related to their aggression. The pattern of similarities and differences therefore suggest that men's and women's IPV are motivated by similar factors. Additionally, there was a similar pattern found for same-sex aggression which further supports that both men and women may use IPV and control as part of a generally coercive and aggressive interpersonal style.

The previous summary chapters (Chapter 5 and 9) have described how these results fit into the theoretical literature, and how these studies add to a growing body of literature which highlights the need for change in the way IPV is handled in respect of both law enforcement and other agencies. The findings suggest that a risk-based approach to the study of IPV would be useful; that differences may still emerge between IPV and same-sex aggression, and at times these may be sex-specific. Furthermore, these results have highlighted the utility and research potential of Finkel's I^3 framework for studying both impelling and inhibiting forces together, in order to fully understand the interactions. It is now important to progress from a list of the important variables and examine the interactive aspect of Finkel's theory, giving weight to different variables that would explain the interactive effects.

10.2 Implications

The theoretical and practical implications of this project mainly concern the interventions and treatment of IPV perpetrators. The current interventions that are employed in the UK, the US and Canada have their roots in the theories derived from feminist research, and are thus not built upon strong empirical and scientific foundations. The Duluth Model (Pence & Paymar, 1993) was designed to protect women from the tyranny of controlling and abusive men. The curriculum of the model is based on power and control, which is perceived to be an exclusively male problem. This model not only excludes the possibility of female perpetrators, but also many male perpetrators who are not controlling and whose aggression could be attributed to other variables, such as personality disorders or a lack of self-control. This model is still used within the UK and the US.

Finkel's model suggests that due to the number of people who experience violent impulses but suppress them, the forces behind IPV perpetration must be more complex than this. He argues that a combination of strong impelling forces and weak inhibiting forces cause an aggressive impulse to become aggressive behavior. Finkel et al., (2009), as discussed in Chapter 1 and 9, empirically tested the model and found support for it within a comprehensive series of studies. They further suggested how the implementation of self-regulatory training may assist in improving a perpetrator's ability to inhibit and control their aggressive impulses. This type of intervention would only be effective with those who were regretful of their aggression and saw it as a loss of control. Some perpetrators, both male and female, use their aggression alongside controlling behaviors, thus making it more instrumental and goal-directed. Self-regulatory training would not necessarily be as effective here but this does further highlight the need for interventions to be flexible and tailored to different situations. The Duluth model has a "one size fits all" approach and works on the assumption that all men's aggression is a symptom of their issues with control and dominance. This is something that the current project, and a wealth of previous literature, has demonstrated is unlikely to be true of all (or even most) men. The finding that women can be more aggressive towards their partners than men has, again, added to a growing body of literature detailing the sex parity in IPV. This finding alone should be enough to instigate a change in the current system but this is not the case.

Finkel's model has further implications in terms of future research within this area of IPV and aggression. The current research, and a large body of the previous literature, has considered individual risk factors to study their associations with aggression, both IPV and same-sex aggression. Finkel's model presents a research framework that allows the study of individual risk factors but also of the interactional effects of several factors. Mediational analysis would allow the most important risk factors to be unpicked from the large body of research indicating the many variables that have associations with aggression. Furthermore, studying IPV within a framework such as this, and within the context of aggression rather than patriarchy, is a step in the right direction away from feminist theories of IPV perpetration.

10.3 Limitations and Future Research

Although the current project tried to use rigorous and scientific methodology throughout, there are still some limitations. First, as with many studies in this area the design was cross-sectional. Much of the risk-factor research has this design limitation and an improvement in this research area would be the inclusion of longitudinal studies that could allow the developmental pathways of some of these variables to be understood (see studies such as O'Leary et al., 1989). This is specifically relevant to risk factors such as anxiety, as measured here in Chapter 7, as any relationship with IPV perpetration could also be a consequence of victimisation. Scores from the EXPAGG have a similar limitation; due to their retrospective nature of explaining aggressive behavior, it is hard to distinguish whether these are the true motives. A second limitation involves issues with some of the instruments used in the study, particularly the two novel measures that were created for the purpose of this project. Whilst showing good reliabilities, further reliability and validity analysis is needed to fully specify their utility. An additional instrument issue came from the attachment measure which was found to be unrelated to any of the aggression measures here. This could reflect a limitation in self-report attachment scales in general (as described in the discussion of Chapter 6), or possibly the one currently used which had low reliabilities in this project.

A third issue relates to the use of the sample within the current study. This sample was using a Western, undergraduate student sample. This is relevant in two ways, the first relates to making generalised conclusions across cultures. Sex differences in aggression, specifically IPV vary across cultures that hold less Westernised values. The cultures that have more gender equality in terms of power tend to have the most parity in IPV perpetration (Archer, 2006). Secondly, the sex differences that are reflected in this sample in relation to IPV and controlling behaviours are undoubtedly different to those that would be found in more "biased" sample such as shelter or prison samples. These samples reflect the most serious examples of this type of aggression and are biased in favour of extreme female victimization and extreme male perpetration. There is rarely the opposite equivalent sample used due to a lack of male victimization samples

A fourth issue is more of a consideration for future research than a limitation. Studies that record the reports of both partners may use this to verify information and ensure the accuracy of the data, thereby reducing any criticism of self-report measures surrounding the possibility that people would answer in a socially desirable way. However this raises its own issues, including how time consuming it can be, which may reduce sample size and create confidentiality issues as to whether partners will be as honest about the frequency and severity of their abuse, should it occur. Future research from this perspective could utilise Finkel's framework to examine the interactions between impelling and inhibiting forces and how this works within the dynamics of couple aggression. The model leads to several research questions surrounding the uni- or bi-directional combinations of IPV perpetration. Furthermore, it will allow a more complete study of certain variables, for example attachment, by examining the patterns of both members of the relationship the mispairing of attachment styles can be fully investigated.

Future research in this area is important to add to the growing body of literature that contradicts the feminist perspective of IPV. Furthermore, if alternatives are to be presented as intervention and treatment options, they need to be informed by empirical and up-to-date research. The current study highlights the utility of Finkel's I^3 framework (Finkel, 2007) for assessing the importance of individual risk and protective factors. His framework also presents the possibility of studying the interactions and meditational properties of different variables; it allows those that have been examined separately, including both impelling and inhibiting forces, to be integrated and studied together. Future research could initially use the framework to examine which variables are the most important in predicting aggression, as well as whether they would be considered to be an impelling or inhibiting force, there are a small number where it may not always be clear. From here it would be possible to build on this and examine the importance of the interactions between these variables. For example, the current study revealed the importance of self-control and psychopathic traits in predicting aggression, albeit in two separate studies. Secondary psychopathy is characterised by impulsivity, therefore a study encompassing both psychopathy and self-control, including mediational analysis, may reveal which is the most important, or whether one is a symptom of the other. Alternatively studying psychopathy and impulsivity would allow the relationship between psychopathy, and reward sensitivity and punishment insensitivity to be explored, and the importance of each examined.

This research may reveal the most important risk and protective factors that are associated with both IPV and same-sex aggression, as well as any sex-specific effects. These can then be incorporated into more effective interventions, tailored to a more individual approach (Finkel et al., 2009) rather than the "one size fits all" method that the Duluth model (Pence & Paymar, 1993) advocates. Only when these important changes are implemented can the social problem of IPV be tackled more effectively.

10.4 Originality and Contributions to Knowledge

This project has successfully fulfilled its aim to test two competing views on the study of IPV, namely the feminist and violence perspectives. This involved a direct test of some feminist hypotheses about IPV followed by an exploration of aggression and several personality and psychopathology variables. A project of this magnitude being undertaken and giving the ability to study these variables for both types of aggression within the same sample – to allow direct comparison – is novel in itself. A second, and particularly significant novelty for examining feminist theory, was that it examined controlling behaviours and their perpetration (and victimisation) for both IPV and same-sex aggression. The association of control and same-sex aggression has never been tested as feminist theory would hypothesise that control would only be associated with IPV (and specifically only men's IPV perpetration). It is patriarchal values that drive a man to use control and to dominate his female partner and so there would be no need to examine it within the context of general aggression. The project was also novel in the examination of both inhibiting and impelling risk factors which involved stable correlates of aggression (e.g. attachment style and psychopathy) and dynamic correlates (e.g. empathy, self-control, beliefs about aggression). This was done using Finkel's (2007) previously untested I^3 framework and have found evidence of the potential for this model in future research.

10.5 Concluding Thoughts

With the main aim of this project being to test the validity of the feminist and violence perspectives of studying IPV, the main conclusion to come from this project is to suggest which possess the most utility. After investigating both explanations, it is possible to conclude that the feminist perspective is not only outdated but also not informed by rigorous, scientific methodology. This project has supported studying IPV within the violence perspective and keeping it within the context of aggression, rather than society and gender.

The findings presented through the latter part of the thesis have also provided support for the research potential of Finkel's I^3 framework of IPV. This previously untested model suggests that IPV will occur if the violent impelling forces outweigh the violence inhibiting forces. Finkel argues that everyone experiences the instigating triggers of aggression (e.g., anger or jealousy), but that most people have the inhibiting forces to outweigh and prevent those feelings resulting in actions. This framework provides another advantage over some of the other risk factor research, in that it attempts to explain how the different variables interact together. For example, it can explain how two people have insecure attachment styles and jealousy problems, but only one of them may perpetrate IPV; the person who is not aggressive and stays in control of their actions could have higher levels of self-control. Finkel argues it is the interplay of the risk factors that will lead to a fuller understanding of IPV. Future research using this framework should first be used to identify risk factors as either inhibiting forces (e.g., self-control) or impelling forces (e.g., psychopathic traits), and then progress to use mediational analysis to explore the interactions between different combinations. This will provide a much greater understanding of the predictive power of risk factors and their importance in assessment and interventions.

The existing research described and reviewed in Chapter 1, together with the results of this project, provides further evidence that the variables contributing to the increased risk of aggression are plentiful and varied. Some are biological in nature, others social, environmental or developmental. Much of the evidence suggests that childhood is an extremely important stage in development, in terms of these forces taking effect. The current study, and the previous literature, does not support the sole use of the feminist model within treatment and intervention programmes. In fact, the plethora of evidence contradicting this model is so vast that it is hard to believe the paradigm remains so influential. However, as Mederios and Straus (2006), amongst others, have highlighted, the financial and political power still lies with the feminist school of thought. For advances to be made in treating and preventing IPV, strategies must move beyond this. The results of the current project support, and add to, the existing literature and end on an optimistic note that eventually the body of evidence will become strong enough for changes to be implemented.

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Appendix 1 – Measures used
Demographics Sheet

About You

I need to begin by asking you some demographic details:

Are you: MALE or FEMALE (please circle)

How old are you: …………..

Which of the following best describes your ethnic origin*?

White	
Mixed background (Please specify) …………………………………	
Asian, Asian English, or Asian British	
Black, Black English or Black British	
Other ethnicity (Please specify) …………………………………	

* please note ethnic origin will only be used to describe the sample, it will not be used in any analysis

Do you have a romantic partner? (please circle) YES or NO

If yes, what is the sex of your partner (please circle): MALE or FEMALE

Do you live with your partner? (please circle) YES or NO

How would you describe your marital status? (please circle)

Single	Casual dating	Serious dating	Married	Divorced	Widowed

How long has your relationship with your partner lasted (or how long did it last if it has now ended)? _____ years _____ months

Do you have children (your biological children, stepchildren, adopted or foster children) living in your home with you? (please circle) YES or NO

If yes, how many are under the age of 16………………..

Modified Conflict Tactics Scale (CTS; Straus, 1979)

Relationship Disputes

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please circle how many times you did each of these in the previous year (or the last year if this relationship has now ended) of your relationship, and how many times your partner did them in the last year. If your relationship did not last for a year, please indicate how many times you and your partner did each of these during your whole relationship.

How often did this happen in the past year?

0 = This has never happened

1 = Once	4 = 6-10 times
2 = Twice	5 = 11-20 times
3 = 3-5 times	6 = More than 20 times

	Partner did this	I did this
1. Discussed the issue calmly.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
2. Dropped the matter entirely	0 1 2 3 4 5 6	0 1 2 3 4 5 6
3. Did not show that I was angry	0 1 2 3 4 5 6	0 1 2 3 4 5 6
4. Got information to back up his/her side.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
5. Brought in or tried to bring in someone to help settle things.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
6. Yelled or screamed at them	0 1 2 3 4 5 6	0 1 2 3 4 5 6
7. Insulted or swore at the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
8. Tried to make them look stupid	0 1 2 3 4 5 6	0 1 2 3 4 5 6
9. Sulked and/or refused to talk about it.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
10. Stomped out of the room (or house, yard etc..)	0 1 2 3 4 5 6	0 1 2 3 4 5 6
11. Cried.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
12. Did or said something to spite the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
13. Destroyed/damaged something that belonged to them	0 1 2 3 4 5 6	0 1 2 3 4 5 6

14. Threatened to hit or throw something at the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
15. Threw something at the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
16. Threw something (but not at the other one) or smashed something	0 1 2 3 4 5 6	0 1 2 3 4 5 6
17. Pushed, grabbed, or shoved the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
18. Slapped the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
19. Kicked, bit, or hit with a fist.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
20. Hit or tried to hit with something.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
21. Beat up the other one.	0 1 2 3 4 5 6	0 1 2 3 4 5 6
22. Threatened with a weapon (e.g. a knife).	0 1 2 3 4 5 6	0 1 2 3 4 5 6
23. Used a weapon (e.g. a knife).	0 1 2 3 4 5 6	0 1 2 3 4 5 6

Controlling Behaviour Scale (CBS-R; Graham-Kevan & Archer, 2005)

Relationship Influence

Here is a list of things **you and your partner (or most recent ex-partner)** may have done during your relationship. Taking the previous year, or last year of the relationship, indicate how frequently each of you did the following. Using the following code, circle the number which best describes your actions towards your partner and your partner's actions towards you.

0= Never did this, 1= Rarely, 2= Sometimes, 3= Often, 4= Always did this.

	I did this to partner	Partner to did this
1. Made it difficult to work or study	0 1 2 3 4	0 1 2 3 4
2. Control the others money	0 1 2 3 4	0 1 2 3 4
3. Keep own money matters secret	0 1 2 3 4	0 1 2 3 4
4. Refuse to share money / pay fair share	0 1 2 3 4	0 1 2 3 4
5. Threaten to harm the other one	0 1 2 3 4	0 1 2 3 4 .
6. Threaten to leave the relationship	0 1 2 3 4	0 1 2 3 4
7. Threaten to harm self	0 1 2 3 4	0 1 2 3 4
8. Threaten to disclose damaging or embarrassing information	0 1 2 3 4	0 1 2 3 4
9. Try to make the other do things they didn't want to	0 1 2 3 4	0 1 2 3 4
10. Use nasty looks and gestures to make the other one feel bad or silly	0 1 2 3 4	0 1 2 3 4
11. Smash the other ones property when annoyed/angry	0 1 2 3 4	0 1 2 3 4
12. Be nasty or rude to other one's friends or family	0 1 2 3 4	0 1 2 3 4
13. Vent anger on pets	0 1 2 3 4	0 1 2 3 4
14. Try to put the other down when getting 'too big for their boots'	0 1 2 3 4	0 1 2 3 4
15. Show the other one up in public	0 1 2 3 4	0 1 2 3 4
16. Tell the other they were going mad	0 1 2 3 4	0 1 2 3 4
17. Tell the other they were lying or confused	0 1 2 3 4	0 1 2 3 4
18. Call the other unpleasant names?	0 1 2 3 4	0 1 2 3 4
19. Try to restrict time one spent with family or friends	0 1 2 3 4	0 1 2 3 4
20. Want to know where the other went and who they spoke to when not together	0 1 2 3 4	0 1 2 3 4

21. Try to limit the amount of activities outside the relationship the other engaged in	0 1 2 3 4	0 1 2 3 4
22 Act suspicious and jealous of the other one	0 1 2 3 4	0 1 2 3 4
23. Check up on others movements	0 1 2 3 4	0 1 2 3 4
24. Try to make the other feel jealous	0 1 2 3 4	0 1 2 3 4

Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994)

Relationship Scales Questionnaire

Please read each of the following statements and rate the extent to which you believe each statement best describes your feelings about close relationships.

		Not at all like me		Somewhat like me		Very much like me
1.	I find it difficult to depend on other people.	1	2	3	4	5
2.	It is very important to me to feel independent.	1	2	3	4	5
3.	I find it easy to get emotionally close to others.	1	2	3	4	5
4.	I want to merge completely with another person.	1	2	3	4	5
5.	I worry that I will be hurt if I allows myself to become too close to others.	1	2	3	4	5
6.	I am comfortable without close emotional relationships.	1	2	3	4	5
7.	I am not sure that I can always depend on others to be there when I need them.	1	2	3	4	5
8.	I want to be completely emotionally intimate with others.	1	2	3	4	5
9.	I worry about being alone.	1	2	3	4	5
10.	I am comfortable depending on other people.	1	2	3	4	5
11.	I often worry that romantic partners don't really love me.	1	2	3	4	5
12.	I find it difficult to trust others completely.	1	2	3	4	5
13.	I worry about others getting too close to me.	1	2	3	4	5
14.	I want emotionally close relationships.	1	2	3	4	5
15.	I am comfortable having other people depend on me.	1	2	3	4	5
16.	I worry that others don't value me as much as I value them.	1	2	3	4	5
17.	People are never there when you need them.	1	2	3	4	5

18.	My desire to merge completely sometimes scares people away.	1	2	3	4	5
19.	It is very important to me to feel self-sufficient.	1	2	3	4	5
20.	I am nervous when anyone gets too close to me.	1	2	3	4	5
21.	I often worry that romantic partners won't want to stay with me.	1	2	3	4	5
22.	I prefer not to have other people depend on me.	1	2	3	4	5
23.	I worry about being abandoned.	1	2	3	4	5
24.	I am somewhat uncomfortable being close to others.	1	2	3	4	5
25.	I find that others are reluctant to get as close as I would like.	1	2	3	4	5
26.	I prefer not to depend on others.	1	2	3	4	5
27.	I know that others will be there when I need them.	1	2	3	4	5
28.	I worry about having others not accept me.	1	2	3	4	5
29.	Romantic partners often want me to be closer than I feel comfortable being.	1	2	3	4	5
30.	I find it relatively easy to get close to others.	1	2	3	4	5

Levenson Self-Report Psychopathy Scale (LSRP; Levenson, et al., 1995).

Your Thoughts and Feelings

Using the scale provided, please indicate how much each of the following statements reflects how you typically are:

		Strongly Disagree			Strongly Agree
1.	Success is based on survival of the fittest; I am not concerned about the losers	1	2	3	4
2.	For me, what's right is whatever I can get away with	1	2	3	4
3.	In today's world, I feel justified in doing anything I can get away with to succeed	1	2	3	4
4.	My main purpose in life is getting as many goodies as I can	1	2	3	4
5.	Making a lot of money is my most important goal	1	2	3	4
6.	I am often bored	1	2	3	4
7.	I let others worry about higher values; my main concern is with the bottom line	1	2	3	4
8.	People who are stupid enough to get ripped off usually deserve it	1	2	3	4
9.	Looking out for myself is my top priority	1	2	3	4
10.	I find myself in the same kinds of trouble, time after time	1	2	3	4
11.	I tell other people what they want to hear so they will do what I want them to do	1	2	3	4
12.	I would be upset if my success came at someone else's expense	1	2	3	4
13.	I find that I am able to pursue one goal for a long time	1	2	3	4
14.	I don't plan anything very far in advance	1	2	3	4
15.	I quickly lose interest in tasks I start	1	2	3	4
16.	Most of my problems are due to the fact that other people just don't understand me	1	2	3	4
17.	I often admire a really clever scam	1	2	3	4
18.	Before I do anything, I carefully consider the possible consequences	1	2	3	4

	Strongly Disagree			Strongly Agree
19. I make a point of trying not to hurt others in pursuit of my goals	1	2	3	4
20. I enjoy manipulating other people's feelings	1	2	3	4
21. I have been in a lot of shouting matches with other people	1	2	3	4
22. When I get frustrated, I often "let off steam" by blowing my top	1	2	3	4
23. I feel bad if my words or actions cause someone else to feel emotional pain	1	2	3	4
24. Even if I were trying very hard to sell something, I wouldn't lie about it.	1	2	3	4
25. Cheating is not justified because it is unfair to others	1	2	3	4
26. Love is overated	1	2	3	4

<u>Interpersonal Reactivity Index (IRI: Davis, 1980)</u>

Your Thoughts and Feelings

The following statements inquire about your thoughts and feelings in a variety of situations. Please rate on the following scale how much the statements describe you:

0 = doesn't describe me at all
1 = doesn't really describe me
2 = describes me somewhat
3 = describes me quite well
4 = describes me perfectly

1. I daydream and fantasize, with some regularity, about things that might happen to me.	0 1 2 3 4
2. I often have tender, concerned feelings for people less fortunate than me.	0 1 2 3 4
3. I sometimes find it difficult to see things from the "other guy's" point of view.	0 1 2 3 4
4. Sometimes I don't feel very sorry for other people when they are having problems.	0 1 2 3 4
5. I really get involved with the feelings of the characters in a novel.	0 1 2 3 4
6. In emergency situations, I feel apprehensive and ill-at-ease.	0 1 2 3 4
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.	0 1 2 3 4
8. I try to look at everybody's side of a disagreement before I make a decision.	0 1 2 3 4
9. When I see someone being taken advantage of, I feel kind of protective towards them.	0 1 2 3 4
10. I sometimes feel helpless when I am in the middle of a very emotional situation.	0 1 2 3 4
11. I sometimes try to understand my friends better by imagining how things look from their perspective.	0 1 2 3 4
12. Becoming extremely involved in a good book or movie is somewhat rare for me.	0 1 2 3 4
13. When I see someone get hurt, I tend to remain calm.	0 1 2 3 4
14. Other people's misfortunes do not usually disturb me a great deal.	0 1 2 3 4
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	0 1 2 3 4

0 = doesn't describe me at all – 4 = describes me perfectly

16. After seeing a play or movie, I have felt as though I were one of the characters.	0	1	2	3	4
17. Being in a tense emotional situation scares me.	0	1	2	3	4
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	0	1	2	3	4
19. I am usually pretty effective in dealing with emergencies.	0	1	2	3	4
20. I am often quite touched by things that I see happen.	0	1	2	3	4
21. I believe that there are two sides to every question and try to look at them both.	0	1	2	3	4
22. I would describe myself as a pretty soft-hearted person.	0	1	2	3	4
23. When I watch a good movie, I can very easily put myself in the place of a leading character.	0	1	2	3	4
24. I tend to lose control during emergencies.	0	1	2	3	4
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.	0	1	2	3	4
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.	0	1	2	3	4
27. When I see someone who badly needs help in an emergency, I go to pieces.	0	1	2	3	4
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.					

<u>Self-Control (Tangney, et al. (2004)</u>

How I am

Using the scale provided, please indicate how much each of the following statements reflects how you typically are

		not at all — very much
1.	I am good at resisting temptation	1 ----- 2 ----- 3 ----- 4 ----- 5
2.	I have a hard time breaking bad habits	1 ----- 2 ----- 3 ----- 4 ----- 5
3.	I am lazy	1 ----- 2 ----- 3 ----- 4 ----- 5
4.	I say inappropriate things	1 ----- 2 ----- 3 ----- 4 ----- 5
5.	I never allow myself to lose control	1 ----- 2 ----- 3 ----- 4 ----- 5
6.	I do certain things that are bad for me, if they are fun	1 ----- 2 ----- 3 ----- 4 ----- 5
7.	People can count on me to keep on schedule	1 ----- 2 ----- 3 ----- 4 ----- 5
8.	Getting up in the morning is hard for me	1 ----- 2 ----- 3 ----- 4 ----- 5
9.	I have trouble saying no	1 ----- 2 ----- 3 ----- 4 ----- 5
10.	I change my mind fairly often	1 ----- 2 ----- 3 ----- 4 ----- 5
11.	I blurt out whatever is on my mind	1 ----- 2 ----- 3 ----- 4 ----- 5
12.	People would describe me as impulsive	1 ----- 2 ----- 3 ----- 4 ----- 5
13.	I refuse things that are bad for me	1 ----- 2 ----- 3 ----- 4 ----- 5
14.	I spend too much money	1 ----- 2 ----- 3 ----- 4 ----- 5
15.	I keep everything neat	1 ----- 2 ----- 3 ----- 4 ----- 5
16.	I am self-indulgent at times	1 ----- 2 ----- 3 ----- 4 ----- 5
17.	I wish I had more self-discipline	1 ----- 2 ----- 3 ----- 4 ----- 5
18.	I am reliable	1 ----- 2 ----- 3 ----- 4 ----- 5
19.	I get carried away by my feelings	1 ----- 2 ----- 3 ----- 4 ----- 5
20.	I do many things on the spur of the moment	1 ----- 2 ----- 3 ----- 4 ----- 5
21.	I don’t keep secrets very well	1 ----- 2 ----- 3 ----- 4 ----- 5
22.	People would say that I have iron self-discipline	1 ----- 2 ----- 3 ----- 4 ----- 5
23.	I have worked or studied all night at the last minute	1 ----- 2 ----- 3 ----- 4 ----- 5
24.	I’m not easily discouraged	1 ----- 2 ----- 3 ----- 4 ----- 5

25. I'd be better off if is stopped to think before acting 1 ----- 2 ----- 3 ----- 4 ----- 5

26. I engage in healthy practices 1 ----- 2 ----- 3 ----- 4 ----- 5

27. I eat healthy foods 1 ----- 2 ----- 3 ----- 4 ----- 5

28. Pleasure and fun sometimes keep me from getting work done 1 ----- 2 ----- 3 ----- 4 ----- 5

29. I have trouble concentrating 1 ----- 2 ----- 3 ----- 4 ----- 5

30. I am able to work effectively toward long-term goals 1 ----- 2 ----- 3 ----- 4 ----- 5

31. Sometimes I can't stop myself from doing something, even if I know it's wrong 1 ----- 2 ----- 3 ----- 4 ----- 5

32. I often act without thinking through all the alternatives 1 ----- 2 ----- 3 ----- 4 ----- 5

33. I lose my temper too easily 1 ----- 2 ----- 3 ----- 4 ----- 5

34. I often interrupt people 1 ----- 2 ----- 3 ----- 4 ----- 5

35. I sometimes drink or use drugs to excess 1 ----- 2 ----- 3 ----- 4 ----- 5

36. I am always on time 1 ----- 2 ----- 3 ----- 4 ----- 5

Likelihood of Physical Retaliation (LPR; Bates & Graham-Kevan, 2009)

Disagreements and arguments

Sometimes when people have arguments and get into conflict, it can get out of hand and escalate into a physical fight. This can happen with a romantic partner; it can also occur when arguing with friends or even strangers

Please could you rate the items below on the likelihood of them occurring if you hit one of two different types of people: a romantic partner and a non-family member of the same-sex as you. If you have never hit any of the above then please complete the questions as you would imagine it would occur if you ever did. Please use the following scale:

0 = not at all likely, **1** = a little **2** = reasonably **3** = quite likely **4** = very likely

If you hit them how likely do you think that they would do the following:

1. They would walk away:

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

2. They would be disgusted at you:

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

3. They would laugh at you:

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

4. They would try and defend themselves:

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

5. They would lose control and try to hurt you:

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

6. They would hit you back but this wouldn't hurt you:

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

7. They would hit you back and you would suffer minor injuries
   (e.g. knocked down, bruised, scratched, cut but not requiring medical attention)

Partner:	0	1	2	3	4
Same-sex other:	0	1	2	3	4

8. They would hit you back and you would suffer serious injuries
   (e.g. cut requiring medical attention, choked, bones broken, eyes or teeth injured)?

Partner:	0	1	2	3	4
Same-sex other :	0	1	2	3	4

<u>Dispositional Anxiety Measure (DAM; Bates & Graham-Kevan, 2009)</u>

Your Feelings

Below is a list of possible situations which may cause you to feel anxious or fearful. Please rate on the following scale how much the statements describe you:

0 = doesn't describe me at all
1 = doesn't really describe me
2 = describes me somewhat
3 = describes me quite well
4 = describes me perfectly

1. I worry about getting into confrontations with other people.	0	1	2	3	4
2. I feel secure and adequate as a person	0	1	2	3	4
3. I am scared of losing control	0	1	2	3	4
4. I am generally a calm person and don't worry much	0	1	2	3	4
5. I am scared of angry people	0	1	2	3	4
6. Sometimes my worries overwhelm me	0	1	2	3	4
7. I often worry about silly, insignificant things	0	1	2	3	4
8. I often feel nervous	0	1	2	3	4
9. I'm frightened of feeling angry	0	1	2	3	4
10. I find it easy to stop worrying	0	1	2	3	4

Modified Aggression Consequences Questionnaire for Partners (ACQ, Archer, et al. 2010)

Imagine that your partner has been annoying you, and that you ended up hitting him/her. How likely do you think that the following would happen, in terms of the following scale:

5 = very likely, 4 = likely, 3 = not sure, 2 = unlikely, 1 = very unlikely

1. I would worry that other people would not like me because of what I'd done. 5 4 3 2 1
2. My partner would learn a lesson. 5 4 3 2 1
3. My partner would think the relationship was not working 5 4 3 2 1
4. My partner would stop loving me 5 4 3 2 1
5. I would feel proud for standing up for myself. 5 4 3 2 1
6. I would feel better. 5 4 3 2 1
7. I would worry that I would get reported. 5 4 3 2 1
8. My partner would retaliate physically 5 4 3 2 1
9. I would be concerned that my partner would be upset. 5 4 3 2 1
10. My friends would respect me more because of what I'd done. 5 4 3 2 1
11. My partner would get the message that he/she shouldn't mess with me. 5 4 3 2 1
12. I would worry that friends and family of my partner would want to get back at me. 5 4 3 2 1
13. My partner would know not to make fun of me 5 4 3 2 1
14. It would adversely affect my relationship 5 4 3 2 1
15. I'd worry that my partner might be seriously hurt. 5 4 3 2 1
16. It would make me feel I had done the right thing 5 4 3 2 1
17. I'd worry that my partner would attack me later. 5 4 3 2 1
18. I'd feel satisfied with what I'd done. 5 4 3 2 1
19. I would worry that I'd get into trouble. 5 4 3 2 1
20. It would be more likely that my partner would do what I wanted them to. 5 4 3 2 1
21. In the future I'd have some control over my partner. 5 4 3 2 1
22. I would feel good about myself 5 4 3 2 1

Aggression Consequences Questionnaire for same-sex others (ACQ, Archer, et al. 2010)

Imagine that another young person of the same sex as you has been annoying you, and that you ended up hitting them. How likely do you think that the following would happen, in terms of the following scale:

5 = very likely, 4 = likely, 3 = not sure, 2 = unlikely, 1 = very unlikely

1. I would worry that other people would not like me because of what I'd done.	5 4 3 2 1
2. The person I'd hit would learn a lesson.	5 4 3 2 1
3. I would be concerned that other people might distance themselves from me.	5 4 3 2 1
4. I would worry that my reputation with others would be damaged.	5 4 3 2 1
5. I would feel proud for standing up for myself.	5 4 3 2 1
6. I would feel better.	5 4 3 2 1
7. I would worry that I would get reported.	5 4 3 2 1
8. They would retaliate physically.	5 4 3 2 1
9. I would be concerned that the person I'd hit would be upset.	5 4 3 2 1
10. People would respect me more because of what I'd done.	5 4 3 2 1
11. People would get the message that they shouldn't mess with me.	5 4 3 2 1
12. I would worry that friends of the person I'd hit would want to get back at me.	5 4 3 2 1
13. They would know not to make fun of me.	5 4 3 2 1
14. I would be concerned that it would affect my future at the university.	5 4 3 2 1
15. I'd worry that the person I'd hit might be seriously hurt.	5 4 3 2 1
16. It would make me feel I had done the right thing	5 4 3 2 1
17. I'd worry that the person I'd hit would attack me later.	5 4 3 2 1
18. I'd feel satisfied with what I'd done.	5 4 3 2 1
19. I would worry that I'd get into trouble.	5 4 3 2 1
20. It would be more likely I would get my own way	5 4 3 2 1
21. In the future I'd have some control over the person I'd hit.	5 4 3 2 1
22. I would feel good about myself.	5 4 3 2 1

EXPAGG (Campbell et al., 1999)

Imagine you have been in a physical fight with someone. The statements below ask how you feel about the use of physical aggression. Please indicate to what extent you agree with the statements using the following scale:

1 = Strongly Agree, **2** = Agree, **3** = Neither agree nor disagree, **4** = Disagree, **5** = Strongly disagree

1. I believe that physical aggression is necessary to get through to some people	1 2 3 4 5
2. During a physical fight, I feel out of control	1 2 3 4 5
3. If I hit someone and hurt them, I feel as if they were asking for it	1 2 3 4 5
4. I am most likely to get physically aggressive when I've been under a lot of stress and some little thing pushes me over the edge.	1 2 3 4 5
5. I am most likely to get physically aggressive when I feel another person is trying to make me look like a jerk.	1 2 3 4 5
6. In an argument I would feel more annoyed with myself if I cried than if I hit the other person	1 2 3 4 5
7. After a physical fight I feel drained and guilty	1 2 3 4 5
8. The best thing about physical aggression is that it makes the other person get in line	1 2 3 4 5
9. If someone challenged me to a fight in public, I'd feel cowardly if I backed away	1 2 3 4 5
10. After I lash out physically at another person, I would like them to acknowledge how upset they made me and how unhappy I was	1 2 3 4 5
11. I believe that my aggression comes from losing my self-control	1 2 3 4 5
12. After I lash out physically at another person, I would like them to make sure they never annoy me again	1 2 3 4 5
13. When I get to the point of physical aggression, the thing I am most aware of is how upset and shaky I feel	1 2 3 4 5
14. I am more likely to hit out physically when another person shows me up in public	1 2 3 4 5
15. I am more likely to hit out physically when I am alone with the person who is annoying me	1 2 3 4 5
16. In a heated argument I am most afraid of saying something terrible that I can never take back	1 2 3 4 5

SPSS Analysis for Chapter 3

General Linear Model

Between-Subjects Factors

		Value Label	N
gender	1	Male	389
	2	Female	703

Descriptive Statistics

	gender	Mean	Std. Deviation	N
VerbalPerp	Male	7.2725	7.70612	389
	Female	11.9630	9.13752	703
	Total	10.2921	8.93832	1092
DisplacePerp	Male	.4550	1.40916	389
	Female	.5889	1.51826	703
	Total	.5412	1.48106	1092
PhysicalPerp	Male	.8226	3.36705	389
	Female	1.5633	3.64932	703
	Total	1.2995	3.56748	1092
VerbalGA	Male	7.4242	8.15807	389
	Female	7.1408	7.81982	703
	Total	7.2418	7.93940	1092
DisplaceGA	Male	.4910	1.57724	389
	Female	.3129	1.18943	703
	Total	.3764	1.34250	1092
PhysicalGA	Male	1.8201	5.09786	389
	Female	.7752	3.21554	703
	Total	1.1474	4.01821	1092

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.246	58.804[a]	6.000	1084.000	.000
	Wilks' Lambda	.754	58.804[a]	6.000	1084.000	.000
	Hotelling's Trace	.325	58.804[a]	6.000	1084.000	.000
	Roy's Largest Root	.325	58.804[a]	6.000	1084.000	.000
age	Pillai's Trace	.061	11.746[a]	6.000	1084.000	.000
	Wilks' Lambda	.939	11.746[a]	6.000	1084.000	.000
	Hotelling's Trace	.065	11.746[a]	6.000	1084.000	.000
	Roy's Largest Root	.065	11.746[a]	6.000	1084.000	.000
gender	Pillai's Trace	.104	20.965[a]	6.000	1084.000	.000
	Wilks' Lambda	.896	20.965[a]	6.000	1084.000	.000
	Hotelling's Trace	.116	20.965[a]	6.000	1084.000	.000
	Roy's Largest Root	.116	20.965[a]	6.000	1084.000	.000

a. Exact statistic

b. Design: Intercept + age + gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	VerbalPerp	5886.772[a]	2	2943.386	39.437	.000
	DisplacePerp	12.082[b]	2	6.041	2.763	.064
	PhysicalPerp	221.050[c]	2	110.525	8.809	.000
	VerbalGA	4065.248[d]	2	2032.624	34.210	.000
	DisplaceGA	33.136[e]	2	16.568	9.333	.000
	PhysicalGA	557.597[f]	2	278.799	17.799	.000
Intercept	VerbalPerp	12764.219	1	12764.219	171.023	.000
	DisplacePerp	60.045	1	60.045	27.462	.000
	PhysicalPerp	416.920	1	416.920	33.228	.000
	VerbalGA	17431.124	1	17431.124	293.370	.000
	DisplaceGA	76.072	1	76.072	42.853	.000
	PhysicalGA	828.200	1	828.200	52.874	.000
age	VerbalPerp	377.114	1	377.114	5.053	.025
	DisplacePerp	7.593	1	7.593	3.473	.063
	PhysicalPerp	83.664	1	83.664	6.668	.010
	VerbalGA	4045.144	1	4045.144	68.081	.000
	DisplaceGA	25.197	1	25.197	14.194	.000
	PhysicalGA	284.227	1	284.227	18.146	.000
gender	VerbalPerp	4256.648	1	4256.648	57.033	.000
	DisplacePerp	1.478	1	1.478	.676	.411
	PhysicalPerp	72.517	1	72.517	5.779	.016
	VerbalGA	527.903	1	527.903	8.885	.003
	DisplaceGA	17.376	1	17.376	9.788	.002
	PhysicalGA	430.902	1	430.902	27.510	.000
Error	VerbalPerp	81277.040	1089	74.635		
	DisplacePerp	2381.063	1089	2.186		
	PhysicalPerp	13664.030	1089	12.547		
	VerbalGA	64704.928	1089	59.417		
	DisplaceGA	1933.174	1089	1.775		
	PhysicalGA	17057.666	1089	15.664		
Total	VerbalPerp	202837.000	1092			
	DisplacePerp	2713.000	1092			
	PhysicalPerp	15729.000	1092			
	VerbalGA	126038.000	1092			
	DisplaceGA	2121.000	1092			
	PhysicalGA	19053.000	1092			
Corrected Total	VerbalPerp	87163.812	1091			

	DisplacePerp	2393.146	1091			
	PhysicalPerp	13885.080	1091			
	VerbalGA	68770.176	1091			
	DisplaceGA	1966.310	1091			
	PhysicalGA	17615.263	1091			

T-Test

Paired Samples Statistics

gender			Mean	N	Std. Deviation	Std. Error Mean
Male	Pair 1	CTSIverbal	7.2179	149	7.52875	.61678
		CTSverbal	7.0403	149	8.09895	.66349
	Pair 2	CTSIDisplacement	.3959	149	1.24769	.10221
		CTSdisplacement	.4698	149	1.47299	.12067
	Pair 3	CTSIPhysical	.7711	149	3.29444	.26989
		CTSphysical	2.0202	149	5.28441	.43292
Female	Pair 1	CTSIverbal	11.0848	246	9.34818	.59602
		CTSverbal	6.4981	246	7.65160	.48785
	Pair 2	CTSIDisplacement	.6259	246	1.60197	.10214
		CTSdisplacement	.2491	246	1.08762	.06934
	Pair 3	CTSIPhysical	1.5912	246	3.66324	.23356
		CTSphysical	.9268	246	3.87598	.24712

Paired Samples Correlations

gender			N	Correlation	Sig.
Male	Pair 1	CTSIverbal & CTSverbal	149	.271	.001
	Pair 2	CTSIDisplacement & CTSdisplacement	149	.352	.000
	Pair 3	CTSIPhysical & CTSphysical	149	.633	.000
Female	Pair 1	CTSIverbal & CTSverbal	246	.294	.000
	Pair 2	CTSIDisplacement & CTSdisplacement	246	.404	.000
	Pair 3	CTSIPhysical & CTSphysical	246	.412	.000

Paired Samples Test

gender			Paired Differences Mean	Std. Deviation	Std. Error Mean
Male	Pair 1	CTSIverbal - CTSverbal	.17764	9.44336	.77363
	Pair 2	CTSIDisplacement - CTSdisplacement	-.07388	1.55928	.12774
	Pair 3	CTSIPhysical - CTSphysical	-1.24910	4.09215	.33524
Female	Pair 1	CTSIverbal - CTSverbal	4.58665	10.19364	.64992
	Pair 2	CTSIDisplacement - CTSdisplacement	.37679	1.53011	.09756
	Pair 3	CTSIPhysical - CTSphysical	.66439	4.09306	.26096

Paired Samples Test

gender			Paired Differences 95% Confidence Interval of the Difference Lower	Upper
Male	Pair 1	CTSIverbal - CTSverbal	-1.35115	1.70643
	Pair 2	CTSIDisplacement - CTSdisplacement	-.32631	.17855
	Pair 3	CTSIPhysical - CTSphysical	-1.91158	-.58662
Female	Pair 1	CTSIverbal - CTSverbal	3.30650	5.86680
	Pair 2	CTSIDisplacement - CTSdisplacement	.18464	.56895
	Pair 3	CTSIPhysical - CTSphysical	.15037	1.17841

Paired Samples Test

gender			t	df	Sig. (2-tailed)
Male	Pair 1	CTSIverbal - CTSverbal	.230	148	.819
	Pair 2	CTSIDisplacement - CTSdisplacement	-.578	148	.564
	Pair 3	CTSIPhysical - CTSphysical	-3.726	148	.000
Female	Pair 1	CTSIverbal - CTSverbal	7.057	245	.000
	Pair 2	CTSIDisplacement - CTSdisplacement	3.862	245	.000
	Pair 3	CTSIPhysical - CTSphysical	2.546	245	.012

T-Test

Paired Samples Statistics

gender			Mean	N	Std. Deviation	Std. Error Mean
Male	Pair 1	CTSIverbal	7.2179	149	7.52875	.61678
		CTSverbal	7.0403	149	8.09895	.66349
	Pair 2	CTSIDisplacement	.3959	149	1.24769	.10221
		CTSdisplacement	.4698	149	1.47299	.12067
	Pair 3	CTSIPhysical	.7711	149	3.29444	.26989
		CTSphysical	2.0202	149	5.28441	.43292
Female	Pair 1	CTSIverbal	11.0848	246	9.34818	.59602
		CTSverbal	6.4981	246	7.65160	.48785
	Pair 2	CTSIDisplacement	.6259	246	1.60197	.10214
		CTSdisplacement	.2491	246	1.08762	.06934
	Pair 3	CTSIPhysical	1.5912	246	3.66324	.23356
		CTSphysical	.9268	246	3.87598	.24712

Paired Samples Correlations

Gender			N	Correlation	Sig.
Male	Pair 1	CTSIverbal & CTSverbal	149	.271	.001
	Pair 2	CTSIDisplacement & CTSdisplacement	149	.352	.000
	Pair 3	CTSIPhysical & CTSphysical	149	.633	.000
Female	Pair 1	CTSIverbal & CTSverbal	246	.294	.000
	Pair 2	CTSIDisplacement & CTSdisplacement	246	.404	.000
	Pair 3	CTSIPhysical & CTSphysical	246	.412	.000

Paired Samples Test

			Paired Differences		
Gender			Mean	Std. Deviation	Std. Error Mean
Male	Pair 1	CTSIverbal - CTSverbal	.17764	9.44336	.77363
	Pair 2	CTSIDisplacement - CTSdisplacement	-.07388	1.55928	.12774
	Pair 3	CTSIPhysical - CTSphysical	-1.24910	4.09215	.33524
Female	Pair 1	CTSIverbal - CTSverbal	4.58665	10.19364	.64992
	Pair 2	CTSIDisplacement - CTSdisplacement	.37679	1.53011	.09756
	Pair 3	CTSIPhysical - CTSphysical	.66439	4.09306	.26096

Paired Samples Test

Gender			Paired Differences: 95% Confidence Interval of the Difference — Lower	Upper
Male	Pair 1	CTSIverbal - CTSverbal	-1.35115	1.70643
	Pair 2	CTSIDisplacement - CTSdisplacement	-.32631	.17855
	Pair 3	CTSIPhysical - CTSphysical	-1.91158	-.58662
Female	Pair 1	CTSIverbal - CTSverbal	3.30650	5.86680
	Pair 2	CTSIDisplacement - CTSdisplacement	.18464	.56895
	Pair 3	CTSIPhysical - CTSphysical	.15037	1.17841

Paired Samples Test

Gender			t	df	Sig. (2-tailed)
Male	Pair 1	CTSIverbal - CTSverbal	.230	148	.819
	Pair 2	CTSIDisplacement - CTSdisplacement	-.578	148	.564
	Pair 3	CTSIPhysical - CTSphysical	-3.726	148	.000
Female	Pair 1	CTSIverbal - CTSverbal	7.057	245	.000
	Pair 2	CTSIDisplacement - CTSdisplacement	3.862	245	.000
	Pair 3	CTSIPhysical - CTSphysical	2.546	245	.012

Correlations

Correlations

Gender			CTSIverbal	CTSIDisplacement	CTSIPhysical
Male	CTSIverbal	Pearson Correlation	1	.549**	.421**
		Sig. (2-tailed)		.000	.000
		N	149	149	149
	CTSIDisplacement	Pearson Correlation	.549**	1	.732**
		Sig. (2-tailed)	.000		.000
		N	149	149	149
	CTSIPhysical	Pearson Correlation	.421**	.732**	1
		Sig. (2-tailed)	.000	.000	
		N	149	149	149
	CTSverbal	Pearson Correlation	.271**	.207*	.298**
		Sig. (2-tailed)	.001	.011	.000
		N	149	149	149
	CTSdisplacement	Pearson Correlation	.221**	.352**	.489**
		Sig. (2-tailed)	.007	.000	.000
		N	149	149	149
	CTSphysical	Pearson Correlation	.284**	.405**	.633**
		Sig. (2-tailed)	.000	.000	.000
		N	149	149	149
Female	CTSIverbal	Pearson Correlation	1	.507**	.555**
		Sig. (2-tailed)		.000	.000
		N	246	246	246
	CTSIDisplacement	Pearson Correlation	.507**	1	.726**
		Sig. (2-tailed)	.000		.000
		N	246	246	246
	CTSIPhysical	Pearson Correlation	.555**	.726**	1
		Sig. (2-tailed)	.000	.000	
		N	246	246	246
	CTSverbal	Pearson Correlation	.294**	.199**	.204**
		Sig. (2-tailed)	.000	.002	.001
		N	246	246	246
	CTSdisplacement	Pearson Correlation	.226**	.404**	.383**
		Sig. (2-tailed)	.000	.000	.000
		N	246	246	246
	CTSphysical	Pearson Correlation	.240**	.386**	.412**
		Sig. (2-tailed)	.000	.000	.000
		N	246	246	246

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

gender			CTSverbal	CTSdisplacement	CTSphysical
Male	CTSIverbal	Pearson Correlation	.271**	.221**	.284**
		Sig. (2-tailed)	.001	.007	.000
		N	149	149	149
	CTSIDisplacement	Pearson Correlation	.207*	.352**	.405**
		Sig. (2-tailed)	.011	.000	.000
		N	149	149	149
	CTSIPhysical	Pearson Correlation	.298**	.489**	.633**
		Sig. (2-tailed)	.000	.000	.000
		N	149	149	149
	CTSverbal	Pearson Correlation	1	.528**	.650**
		Sig. (2-tailed)		.000	.000
		N	149	149	149
	CTSdisplacement	Pearson Correlation	.528**	1	.733**
		Sig. (2-tailed)	.000		.000
		N	149	149	149
	CTSphysical	Pearson Correlation	.650**	.733**	1
		Sig. (2-tailed)	.000	.000	
		N	149	149	149
Female	CTSIverbal	Pearson Correlation	.294**	.226**	.240**
		Sig. (2-tailed)	.000	.000	.000
		N	246	246	246
	CTSIDisplacement	Pearson Correlation	.199**	.404**	.386**
		Sig. (2-tailed)	.002	.000	.000
		N	246	246	246
	CTSIPhysical	Pearson Correlation	.204**	.383**	.412**
		Sig. (2-tailed)	.001	.000	.000
		N	246	246	246
	CTSverbal	Pearson Correlation	1	.495**	.465**
		Sig. (2-tailed)		.000	.000
		N	246	246	246
	CTSdisplacement	Pearson Correlation	.495**	1	.849**
		Sig. (2-tailed)	.000		.000
		N	246	246	246
	CTSphysical	Pearson Correlation	.465**	.849**	1
		Sig. (2-tailed)	.000	.000	
		N	246	246	246

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

gender			CTSverbal	CTSdisplacement	CTSphysical
Male	CTSIverbal	Pearson Correlation	.271**	.221**	.284**
		Sig. (2-tailed)	.001	.007	.000
		N	149	149	149
	CTSIDisplacement	Pearson Correlation	.207*	.352**	.405**
		Sig. (2-tailed)	.011	.000	.000
		N	149	149	149
	CTSIPhysical	Pearson Correlation	.298**	.489**	.633**
		Sig. (2-tailed)	.000	.000	.000
		N	149	149	149
	CTSverbal	Pearson Correlation	1	.528**	.650**
		Sig. (2-tailed)		.000	.000
		N	149	149	149
	CTSdisplacement	Pearson Correlation	.528**	1	.733**
		Sig. (2-tailed)	.000		.000
		N	149	149	149
	CTSphysical	Pearson Correlation	.650**	.733**	1
		Sig. (2-tailed)	.000	.000	
		N	149	149	149
Female	CTSIverbal	Pearson Correlation	.294**	.226**	.240**
		Sig. (2-tailed)	.000	.000	.000
		N	246	246	246
	CTSIDisplacement	Pearson Correlation	.199**	.404**	.386**
		Sig. (2-tailed)	.002	.000	.000
		N	246	246	246
	CTSIPhysical	Pearson Correlation	.204**	.383**	.412**
		Sig. (2-tailed)	.001	.000	.000
		N	246	246	246
	CTSverbal	Pearson Correlation	1	.495**	.465**
		Sig. (2-tailed)		.000	.000
		N	246	246	246
	CTSdisplacement	Pearson Correlation	.495**	1	.849**
		Sig. (2-tailed)	.000		.000
		N	246	246	246
	CTSphysical	Pearson Correlation	.465**	.849**	1
		Sig. (2-tailed)	.000	.000	
		N	246	246	246

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

SPSS Analysis for Chapter 4
General Linear Model

Between-Subjects Factors

		Value Label	N
gender	1	Male	389
	2	Female	703

Descriptive Statistics

	gender	Mean	Std. Deviation	N
CBSPerpTotal	Male	8.8201	10.96637	389
	Female	11.1138	10.64641	703
	Total	10.2967	10.81245	1092
CBSVictimTotal	Male	11.7429	13.82981	389
	Female	12.8976	12.59147	703
	Total	12.4863	13.05150	1092

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.150	96.359[a]	2.000	1088.000	.000
	Wilks' Lambda	.850	96.359[a]	2.000	1088.000	.000
	Hotelling's Trace	.177	96.359[a]	2.000	1088.000	.000
	Roy's Largest Root	.177	96.359[a]	2.000	1088.000	.000
age	Pillai's Trace	.017	9.257[a]	2.000	1088.000	.000
	Wilks' Lambda	.983	9.257[a]	2.000	1088.000	.000
	Hotelling's Trace	.017	9.257[a]	2.000	1088.000	.000
	Roy's Largest Root	.017	9.257[a]	2.000	1088.000	.000
gender	Pillai's Trace	.006	3.126[a]	2.000	1088.000	.044
	Wilks' Lambda	.994	3.126[a]	2.000	1088.000	.044
	Hotelling's Trace	.006	3.126[a]	2.000	1088.000	.044
	Roy's Largest Root	.006	3.126[a]	2.000	1088.000	.044

a. Exact statistic

b. Design: Intercept + age + gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square
Corrected Model	CBSPerpTotal	3423.109[a]	2	1711.555
	CBSVictimTotal	2139.617[b]	2	1069.808
Intercept	CBSPerpTotal	20041.737	1	20041.737
	CBSVictimTotal	26073.185	1	26073.185
Age	CBSPerpTotal	2105.541	1	2105.541
	CBSVictimTotal	1805.742	1	1805.742
gender	CBSPerpTotal	449.917	1	449.917
	CBSVictimTotal	24.780	1	24.780
Error	CBSPerpTotal	124124.759	1089	113.980
	CBSVictimTotal	183703.177	1089	168.690
Total	CBSPerpTotal	243324.000	1092	
	CBSVictimTotal	356093.000	1092	
Corrected Total	CBSPerpTotal	127547.868	1091	
	CBSVictimTotal	185842.794	1091	

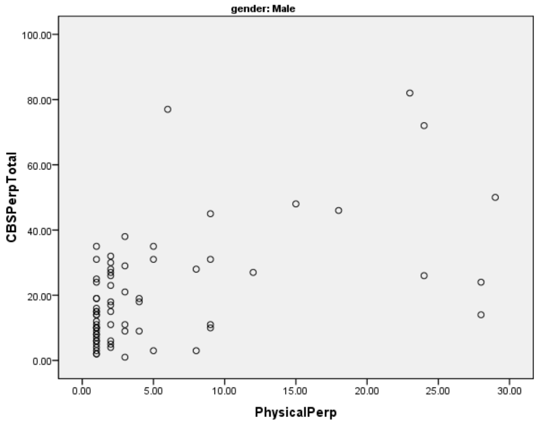
a. R Squared = .027 (Adjusted R Squared = .025)

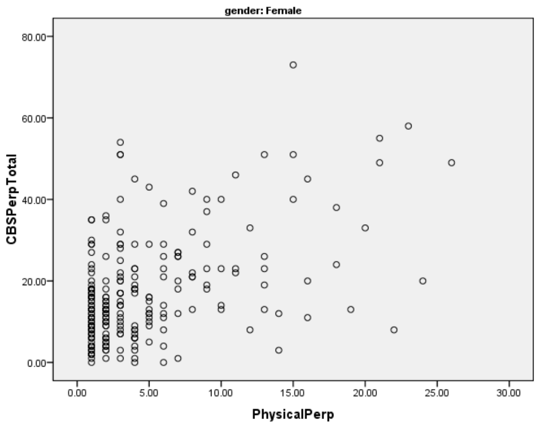
b. R Squared = .012 (Adjusted R Squared = .010)

Tests of Between-Subjects Effects

Source	Dependent Variable	F	Sig.
Corrected Model	CBSPerpTotal	15.016	.000
	CBSVictimTotal	6.342	.002
Intercept	CBSPerpTotal	175.835	.000
	CBSVictimTotal	154.563	.000
age	CBSPerpTotal	18.473	.000
	CBSVictimTotal	10.705	.001
gender	CBSPerpTotal	3.947	.047
	CBSVictimTotal	.147	.702

Graph





Quick Cluster

Initial Cluster Centers

	Cluster	
	1	2
CBSPerpTotal	.00	82.00

Iteration History[a]

Iteration	Change in Cluster Centers	
	1	2
1	9.271	30.037
2	.662	8.481
3	.578	5.434
4	.480	3.253
5	.419	2.385
6	.422	2.150
7	.173	.804
8	.306	1.335
9	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 9. The minimum distance between initial centers is 82.000.

Final Cluster Centers

	Cluster	
	1	2
CBSPerpTotal	6.23	28.12

Distances between Final Cluster Centers

Cluster	1	2
1		21.891
2	21.891	

Number of Cases in each Cluster

Cluster	1	898.000
	2	206.000
	Valid	1104.000
	Missing	.000

T-Test

Group Statistics

	Cluster Number of Case	N	Mean	Std. Deviation	Std. Error Mean
CBSPerpTotal	low	898	6.2305	4.98708	.16642
	high	206	28.1214	11.39832	.79416

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
CBSPerpTotal	Equal variances assumed	152.306	.000	-42.520	1102
	Equal variances not assumed			-26.979	223.302

Independent Samples Test

		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
CBSPerpTotal	Equal variances assumed	.000	-21.89085	.51484
	Equal variances not assumed	.000	-21.89085	.81141

Independent Samples Test

		t-test for Equality of Means 95% Confidence Interval of the Difference	
		Lower	Upper
CBSPerpTotal	Equal variances assumed	-22.90102	-20.88068
	Equal variances not assumed	-23.48985	-20.29185

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
gender * Cluster Number of Case	1104	100.0%	0	.0%	1104	100.0%

gender * Cluster Number of Case Crosstabulation

			Cluster Number of Case		
			low	high	Total
gender	Male	Count	336	62	398
		Expected Count	323.7	74.3	398.0
	Female	Count	562	144	706
		Expected Count	574.3	131.7	706.0
	Total	Count	898	206	1104
		Expected Count	898.0	206.0	1104.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.894[a]	1	.048		
Continuity Correction[b]	3.583	1	.058		
Likelihood Ratio	3.978	1	.046		
Fisher's Exact Test				.053	.028
Linear-by-Linear Association	3.890	1	.049		
N of Valid Cases	1104				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 74.26.

b. Computed only for a 2x2 table

Quick Cluster

Initial Cluster Centers

	Cluster	
	1	2
CBSVictimTotal	79.00	.00

Iteration History[a]

	Change in Cluster Centers	
Iteration	1	2
1	27.737	10.439
2	7.454	1.178
3	3.909	.719
4	2.095	.433
5	1.704	.365
6	1.047	.237
7	.000	.000

Iteration History[a]

Iteration	Change in Cluster Centers 1	2
1	27.737	10.439
2	7.454	1.178
3	3.909	.719
4	2.095	.433
5	1.704	.365
6	1.047	.237
7	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 7. The minimum distance between initial centers is 79.000.

Final Cluster Centers

	Cluster 1	2
CBSVictimTotal	35.05	7.51

Distances between Final Cluster Centers

Cluster	1	2
1		27.548
2	27.548	

Number of Cases in each Cluster

Cluster	1	202.000
	2	902.000
Valid		1104.000
Missing		.000

T-Test

Group Statistics

	Cluster Number of Case	N	Mean	Std. Deviation	Std. Error Mean
CBSVictimTotal	high	202	35.0545	12.23656	.86096
	low	902	7.5067	6.11084	.20347

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
CBSVictimTotal	Equal variances assumed	174.330	.000	46.533	1102
	Equal variances not assumed			31.139	223.923

Independent Samples Test

		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
CBSVictimTotal	Equal variances assumed	.000	27.54780	.59201
	Equal variances not assumed	.000	27.54780	.88468

Independent Samples Test

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
CBSVictimTotal	Equal variances assumed	26.38621	28.70939
	Equal variances not assumed	25.80445	29.29116

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
gender * Cluster Number of Case	1104	100.0%	0	.0%	1104	100.0%

gender * Cluster Number of Case Crosstabulation

			Cluster Number of Case		
			high	low	Total
gender	Male	Count	75	323	398
		Expected Count	72.8	325.2	398.0
	Female	Count	127	579	706
		Expected Count	129.2	576.8	706.0
	Total	Count	202	902	1104
		Expected Count	202.0	902.0	1104.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.125[a]	1	.724		
Continuity Correction[b]	.074	1	.786		
Likelihood Ratio	.124	1	.725		
Fisher's Exact Test				.746	.391
Linear-by-Linear Association	.125	1	.724		
N of Valid Cases	1104				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 72.82.

b. Computed only for a 2x2 table

General Linear Model

Between-Subjects Factors

		Value Label	N
gender	1	Male	389
	2	Female	703
Perp Cluster	1	low	887
	2	high	205
Vic Cluster	1	high	198
	2	low	894

Descriptive Statistics

	gender	Perp Cluster	Vic Cluster	Mean	Std. Deviation	N
PhysicalGA	Male	low	High	.9615	2.08769	26
			Low	1.0861	3.89384	302
			Total	1.0762	3.78032	328
		high	High	7.1333	9.23088	45
			Low	2.1250	3.72156	16
			Total	5.8197	8.41924	61
		Total	High	4.8732	8.00523	71
			Low	1.1384	3.88636	318
			Total	1.8201	5.09786	389
	Female	low	High	.6944	1.72079	36
			Low	.4379	2.13739	523
			Total	.4544	2.11268	559
		high	High	2.7802	6.62789	91
			Low	.7170	2.74126	53
			Total	2.0208	5.60153	144
		Total	High	2.1890	5.75248	127

			Low	.4635	2.19851	576
			Total	.7752	3.21554	703
	Total	low	High	.8065	1.87161	62
			Low	.6752	2.92066	825
			Total	.6843	2.85931	887
		high	High	4.2206	7.82843	136
			Low	1.0435	3.02652	69
			Total	3.1512	6.77304	205
		Total	High	3.1515	6.75287	198
			Low	.7036	2.92888	894
			Total	1.1474	4.01821	1092
PhysicalPerp	Male	low	High	.6923	1.80597	26
			Low	.1954	.88072	302
			Total	.2348	.99067	328
		high	High	5.0444	8.38276	45
			Low	1.0000	2.16025	16
			Total	3.9836	7.47773	61
		Total	High	3.4507	7.05648	71
			Low	.2358	.99416	318
			Total	.8226	3.36705	389
	Female	low	High	2.0278	4.35225	36
			Low	.7304	1.98991	523
			Total	.8140	2.23473	559
		high	High	5.2198	6.20538	91
			Low	3.1887	5.23691	53
			Total	4.4722	5.93077	144
		Total	High	4.3150	5.90359	127
			Low	.9566	2.56529	576
			Total	1.5633	3.64932	703
	Total	low	High	1.4677	3.55619	62
			Low	.5345	1.69066	825
			Total	.5998	1.89359	887
		high	High	5.1618	6.97001	136
			Low	2.6812	4.78199	69
			Total	4.3268	6.41502	205
		Total	High	4.0051	6.33698	198
			Low	.7002	2.16964	894
			Total	1.2995	3.56748	1092
PhysicalVictim	Male	low	High	4.3077	7.79625	26
			Low	.4636	1.90915	302
			Total	.7683	3.01393	328
		high	High	6.6667	9.53224	45
			Low	3.1875	6.96868	16
			Total	5.7541	9.00862	61

		Total	High	5.8028	8.95165	71
			Low	.6006	2.47274	318
			Total	1.5501	4.84775	389
	Female	low	High	2.9722	4.56375	36
			Low	.3901	1.41450	523
			Total	.5564	1.89225	559
		high	High	4.7912	7.34925	91
			Low	2.0755	4.70208	53
			Total	3.7917	6.61517	144
		Total	High	4.2756	6.71137	127
			Low	.5451	2.01336	576
			Total	1.2191	3.66982	703
	Total	low	High	3.5323	6.10755	62
			Low	.4170	1.61251	825
			Total	.6347	2.37026	887
		high	High	5.4118	8.14905	136
			Low	2.3333	5.27666	69
			Total	4.3756	7.43998	205
		Total	High	4.8232	7.60404	198
			Low	.5649	2.18663	894
			Total	1.3370	4.12899	1092

Multivariate Tests[b]

Effect		Value	F	Hypothesis df
Intercept	Pillai's Trace	.085	33.294[a]	3.000
	Wilks' Lambda	.915	33.294[a]	3.000
	Hotelling's Trace	.092	33.294[a]	3.000
	Roy's Largest Root	.092	33.294[a]	3.000
age	Pillai's Trace	.009	3.382[a]	3.000
	Wilks' Lambda	.991	3.382[a]	3.000
	Hotelling's Trace	.009	3.382[a]	3.000
	Roy's Largest Root	.009	3.382[a]	3.000
gender	Pillai's Trace	.058	22.257[a]	3.000
	Wilks' Lambda	.942	22.257[a]	3.000
	Hotelling's Trace	.062	22.257[a]	3.000
	Roy's Largest Root	.062	22.257[a]	3.000
PerpCluster	Pillai's Trace	.063	24.285[a]	3.000
	Wilks' Lambda	.937	24.285[a]	3.000
	Hotelling's Trace	.067	24.285[a]	3.000
	Roy's Largest Root	.067	24.285[a]	3.000
VicCluster	Pillai's Trace	.058	22.304[a]	3.000
	Wilks' Lambda	.942	22.304[a]	3.000
	Hotelling's Trace	.062	22.304[a]	3.000

	Roy's Largest Root	.062	22.304[a]	3.000
gender * PerpCluster	Pillai's Trace	.010	3.717[a]	3.000
	Wilks' Lambda	.990	3.717[a]	3.000
	Hotelling's Trace	.010	3.717[a]	3.000
	Roy's Largest Root	.010	3.717[a]	3.000
gender * VicCluster	Pillai's Trace	.003	.940[a]	3.000
	Wilks' Lambda	.997	.940[a]	3.000
	Hotelling's Trace	.003	.940[a]	3.000
	Roy's Largest Root	.003	.940[a]	3.000
PerpCluster * VicCluster	Pillai's Trace	.029	10.804[a]	3.000
	Wilks' Lambda	.971	10.804[a]	3.000
	Hotelling's Trace	.030	10.804[a]	3.000
	Roy's Largest Root	.030	10.804[a]	3.000
gender * PerpCluster * VicCluster	Pillai's Trace	.010	3.813[a]	3.000
	Wilks' Lambda	.990	3.813[a]	3.000
	Hotelling's Trace	.011	3.813[a]	3.000
	Roy's Largest Root	.011	3.813[a]	3.000

a. Exact statistic

b. Design: Intercept + age + gender + PerpCluster + VicCluster + gender * PerpCluster + gender * VicCluster + PerpCluster * VicCluster + gender * PerpCluster * VicCluster

Multivariate Tests[b]

Effect		Error df	Sig.
Intercept	Pillai's Trace	1081.000	.000
	Wilks' Lambda	1081.000	.000
	Hotelling's Trace	1081.000	.000
	Roy's Largest Root	1081.000	.000
age	Pillai's Trace	1081.000	.018
	Wilks' Lambda	1081.000	.018
	Hotelling's Trace	1081.000	.018
	Roy's Largest Root	1081.000	.018
gender	Pillai's Trace	1081.000	.000
	Wilks' Lambda	1081.000	.000
	Hotelling's Trace	1081.000	.000
	Roy's Largest Root	1081.000	.000
PerpCluster	Pillai's Trace	1081.000	.000
	Wilks' Lambda	1081.000	.000
	Hotelling's Trace	1081.000	.000
	Roy's Largest Root	1081.000	.000
VicCluster	Pillai's Trace	1081.000	.000
	Wilks' Lambda	1081.000	.000
	Hotelling's Trace	1081.000	.000
	Roy's Largest Root	1081.000	.000
gender * PerpCluster	Pillai's Trace	1081.000	.011
	Wilks' Lambda	1081.000	.011

	Hotelling's Trace	1081.000	.011
	Roy's Largest Root	1081.000	.011
gender * VicCluster	Pillai's Trace	1081.000	.421
	Wilks' Lambda	1081.000	.421
	Hotelling's Trace	1081.000	.421
	Roy's Largest Root	1081.000	.421
PerpCluster * VicCluster	Pillai's Trace	1081.000	.000
	Wilks' Lambda	1081.000	.000
	Hotelling's Trace	1081.000	.000
	Roy's Largest Root	1081.000	.000
gender * PerpCluster * VicCluster	Pillai's Trace	1081.000	.010
	Wilks' Lambda	1081.000	.010
	Hotelling's Trace	1081.000	.010
	Roy's Largest Root	1081.000	.010

b. Design: Intercept + age + gender + PerpCluster + VicCluster + gender * PerpCluster + gender * VicCluster + PerpCluster * VicCluster + gender * PerpCluster * VicCluster

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square
Corrected Model	PhysicalGA	2280.959[a]	8	285.120
	PhysicalPerp	2800.963[b]	8	350.120
	PhysicalVictim	3473.796[c]	8	434.224
Intercept	PhysicalGA	793.818	1	793.818
	PhysicalPerp	583.032	1	583.032
	PhysicalVictim	870.160	1	870.160
age	PhysicalGA	128.098	1	128.098
	PhysicalPerp	14.483	1	14.483
	PhysicalVictim	1.017	1	1.017
gender	PhysicalGA	283.776	1	283.776
	PhysicalPerp	85.095	1	85.095
	PhysicalVictim	104.787	1	104.787
PerpCluster	PhysicalGA	449.113	1	449.113
	PhysicalPerp	607.950	1	607.950
	PhysicalVictim	390.389	1	390.389
VicCluster	PhysicalGA	266.561	1	266.561
	PhysicalPerp	328.091	1	328.091
	PhysicalVictim	853.430	1	853.430
gender * PerpCluster	PhysicalGA	115.002	1	115.002
	PhysicalPerp	1.719	1	1.719
	PhysicalVictim	13.043	1	13.043
gender * VicCluster	PhysicalGA	28.217	1	28.217

	PhysicalPerp	6.751	1	6.751
	PhysicalVictim	21.465	1	21.465
PerpCluster * VicCluster	PhysicalGA	255.463	1	255.463
	PhysicalPerp	97.812	1	97.812
	PhysicalVictim	.298	1	.298
gender * PerpCluster * VicCluster	PhysicalGA	55.210	1	55.210
	PhysicalPerp	41.316	1	41.316
	PhysicalVictim	1.393	1	1.393
Error	PhysicalGA	15334.304	1083	14.159
	PhysicalPerp	11084.116	1083	10.235
	PhysicalVictim	15126.190	1083	13.967
Total	PhysicalGA	19053.000	1092	
	PhysicalPerp	15729.000	1092	
	PhysicalVictim	20552.000	1092	
Corrected Total	PhysicalGA	17615.263	1091	
	PhysicalPerp	13885.080	1091	
	PhysicalVictim	18599.985	1091	

a. R Squared = .129 (Adjusted R Squared = .123)

b. R Squared = .202 (Adjusted R Squared = .196)

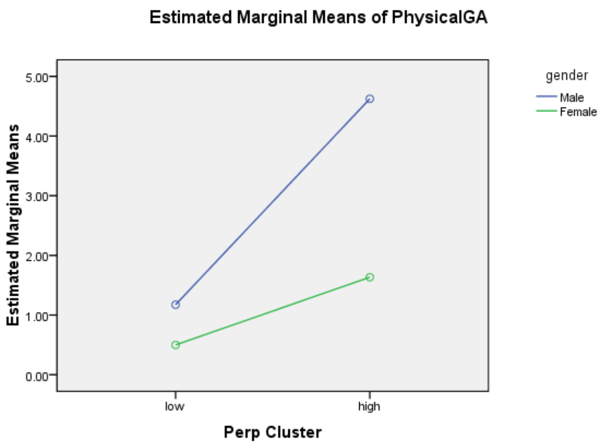
c. R Squared = .187 (Adjusted R Squared = .181)

Tests of Between-Subjects Effects

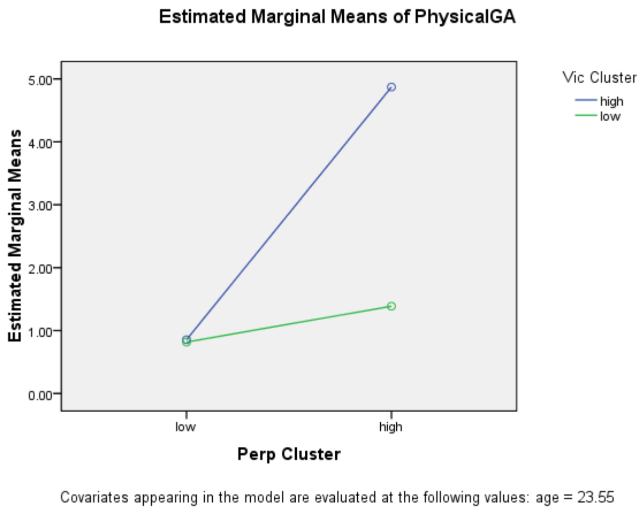
Source	Dependent Variable	F	Sig.
Corrected Model	PhysicalGA	20.137	.000
	PhysicalPerp	34.209	.000
	PhysicalVictim	31.089	.000
Intercept	PhysicalGA	56.064	.000
	PhysicalPerp	56.967	.000
	PhysicalVictim	62.301	.000
age	PhysicalGA	9.047	.003
	PhysicalPerp	1.415	.234
	PhysicalVictim	.073	.787
gender	PhysicalGA	20.042	.000
	PhysicalPerp	8.314	.004
	PhysicalVictim	7.503	.006
PerpCluster	PhysicalGA	31.719	.000
	PhysicalPerp	59.401	.000
	PhysicalVictim	27.951	.000
VicCluster	PhysicalGA	18.826	.000
	PhysicalPerp	32.057	.000
	PhysicalVictim	61.104	.000
gender * PerpCluster	PhysicalGA	8.122	.004
	PhysicalPerp	.168	.682

	PhysicalVictim	.934	.334
gender * VicCluster	PhysicalGA	1.993	.158
	PhysicalPerp	.660	.417
	PhysicalVictim	1.537	.215
PerpCluster * VicCluster	PhysicalGA	18.042	.000
	PhysicalPerp	9.557	.002
	PhysicalVictim	.021	.884
gender * PerpCluster * VicCluster	PhysicalGA	3.899	.049
	PhysicalPerp	4.037	.045
	PhysicalVictim	.100	.752

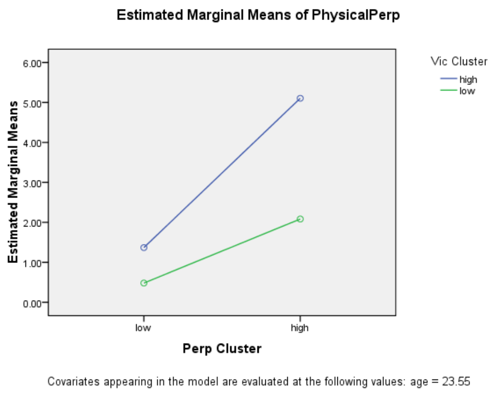
Profile Plots
PhysicalGA



Covariates appearing in the model are evaluated at the following values: age = 23.55



PhysicalPerp



T-Test

Group Statistics

Perp Cluster		gender	N	Mean	Std. Deviation	Std. Error Mean
low	PhysicalGA	Male	336	1.1964	4.06038	.22151
		Female	562	.4520	2.10728	.08889
high	PhysicalGA	Male	62	5.7258	8.38259	1.06459
		Female	144	2.0208	5.60153	.46679

Independent Samples Test

Perp Cluster			Levene's Test for Equality of Variances F	Levene's Test for Equality of Variances Sig.	t-test for Equality of Means t	t-test for Equality of Means df
low	PhysicalGA	Equal variances assumed	33.687	.000	3.610	896
		Equal variances not assumed			3.119	444.693
high	PhysicalGA	Equal variances assumed	19.289	.000	3.719	204
		Equal variances not assumed			3.187	85.364

Independent Samples Test

Perp Cluster			t-test for Equality of Means Sig. (2-tailed)	Mean Difference	Std. Error Difference
low	PhysicalGA	Equal variances assumed	.000	.74447	.20624
		Equal variances not assumed	.002	.74447	.23868
high	PhysicalGA	Equal variances assumed	.000	3.70497	.99614
		Equal variances not assumed	.002	3.70497	1.16243

Independent Samples Test

Perp Cluster			t-test for Equality of Means 95% Confidence Interval of the Difference Lower	Upper
low	PhysicalGA	Equal variances assumed	.33970	1.14925
		Equal variances not assumed	.27539	1.21356
high	PhysicalGA	Equal variances assumed	1.74091	5.66903
		Equal variances not assumed	1.39389	6.01606

T-Test

Group Statistics

PerpCluster		VicCluster	N	Mean	Std. Deviation	Std. Error Mean
low	PhysicalPerp	high	65	1.8308	4.79443	.59468
		low	833	.5306	1.68330	.05832
	PhysicalGA	high	65	1.3538	3.92281	.48657
		low	833	.6819	2.92509	.10135
high	PhysicalPerp	high	137	5.1898	6.95208	.59396
		low	69	2.6812	4.78199	.57568
	PhysicalGA	high	137	4.1898	7.80793	.66708

Group Statistics

PerpCluster		VicCluster	N	Mean	Std. Deviation	Std. Error Mean
low	PhysicalPerp	high	65	1.8308	4.79443	.59468
		low	833	.5306	1.68330	.05832
	PhysicalGA	high	65	1.3538	3.92281	.48657
		low	833	.6819	2.92509	.10135
high	PhysicalPerp	high	137	5.1898	6.95208	.59396
		low	69	2.6812	4.78199	.57568
	PhysicalGA	high	137	4.1898	7.80793	.66708
		low	69	1.0435	3.02652	.36435

Independent Samples Test

			Levene's Test for Equality of Variances		t-test for Equality of Means
PerpCluster			F	Sig.	t
low	PhysicalPerp	Equal variances assumed	45.979	.000	4.884
		Equal variances not assumed			2.176
	PhysicalGA	Equal variances assumed	6.127	.013	1.735
		Equal variances not assumed			1.352
high	PhysicalPerp	Equal variances assumed	11.335	.001	2.692
		Equal variances not assumed			3.033
	PhysicalGA	Equal variances assumed	34.451	.000	3.224
		Equal variances not assumed			4.139

Independent Samples Test

			t-test for Equality of Means		
PerpCluster			df	Sig. (2-tailed)	Mean Difference
low	PhysicalPerp	Equal variances assumed	896	.000	1.30016
		Equal variances not assumed	65.237	.033	1.30016
	PhysicalGA	Equal variances assumed	896	.083	.67197
		Equal variances not assumed	69.664	.181	.67197
high	PhysicalPerp	Equal variances assumed	204	.008	2.50862
		Equal variances not assumed	185.005	.003	2.50862
	PhysicalGA	Equal variances assumed	204	.001	3.14630
		Equal variances not assumed	194.609	.000	3.14630

Independent Samples Test

PerpCluster			t-test for Equality of Means Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
low	PhysicalPerp	Equal variances assumed	.26621	.77769	1.82263
		Equal variances not assumed	.59753	.10689	2.49342
	PhysicalGA	Equal variances assumed	.38730	-.08814	1.43209
		Equal variances not assumed	.49701	-.31936	1.66331
high	PhysicalPerp	Equal variances assumed	.93181	.67141	4.34583
		Equal variances not assumed	.82716	.87674	4.14050
	PhysicalGA	Equal variances assumed	.97582	1.22232	5.07028
		Equal variances not assumed	.76009	1.64722	4.64538

Correlations

Correlations

		PhysicalPerp	PhysicalVictim	PhysicalGA
PhysicalPerp	Pearson Correlation	1	.692**	.364**
	Sig. (2-tailed)		.000	.000
	N	1104	1104	1104
PhysicalVictim	Pearson Correlation	.692**	1	.357**
	Sig. (2-tailed)	.000		.000
	N	1104	1104	1104
PhysicalGA	Pearson Correlation	.364**	.357**	1
	Sig. (2-tailed)	.000	.000	
	N	1104	1104	1104
CBSPerpTotal	Pearson Correlation	.528**	.500**	.352**
	Sig. (2-tailed)	.000	.000	.000
	N	1104	1104	1104
CBSVictimTotal	Pearson Correlation	.447**	.502**	.245**
	Sig. (2-tailed)	.000	.000	.000
	N	1104	1104	1104

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		CBSPerpTotal	CBSVictimTotal
PhysicalPerp	Pearson Correlation	.528**	.447**
	Sig. (2-tailed)	.000	.000
	N	1104	1104
PhysicalVictim	Pearson Correlation	.500**	.502**
	Sig. (2-tailed)	.000	.000
	N	1104	1104

PhysicalGA	Pearson Correlation	.352**	.245**
	Sig. (2-tailed)	.000	.000
	N	1104	1104
CBSPerpTotal	Pearson Correlation	1	.723**
	Sig. (2-tailed)		.000
	N	1104	1104
CBSVictimTotal	Pearson Correlation	.723**	1
	Sig. (2-tailed)	.000	
	N	1104	1104

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

Correlations

gender			PhysicalPerp	PhysicalVictim	PhysicalGA
Male	PhysicalPerp	Pearson Correlation	1	.725**	.471**
		Sig. (2-tailed)		.000	.000
		N	398	398	398
	PhysicalVictim	Pearson Correlation	.725**	1	.324**
		Sig. (2-tailed)	.000		.000
		N	398	398	398
	PhysicalGA	Pearson Correlation	.471**	.324**	1
		Sig. (2-tailed)	.000	.000	
		N	398	398	398
	CBSPerpTotal	Pearson Correlation	.550**	.539**	.470**
		Sig. (2-tailed)	.000	.000	.000
		N	398	398	398
	CBSVictimTotal	Pearson Correlation	.498**	.568**	.321**
		Sig. (2-tailed)	.000	.000	.000
		N	398	398	398
Female	PhysicalPerp	Pearson Correlation	1	.693**	.321**
		Sig. (2-tailed)		.000	.000
		N	706	706	706
	PhysicalVictim	Pearson Correlation	.693**	1	.398**
		Sig. (2-tailed)	.000		.000
		N	706	706	706
	PhysicalGA	Pearson Correlation	.321**	.398**	1
		Sig. (2-tailed)	.000	.000	
		N	706	706	706
	CBSPerpTotal	Pearson Correlation	.509**	.489**	.294**
		Sig. (2-tailed)	.000	.000	.000

		N	706	706	706
	CBSVictimTotal	Pearson Correlation	.415**	.455**	.192**
		Sig. (2-tailed)	.000	.000	.000
		N	706	706	706

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

gender			CBSPerpTotal	CBSVictimTotal
Male	PhysicalPerp	Pearson Correlation	.550**	.498**
		Sig. (2-tailed)	.000	.000
		N	398	398
	PhysicalVictim	Pearson Correlation	.539**	.568**
		Sig. (2-tailed)	.000	.000
		N	398	398
	PhysicalGA	Pearson Correlation	.470**	.321**
		Sig. (2-tailed)	.000	.000
		N	398	398
	CBSPerpTotal	Pearson Correlation	1	.719**
		Sig. (2-tailed)		.000
		N	398	398
	CBSVictimTotal	Pearson Correlation	.719**	1
		Sig. (2-tailed)	.000	
		N	398	398
Female	PhysicalPerp	Pearson Correlation	.509**	.415**
		Sig. (2-tailed)	.000	.000
		N	706	706
	PhysicalVictim	Pearson Correlation	.489**	.455**
		Sig. (2-tailed)	.000	.000
		N	706	706
	PhysicalGA	Pearson Correlation	.294**	.192**
		Sig. (2-tailed)	.000	.000
		N	706	706
	CBSPerpTotal	Pearson Correlation	1	.727**
		Sig. (2-tailed)		.000
		N	706	706
	CBSVictimTotal	Pearson Correlation	.727**	1
		Sig. (2-tailed)	.000	
		N	706	706

**. Correlation is significant at the 0.01 level (2-tailed).

Generalized Linear Models

Model Information

Dependent Variable	PhysicalGA
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

Gender		N	Percent
Male	Included	398	100.0%
	Excluded	0	.0%
	Total	398	100.0%
Female	Included	706	100.0%
	Excluded	0	.0%
	Total	706	100.0%

Continuous Variable Information

gender			N	Minimum	Maximum
Male	Dependent Variable	PhysicalGA	398	.00	48.00
	Covariate	CBSPerpTotal	398	.00	82.00
		CBSVictimTotal	398	.00	79.00
		PhysicalPerp	398	.00	29.00
		PhysicalVictim	398	.00	48.00
Female	Dependent Variable	PhysicalGA	706	.00	30.00
	Covariate	CBSPerpTotal	706	.00	73.00
		CBSVictimTotal	706	.00	72.00
		PhysicalPerp	706	.00	26.00
		PhysicalVictim	706	.00	36.00

Continuous Variable Information

gender			Mean	Std. Deviation
Male	Dependent Variable	PhysicalGA	1.9020	5.23579
	Covariate	CBSPerpTotal	8.8970	11.02536
		CBSVictimTotal	11.9221	13.94886
		PhysicalPerp	.8970	3.62151
		PhysicalVictim	1.5879	4.87590
Female	Dependent Variable	PhysicalGA	.7720	3.20909
	Covariate	CBSPerpTotal	11.1147	10.63446
		CBSVictimTotal	12.8994	12.57600
		PhysicalPerp	1.5581	3.64256
		PhysicalVictim	1.2139	3.66287

Goodness of Fit[b]

gender		Value	df	Value/df
Male	Deviance	240.796	392	.614
	Scaled Deviance	240.796	392	
	Pearson Chi-Square	580.912	392	1.482
	Scaled Pearson Chi-Square	580.912	392	
	Log Likelihood[a]	-530.007		
	Akaike's Information Criterion (AIC)	1072.014		
	Finite Sample Corrected AIC (AICC)	1072.229		
	Bayesian Information Criterion (BIC)	1095.933		
	Consistent AIC (CAIC)	1101.933		
Female	Deviance	231.386	700	.331
	Scaled Deviance	231.386	700	
	Pearson Chi-Square	1035.961	700	1.480
	Scaled Pearson Chi-Square	1035.961	700	
	Log Likelihood[a]	-496.109		
	Akaike's Information Criterion (AIC)	1004.219		
	Finite Sample Corrected AIC (AICC)	1004.339		
	Bayesian Information Criterion (BIC)	1031.576		
	Consistent AIC (CAIC)	1037.576		

Dependent Variable: PhysicalGA
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalVictim

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[a]

gender	Likelihood Ratio Chi-Square	df	Sig.
Male	29.332	4	.000
Female	37.312	4	.000

Dependent Variable: PhysicalGA
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalVictim

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

gender	Source	Type III Wald Chi-Square	df	Sig.
Male	(Intercept)	.032	1	.857
	CBSPerpTotal	5.341	1	.021
	CBSVictimTotal	.183	1	.669
	PhysicalPerp	2.383	1	.123
	PhysicalVictim	.272	1	.602
Female	(Intercept)	34.200	1	.000
	CBSPerpTotal	.559	1	.454
	CBSVictimTotal	.406	1	.524
	PhysicalPerp	4.328	1	.037
	PhysicalVictim	1.010	1	.315

Dependent Variable: PhysicalGA
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalVictim

Parameter Estimates

gender	Parameter	B	Std. Error	95% Wald Confidence Interval Lower	Upper
Male	(Intercept)	-.034	.1883	-.403	.335
	CBSPerpTotal	.048	.0207	.007	.088
	CBSVictimTotal	-.007	.0175	-.042	.027
	PhysicalPerp	.082	.0531	-.022	.186
	PhysicalVictim	-.025	.0476	-.118	.068
	(Scale)	1[a]			
	(Negative binomial)	7.067	.9034	5.501	9.079
Female	(Intercept)	-1.387	.2372	-1.852	-.922
	CBSPerpTotal	.017	.0232	-.028	.063
	CBSVictimTotal	.013	.0200	-.026	.052
	PhysicalPerp	.139	.0667	.008	.269
	PhysicalVictim	.061	.0610	-.058	.181
	(Scale)	1[a]			
	(Negative binomial)	14.475	2.0063	11.032	18.994

Dependent Variable: PhysicalGA
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalVictim
a. Fixed at the displayed value.

Parameter Estimates

gender	Parameter	Hypothesis Test		
		Wald Chi-Square	df	Sig.
Male	(Intercept)	.032	1	.857
	CBSPerpTotal	5.341	1	.021
	CBSVictimTotal	.183	1	.669
	PhysicalPerp	2.383	1	.123
	PhysicalVictim	.272	1	.602
Female	(Intercept)	34.200	1	.000
	CBSPerpTotal	.559	1	.454
	CBSVictimTotal	.406	1	.524
	PhysicalPerp	4.328	1	.037
	PhysicalVictim	1.010	1	.315

Dependent Variable: PhysicalGA
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalVictim

Generalized Linear Models

Model Information

Dependent Variable	PhysicalVictim
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

gender		N	Percent
Male	Included	398	100.0%
	Excluded	0	.0%
	Total	398	100.0%
Female	Included	706	100.0%
	Excluded	0	.0%
	Total	706	100.0%

Continuous Variable Information

gender			N	Minimum	Maximum
Male	Dependent Variable	PhysicalVictim	398	.00	48.00
	Covariate	CBSPerpTotal	398	.00	82.00
		CBSVictimTotal	398	.00	79.00
		PhysicalPerp	398	.00	29.00
		PhysicalGA	398	.00	48.00
Female	Dependent Variable	PhysicalVictim	706	.00	36.00
	Covariate	CBSPerpTotal	706	.00	73.00
		CBSVictimTotal	706	.00	72.00
		PhysicalPerp	706	.00	26.00
		PhysicalGA	706	.00	30.00

Continuous Variable Information

gender			Mean	Std. Deviation
Male	Dependent Variable	PhysicalVictim	1.5879	4.87590
	Covariate	CBSPerpTotal	8.8970	11.02536
		CBSVictimTotal	11.9221	13.94886
		PhysicalPerp	.8970	3.62151
		PhysicalGA	1.9020	5.23579
Female	Dependent Variable	PhysicalVictim	1.2139	3.66287
	Covariate	CBSPerpTotal	11.1147	10.63446
		CBSVictimTotal	12.8994	12.57600
		PhysicalPerp	1.5581	3.64256
		PhysicalGA	.7720	3.20909

Goodness of Fit[b]

Gender		Value	df	Value/df
Male	Deviance	228.743	392	.584
	Scaled Deviance	228.743	392	
	Pearson Chi-Square	1049.245	392	2.677
	Scaled Pearson Chi-Square	1049.245	392	
	Log Likelihood[a]	-425.571		
	Akaike's Information Criterion (AIC)	863.142		
	Finite Sample Corrected AIC (AICC)	863.357		
	Bayesian Information Criterion (BIC)	887.061		
	Consistent AIC (CAIC)	893.061		
Female	Deviance	417.099	700	.596
	Scaled Deviance	417.099	700	
	Pearson Chi-Square	732.562	700	1.047
	Scaled Pearson Chi-Square	732.562	700	
	Log Likelihood[a]	-679.094		
	Akaike's Information Criterion (AIC)	1370.188		
	Finite Sample Corrected AIC (AICC)	1370.308		
	Bayesian Information Criterion (BIC)	1397.545		
	Consistent AIC (CAIC)	1403.545		

Dependent Variable: PhysicalVictim
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalGA

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[a]

gender	Likelihood Ratio Chi-Square	df	Sig.
Male	101.744	4	.000
Female	292.266	4	.000

Dependent Variable: PhysicalVictim
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalGA

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

gender	Source	Type III		
		Wald Chi-Square	df	Sig.
Male	(Intercept)	57.725	1	.000
	CBSPerpTotal	6.732	1	.009
	CBSVictimTotal	27.075	1	.000
	PhysicalPerp	10.277	1	.001
	PhysicalGA	2.889	1	.089
Female	(Intercept)	180.590	1	.000
	CBSPerpTotal	.252	1	.615
	CBSVictimTotal	56.483	1	.000
	PhysicalPerp	73.073	1	.000
	PhysicalGA	3.293	1	.070

Dependent Variable: PhysicalVictim
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalGA

Parameter Estimates

gender	Parameter	B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper	Hypothesis Test Wald Chi-Square	Hypothesis Test df	Hypothesis Test Sig.
Male	(Intercept)	-1.529	.2012	-1.923	-1.134	57.725	1	.000
	CBSPerpTotal	.037	.0144	.009	.066	6.732	1	.009
	CBSVictimTotal	.049	.0094	.030	.067	27.075	1	.000
	PhysicalPerp	.185	.0578	.072	.299	10.277	1	.001
	PhysicalGA	-.056	.0329	-.120	.009	2.889	1	.089
	(Scale)	1[a]						
	(Negative binomial)	4.314	.6931	3.149	5.911			
Female	(Intercept)	-2.136	.1590	-2.448	-1.825	180.590	1	.000
	CBSPerpTotal	-.005	.0108	-.027	.016	.252	1	.615
	CBSVictimTotal	.067	.0089	.050	.085	56.483	1	.000
	PhysicalPerp	.245	.0287	.189	.302	73.073	1	.000
	PhysicalGA	.038	.0211	-.003	.080	3.293	1	.070
	(Scale)	1[a]						
	(Negative binomial)	2.154	.2692	1.686	2.752			

Dependent Variable: PhysicalVictim
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalPerp, PhysicalGA

a. Fixed at the displayed value.

Generalized Linear Models

Model Information

Dependent Variable	PhysicalPerp
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

gender		N	Percent
Male	Included	398	100.0%
	Excluded	0	.0%
	Total	398	100.0%
Female	Included	706	100.0%
	Excluded	0	.0%
	Total	706	100.0%

Continuous Variable Information

gender			N	Minimum	Maximum
Male	Dependent Variable	PhysicalPerp	398	.00	29.00
	Covariate	CBSPerpTotal	398	.00	82.00
		CBSVictimTotal	398	.00	79.00
		PhysicalVictim	398	.00	48.00
		PhysicalGA	398	.00	48.00
Female	Dependent Variable	PhysicalPerp	706	.00	26.00
	Covariate	CBSPerpTotal	706	.00	73.00
		CBSVictimTotal	706	.00	72.00
		PhysicalVictim	706	.00	36.00
		PhysicalGA	706	.00	30.00

Continuous Variable Information

gender			Mean	Std. Deviation
Male	Dependent Variable	PhysicalPerp	.8970	3.62151
	Covariate	CBSPerpTotal	8.8970	11.02536
		CBSVictimTotal	11.9221	13.94886
		PhysicalVictim	1.5879	4.87590
		PhysicalGA	1.9020	5.23579
Female	Dependent Variable	PhysicalPerp	1.5581	3.64256
	Covariate	CBSPerpTotal	11.1147	10.63446
		CBSVictimTotal	12.8994	12.57600
		PhysicalVictim	1.2139	3.66287
		PhysicalGA	.7720	3.20909

Goodness of Fit[b]

gender		Value	df	Value/df
Male	Deviance	185.583	392	.473
	Scaled Deviance	185.583	392	
	Pearson Chi-Square	617.546	392	1.575
	Scaled Pearson Chi-Square	617.546	392	
	Log Likelihood[a]	-276.972		
	Akaike's Information Criterion (AIC)	565.944		
	Finite Sample Corrected AIC (AICC)	566.159		
	Bayesian Information Criterion (BIC)	589.863		
	Consistent AIC (CAIC)	595.863		
Female	Deviance	521.854	700	.746
	Scaled Deviance	521.854	700	
	Pearson Chi-Square	840.587	700	1.201
	Scaled Pearson Chi-Square	840.587	700	
	Log Likelihood[a]	-916.033		
	Akaike's Information Criterion (AIC)	1844.065		
	Finite Sample Corrected AIC (AICC)	1844.186		
	Bayesian Information Criterion (BIC)	1871.423		
	Consistent AIC (CAIC)	1877.423		

Dependent Variable: PhysicalPerp
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalVictim, PhysicalGA

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[b]

gender	Likelihood Ratio Chi-Square	df	Sig.
Male	.[a]	.	.
Female	194.752	4	.000

Dependent Variable: PhysicalPerp
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalVictim, PhysicalGA

a. Unable to compute the initial model log likelihood due to numerical problems.

b. Compares the fitted model against the intercept-only model.

Tests of Model Effects

gender	Source	Type III Wald Chi-Square	df	Sig.
Male	(Intercept)	119.330	1	.000
	CBSPerpTotal	5.126	1	.024
	CBSVictimTotal	2.519	1	.112
	PhysicalVictim	23.542	1	.000
	PhysicalGA	.234	1	.628
Female	(Intercept)	67.916	1	.000
	CBSPerpTotal	20.225	1	.000
	CBSVictimTotal	4.177	1	.041
	PhysicalVictim	34.963	1	.000
	PhysicalGA	4.984	1	.026

Dependent Variable: PhysicalPerp
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalVictim, PhysicalGA

Parameter Estimates

gender	Parameter	B	Std. Error	95% Wald Confidence Interval Lower	Upper
Male	(Intercept)	-2.395	.2192	-2.825	-1.965
	CBSPerpTotal	.038	.0166	.005	.070
	CBSVictimTotal	.024	.0148	-.006	.053
	PhysicalVictim	.168	.0346	.100	.236
	PhysicalGA	.012	.0240	-.035	.059
	(Scale)	1[a]			
	(Negative binomial)	2.742	.5964	1.791	4.200
Female	(Intercept)	-1.120	.1359	-1.386	-.853
	CBSPerpTotal	.043	.0096	.024	.062
	CBSVictimTotal	.015	.0072	.001	.029
	PhysicalVictim	.182	.0308	.122	.243
	PhysicalGA	.067	.0301	.008	.126
	(Scale)	1[a]			
	(Negative binomial)	2.652	.2812	2.154	3.264

Dependent Variable: PhysicalPerp
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalVictim, PhysicalGA
a. Fixed at the displayed value.

Parameter Estimates

gender	Parameter	Hypothesis Test Wald Chi-Square	df	Sig.
Male	(Intercept)	119.330	1	.000
	CBSPerpTotal	5.126	1	.024
	CBSVictimTotal	2.519	1	.112
	PhysicalVictim	23.542	1	.000
	PhysicalGA	.234	1	.628
Female	(Intercept)	67.916	1	.000
	CBSPerpTotal	20.225	1	.000
	CBSVictimTotal	4.177	1	.041
	PhysicalVictim	34.963	1	.000
	PhysicalGA	4.984	1	.026

Dependent Variable: PhysicalPerp
Model: (Intercept), CBSPerpTotal, CBSVictimTotal, PhysicalVictim, PhysicalGA

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
sex * control	305	100.0%	0	.0%	305	100.0%

sex * control Crosstabulation

			control		
			high perp low vic	high perp high vic	low perp low vic
sex	men	Count	5	27	27
		Expected Count	6.9	20.7	34.1
	women	Count	26	66	126
		Expected Count	24.1	72.3	118.9
	Total	Count	31	93	153
		Expected Count	31.0	93.0	153.0

sex * control Crosstabulation

			control	
			low perp high vic	Total
sex	men	Count	9	68
		Expected Count	6.2	68.0
	women	Count	19	237
		Expected Count	21.8	237.0
	Total	Count	28	305
		Expected Count	28.0	305.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.592[a]	3	.086
Likelihood Ratio	6.470	3	.091
Linear-by-Linear Association	.003	1	.957
N of Valid Cases	305		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.24.

SPSS Analysis for Chapter 6

General Linear Model

Between-Subjects Factors

		Value Label	N
Gender	1.00	male	115
	2.00	female	240

Descriptive Statistics

	Gender	Mean	Std. Deviation	N
VerbalIPVPerp	male	7.3304	7.58313	115
	female	13.2875	9.11598	240
	Total	11.3577	9.07837	355
DisplaceIPVPerp	male	.5043	1.40409	115
	female	.6583	1.63126	240
	Total	.6085	1.56098	355
PhysicalIPVPerp	male	.6087	2.28533	115
	female	1.7167	3.97731	240
	Total	1.3577	3.55409	355
VerbalGA	male	8.1217	8.45229	115
	female	7.1667	7.57317	240
	Total	7.4761	7.86944	355
DisplaceGA	male	.4435	1.42774	115
	female	.3458	1.23461	240
	Total	.3775	1.29909	355
PhysicalGA	male	1.5826	4.51893	115
	female	.6875	2.70870	240
	Total	.9775	3.42136	355

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.267	21.080[a]	6.000	347.000	.000
	Wilks' Lambda	.733	21.080[a]	6.000	347.000	.000
	Hotelling's Trace	.364	21.080[a]	6.000	347.000	.000
	Roy's Largest Root	.364	21.080[a]	6.000	347.000	.000
Age	Pillai's Trace	.073	4.525[a]	6.000	347.000	.000
	Wilks' Lambda	.927	4.525[a]	6.000	347.000	.000
	Hotelling's Trace	.078	4.525[a]	6.000	347.000	.000
	Roy's Largest Root	.078	4.525[a]	6.000	347.000	.000
Gender	Pillai's Trace	.184	13.012[a]	6.000	347.000	.000
	Wilks' Lambda	.816	13.012[a]	6.000	347.000	.000
	Hotelling's Trace	.225	13.012[a]	6.000	347.000	.000
	Roy's Largest Root	.225	13.012[a]	6.000	347.000	.000

a. Exact statistic

b. Design: Intercept + Age + Gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	VerbalIPVPerp	3059.220[a]	2	1529.610	20.616	.000
	DisplaceIPVPerp	5.564[b]	2	2.782	1.143	.320
	PhysicalIPVPerp	100.882[c]	2	50.441	4.062	.018
	VerbalGA	1491.125[d]	2	745.563	12.845	.000
	DisplaceGA	7.221[e]	2	3.610	2.153	.118
	PhysicalGA	127.446[f]	2	63.723	5.585	.004
Intercept	VerbalIPVPerp	5043.294	1	5043.294	67.974	.000
	DisplaceIPVPerp	24.136	1	24.136	9.913	.002
	PhysicalIPVPerp	70.061	1	70.061	5.643	.018
	VerbalGA	5829.976	1	5829.976	100.441	.000
	DisplaceGA	20.379	1	20.379	12.154	.001
	PhysicalGA	187.682	1	187.682	16.449	.000
Age	VerbalIPVPerp	300.260	1	300.260	4.047	.045
	DisplaceIPVPerp	3.721	1	3.721	1.528	.217
	PhysicalIPVPerp	5.441	1	5.441	.438	.508
	VerbalGA	1420.208	1	1420.208	24.468	.000
	DisplaceGA	6.479	1	6.479	3.864	.050
	PhysicalGA	65.154	1	65.154	5.710	.017
Gender	VerbalIPVPerp	1908.917	1	1908.917	25.729	.000
	DisplaceIPVPerp	.401	1	.401	.165	.685
	PhysicalIPVPerp	70.970	1	70.970	5.716	.017
	VerbalGA	422.478	1	422.478	7.279	.007
	DisplaceGA	2.768	1	2.768	1.651	.200

	PhysicalGA	102.815	1	102.815	9.011	.003
Error	VerbalIPVPerp	26116.346	352	74.194		
	DisplaceIPVPerp	857.010	352	2.435		
	PhysicalIPVPerp	4370.684	352	12.417		
	VerbalGA	20431.421	352	58.044		
	DisplaceGA	590.199	352	1.677		
	PhysicalGA	4016.374	352	11.410		
Total	VerbalIPVPerp	74970.000	355			
	DisplaceIPVPerp	994.000	355			
	PhysicalIPVPerp	5126.000	355			
	VerbalGA	41764.000	355			
	DisplaceGA	648.000	355			
	PhysicalGA	4483.000	355			
Corrected Total	VerbalIPVPerp	29175.566	354			
	DisplaceIPVPerp	862.575	354			
	PhysicalIPVPerp	4471.566	354			
	VerbalGA	21922.546	354			
	DisplaceGA	597.420	354			
	PhysicalGA	4143.820	354			

a. R Squared = .105 (Adjusted R Squared = .100)
b. R Squared = .006 (Adjusted R Squared = .001)
c. R Squared = .023 (Adjusted R Squared = .017)
d. R Squared = .068 (Adjusted R Squared = .063)
e. R Squared = .012 (Adjusted R Squared = .006)
f. R Squared = .031 (Adjusted R Squared = .025)

General Linear Model

Between-Subjects Factors

		Value Label	N
Gender	1.00	male	115
	2.00	female	240

Descriptive Statistics

	Gender	Mean	Std. Deviation	N
rsqsecure	male	3.4748	.65773	115
	female	3.3733	.60648	240
	Total	3.4062	.62442	355
rsqfearful	male	2.5022	.94735	115
	female	2.6760	.83403	240
	Total	2.6197	.87481	355
rsqpreocc	male	2.6043	.61236	115
	female	2.7875	.62098	240
	Total	2.7282	.62327	355
rsqdismiss	male	3.1513	.64159	115
	female	3.0400	.59177	240
	Total	3.0761	.60968	355
LSRPPrimary	male	31.7739	8.23670	115
	female	29.0833	7.35255	240
	Total	29.9549	7.74182	355
LSRPSecondary	male	20.0870	4.92321	115
	female	20.4917	4.77265	240
	Total	20.3606	4.81870	355

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.944	982.808[a]	6.000	347.000	.000
	Wilks' Lambda	.056	982.808[a]	6.000	347.000	.000
	Hotelling's Trace	16.994	982.808[a]	6.000	347.000	.000
	Roy's Largest Root	16.994	982.808[a]	6.000	347.000	.000
Age	Pillai's Trace	.066	4.069[a]	6.000	347.000	.001
	Wilks' Lambda	.934	4.069[a]	6.000	347.000	.001
	Hotelling's Trace	.070	4.069[a]	6.000	347.000	.001
	Roy's Largest Root	.070	4.069[a]	6.000	347.000	.001
Gender	Pillai's Trace	.081	5.115[a]	6.000	347.000	.000
	Wilks' Lambda	.919	5.115[a]	6.000	347.000	.000
	Hotelling's Trace	.088	5.115[a]	6.000	347.000	.000
	Roy's Largest Root	.088	5.115[a]	6.000	347.000	.000

a. Exact statistic

b. Design: Intercept + Age + Gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	rsqsecure	1.199[a]	2	.599	1.542	.215
	rsqfearful	2.392[b]	2	1.196	1.568	.210
	rsqpreocc	2.627[c]	2	1.313	3.427	.034
	rsqdismiss	1.365[d]	2	.682	1.844	.160
	LSRPPrimary	1673.327[e]	2	836.664	15.069	.000
	LSRPSecondary	249.994[f]	2	124.997	5.521	.004
Intercept	rsqsecure	306.050	1	306.050	787.339	.000
	rsqfearful	192.615	1	192.615	252.497	.000
	rsqpreocc	206.754	1	206.754	539.525	.000
	rsqdismiss	287.831	1	287.831	778.031	.000
	LSRPPrimary	37099.732	1	37099.732	668.192	.000
	LSRPSecondary	14866.361	1	14866.361	656.594	.000
Age	rsqsecure	.399	1	.399	1.026	.312
	rsqfearful	.042	1	.042	.055	.815
	rsqpreocc	.019	1	.019	.049	.825
	rsqdismiss	.402	1	.402	1.085	.298
	LSRPPrimary	1110.503	1	1110.503	20.001	.000
	LSRPSecondary	237.259	1	237.259	10.479	.001
Gender	rsqsecure	.399	1	.399	1.026	.312
	rsqfearful	1.894	1	1.894	2.483	.116
	rsqpreocc	2.178	1	2.178	5.684	.018
	rsqdismiss	1.293	1	1.293	3.494	.062
	LSRPPrimary	1123.126	1	1123.126	20.228	.000
	LSRPSecondary	3.223	1	3.223	.142	.706
Error	rsqsecure	136.827	352	.389		
	rsqfearful	268.520	352	.763		
	rsqpreocc	134.892	352	.383		
	rsqdismiss	130.222	352	.370		
	LSRPPrimary	19543.952	352	55.523		
	LSRPSecondary	7969.854	352	22.642		
Total	rsqsecure	4256.800	355			
	rsqfearful	2707.250	355			
	rsqpreocc	2779.750	355			
	rsqdismiss	3490.640	355			
	LSRPPrimary	339758.000	355			
	LSRPSecondary	155386.000	355			
Corrected Total	rsqsecure	138.026	354			
	rsqfearful	270.912	354			
	rsqpreocc	137.518	354			
	rsqdismiss	131.586	354			
	LSRPPrimary	21217.279	354			
	LSRPSecondary	8219.848	354			

Correlations

Correlations

		PhysicalIPVPerp	PhysicalGA	LSRPPrimary	LSRPSecondary
PhysicalIPVPerp	Pearson Correlation	1	.355**	.149**	.252**
	Sig. (2-tailed)		.000	.004	.000
	N	364	364	364	364
PhysicalGA	Pearson Correlation	.355**	1	.293**	.259**
	Sig. (2-tailed)	.000		.000	.000
	N	364	364	364	364
LSRPPrimary	Pearson Correlation	.149**	.293**	1	.451**
	Sig. (2-tailed)	.004	.000		.000
	N	364	364	364	364
LSRPSecondary	Pearson Correlation	.252**	.259**	.451**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	364	364	364	364
rsqsecure	Pearson Correlation	-.059	-.092	-.066	-.262**
	Sig. (2-tailed)	.261	.080	.212	.000
	N	364	364	364	364
rsqfearful	Pearson Correlation	.056	.087	.061	.315**
	Sig. (2-tailed)	.284	.097	.243	.000
	N	364	364	364	364
rsqpreocc	Pearson Correlation	.075	.033	-.076	.132*
	Sig. (2-tailed)	.152	.532	.149	.012
	N	364	364	364	364
rsqdismiss	Pearson Correlation	.016	.083	.126*	.021
	Sig. (2-tailed)	.757	.113	.016	.689
	N	364	364	364	364

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		rsqsecure	rsqfearful	rsqpreocc	rsqdismiss
PhysicalIPVPerp	Pearson Correlation	-.059	.056	.075	.016
	Sig. (2-tailed)	.261	.284	.152	.757
	N	364	364	364	364
PhysicalGA	Pearson Correlation	-.092	.087	.033	.083
	Sig. (2-tailed)	.080	.097	.532	.113
	N	364	364	364	364
LSRPPrimary	Pearson Correlation	-.066	.061	-.076	.126*
	Sig. (2-tailed)	.212	.243	.149	.016
	N	364	364	364	364
LSRPSecondary	Pearson Correlation	-.262**	.315**	.132*	.021
	Sig. (2-tailed)	.000	.000	.012	.689

	N	364	364	364	364
rsqsecure	Pearson Correlation	1	-.666**	-.327**	-.242**
	Sig. (2-tailed)		.000	.000	.000
	N	364	364	364	364
rsqfearful	Pearson Correlation	-.666**	1	.286**	.407**
	Sig. (2-tailed)	.000		.000	.000
	N	364	364	364	364
rsqpreocc	Pearson Correlation	-.327**	.286**	1	-.186**
	Sig. (2-tailed)	.000	.000		.000
	N	364	364	364	364
rsqdismiss	Pearson Correlation	-.242**	.407**	-.186**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	364	364	364	364

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Generalized Linear Models

Model Information

Dependent Variable	PhysicalPVPerp
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

Gender		N	Percent
male	Included	123	100.0%
	Excluded	0	.0%
	Total	123	100.0%
female	Included	241	100.0%
	Excluded	0	.0%
	Total	241	100.0%

Continuous Variable Information

Gender			N	Minimum	Maximum
male	Dependent Variable	PhysicalIPVPerp	123	.00	28.00
	Covariate	rsqsecure	123	1.80	4.80
		rsqfearful	123	1.00	4.75
		rsqpreocc	123	1.25	4.00
		rsqdismiss	123	1.40	4.60
		LSRPPrimary	123	16.00	52.00
		LSRPSecondary	123	10.00	34.00
female	Dependent Variable	PhysicalIPVPerp	241	.00	26.00
	Covariate	rsqsecure	241	1.80	5.00
		rsqfearful	241	1.00	4.75
		rsqpreocc	241	1.25	4.75
		rsqdismiss	241	1.40	4.40
		LSRPPrimary	241	16.00	56.00
		LSRPSecondary	241	11.00	32.00

Continuous Variable Information

Gender			Mean	Std. Deviation
male	Dependent Variable	PhysicalIPVPerp	.8699	3.39952
	Covariate	rsqsecure	3.4748	.64954
		rsqfearful	2.5102	.94000
		rsqpreocc	2.5894	.61164
		rsqdismiss	3.1837	.64559
		LSRPPrimary	31.7317	8.34902
		LSRPSecondary	20.1951	4.91178
female	Dependent Variable	PhysicalIPVPerp	1.7095	3.97055
	Covariate	rsqsecure	3.3710	.60634
		rsqfearful	2.6743	.83274
		rsqpreocc	2.7894	.62040
		rsqdismiss	3.0365	.59301
		LSRPPrimary	29.0830	7.33722
		LSRPSecondary	20.4896	4.76280

Goodness of Fit[b]

Gender		Value	df	Value/df
male	Deviance	47.543	115	.413
	Scaled Deviance	47.543	115	
	Pearson Chi-Square	84.199	115	.732
	Scaled Pearson Chi-Square	84.199	115	
	Log Likelihood[a]	-94.738		
	Akaike's Information Criterion (AIC)	205.476		

	Finite Sample Corrected AIC (AICC)	206.739		
	Bayesian Information Criterion (BIC)	227.973		
	Consistent AIC (CAIC)	235.973		
female	Deviance	177.601	233	.762
	Scaled Deviance	177.601	233	
	Pearson Chi-Square	226.035	233	.970
	Scaled Pearson Chi-Square	226.035	233	
	Log Likelihood[a]	-355.665		
	Akaike's Information Criterion (AIC)	727.330		
	Finite Sample Corrected AIC (AICC)	727.951		
	Bayesian Information Criterion (BIC)	755.209		
	Consistent AIC (CAIC)	763.209		

Dependent Variable: PhysicalIPVPerp
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[a]

Gender	Likelihood Ratio Chi-Square	df	Sig.
male	17.697	6	.007
female	13.601	6	.034

Dependent Variable: PhysicalIPVPerp
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Gender	Source	Type III Wald Chi-Square	df	Sig.
male	(Intercept)	4.182	1	.041
	rsqsecure	.023	1	.879
	rsqfearful	.150	1	.699
	rsqpreocc	4.101	1	.043
	rsqdismiss	2.187	1	.139
	LSRPPrimary	1.123	1	.289
	LSRPSecondary	7.192	1	.007
female	(Intercept)	1.356	1	.244
	rsqsecure	.045	1	.832
	rsqfearful	.203	1	.653
	rsqpreocc	.000	1	.996
	rsqdismiss	.105	1	.746
	LSRPPrimary	.001	1	.980
	LSRPSecondary	7.698	1	.006

Dependent Variable: PhysicalIPVPerp
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

Parameter Estimates

Gender	Parameter	B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper
male	(Intercept)	-15.548	7.6031	-30.450	-.646
	rsqsecure	.169	1.1122	-2.011	2.349
	rsqfearful	-.270	.6989	-1.640	1.099
	rsqpreocc	1.636	.8078	.053	3.219
	rsqdismiss	1.192	.8060	-.388	2.772
	LSRPPrimary	.043	.0402	-.036	.121
	LSRPSecondary	.254	.0946	.068	.439
	(Scale)	1[a]			
	(Negative binomial)	8.298	2.5116	4.585	15.018
female	(Intercept)	-2.739	2.3519	-7.349	1.871
	rsqsecure	.079	.3706	-.648	.805
	rsqfearful	.129	.2858	-.432	.689
	rsqpreocc	-.001	.2601	-.511	.509
	rsqdismiss	.089	.2762	-.452	.631
	LSRPPrimary	.000	.0243	-.048	.047
	LSRPSecondary	.110	.0397	.032	.188
	(Scale)	1[a]			
	(Negative binomial)	4.561	.6925	3.388	6.142

Parameter Estimates

Gender	Parameter	Hypothesis Test Wald Chi-Square	df	Sig.
male	(Intercept)	4.182	1	.041
	Rsqsecure	.023	1	.879
	Rsqfearful	.150	1	.699
	Rsqpreocc	4.101	1	.043
	Rsqdismiss	2.187	1	.139
	LSRPPrimary	1.123	1	.289
	LSRPSecondary	7.192	1	.007
female	(Intercept)	1.356	1	.244
	Rsqsecure	.045	1	.832
	Rsqfearful	.203	1	.653
	Rsqpreocc	.000	1	.996
	Rsqdismiss	.105	1	.746
	LSRPPrimary	.001	1	.980
	LSRPSecondary	7.698	1	.006

Dependent Variable: PhysicalPVPerp
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

Correlations

Correlations

Gender			PhysicalPVPerp	PhysicalGA	LSRPPrimary	LSRPSecondary
male	PhysicalPVPerp	Pearson Correlation	1	.625**	.272**	.259**
		Sig. (2-tailed)		.000	.002	.004
		N	123	123	123	123
	PhysicalGA	Pearson Correlation	.625**	1	.289**	.352**
		Sig. (2-tailed)	.000		.001	.000
		N	123	123	123	123
	LSRPPrimary	Pearson Correlation	.272**	.289**	1	.430**
		Sig. (2-tailed)	.002	.001		.000
		N	123	123	123	123
	LSRPSecondary	Pearson Correlation	.259**	.352**	.430**	1
		Sig. (2-tailed)	.004	.000	.000	
		N	123	123	123	123
	rsqsecure	Pearson Correlation	-.036	-.116	-.093	-.264**
		Sig. (2-tailed)	.695	.199	.308	.003
		N	123	123	123	123

	Rsqfearful	Pearson Correlation	.004	.137	.055	.342**
		Sig. (2-tailed)	.968	.130	.546	.000
		N	123	123	123	123
	Rsqpreocc	Pearson Correlation	.072	.084	-.079	.123
		Sig. (2-tailed)	.431	.357	.387	.175
		N	123	123	123	123
	Rsqdismiss	Pearson Correlation	.012	.030	.056	-.013
		Sig. (2-tailed)	.891	.739	.540	.882
		N	123	123	123	123
female	PhysicalIPVPerp	Pearson Correlation	1	.229**	.121	.248**
		Sig. (2-tailed)		.000	.062	.000
		N	241	241	241	241
	PhysicalGA	Pearson Correlation	.229**	1	.279**	.206**
		Sig. (2-tailed)	.000		.000	.001
		N	241	241	241	241
	LSRPPrimary	Pearson Correlation	.121	.279**	1	.481**
		Sig. (2-tailed)	.062	.000		.000
		N	241	241	241	241
	LSRPSecondary	Pearson Correlation	.248**	.206**	.481**	1
		Sig. (2-tailed)	.000	.001	.000	
		N	241	241	241	241
	Rsqsecure	Pearson Correlation	-.059	-.103	-.072	-.258**
		Sig. (2-tailed)	.363	.112	.268	.000
		N	241	241	241	241
	Rsqfearful	Pearson Correlation	.070	.071	.091	.298**
		Sig. (2-tailed)	.282	.271	.157	.000
		N	241	241	241	241
	Rsqpreocc	Pearson Correlation	.056	.038	-.038	.132*
		Sig. (2-tailed)	.388	.558	.559	.041
		N	241	241	241	241
	Rsqdismiss	Pearson Correlation	.036	.111	.144*	.046
		Sig. (2-tailed)	.574	.087	.025	.476
		N	241	241	241	241

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

Gender			rsqsecure	rsqfearful	rsqpreocc	rsqdismiss
male	PhysicalIPVPerp	Pearson Correlation	-.036	.004	.072	.012
		Sig. (2-tailed)	.695	.968	.431	.891
		N	123	123	123	123
	PhysicalGA	Pearson Correlation	-.116	.137	.084	.030
		Sig. (2-tailed)	.199	.130	.357	.739
		N	123	123	123	123
	LSRPPrimary	Pearson Correlation	-.093	.055	-.079	.056
		Sig. (2-tailed)	.308	.546	.387	.540
		N	123	123	123	123
	LSRPSecondary	Pearson Correlation	-.264**	.342**	.123	-.013
		Sig. (2-tailed)	.003	.000	.175	.882
		N	123	123	123	123
	rsqsecure	Pearson Correlation	1	-.706**	-.346**	-.170
		Sig. (2-tailed)		.000	.000	.060
		N	123	123	123	123
	rsqfearful	Pearson Correlation	-.706**	1	.276**	.428**
		Sig. (2-tailed)	.000		.002	.000
		N	123	123	123	123
	rsqpreocc	Pearson Correlation	-.346**	.276**	1	-.115
		Sig. (2-tailed)	.000	.002		.207
		N	123	123	123	123
	rsqdismiss	Pearson Correlation	-.170	.428**	-.115	1
		Sig. (2-tailed)	.060	.000	.207	
		N	123	123	123	123
female	PhysicalIPVPerp	Pearson Correlation	-.059	.070	.056	.036
		Sig. (2-tailed)	.363	.282	.388	.574
		N	241	241	241	241
	PhysicalGA	Pearson Correlation	-.103	.071	.038	.111
		Sig. (2-tailed)	.112	.271	.558	.087
		N	241	241	241	241
	LSRPPrimary	Pearson Correlation	-.072	.091	-.038	.144*
		Sig. (2-tailed)	.268	.157	.559	.025
		N	241	241	241	241
	LSRPSecondary	Pearson Correlation	-.258**	.298**	.132*	.046
		Sig. (2-tailed)	.000	.000	.041	.476
		N	241	241	241	241
	rsqsecure	Pearson Correlation	1	-.639**	-.306**	-.303**
		Sig. (2-tailed)		.000	.000	.000
		N	241	241	241	241
	rsqfearful	Pearson Correlation	-.639**	1	.279**	.418**

		Sig. (2-tailed)	.000		.000	.000
		N	241	241	241	241
	rsqpreocc	Pearson Correlation	-.306**	.279**	1	-.203**
		Sig. (2-tailed)	.000	.000		.002
		N	241	241	241	241
	rsqdismiss	Pearson Correlation	-.303**	.418**	-.203**	1
		Sig. (2-tailed)	.000	.000	.002	
		N	241	241	241	241

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Generalized Linear Models

Model Information

Dependent Variable	PhysicalGA
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

Gender		N	Percent
male	Included	123	100.0%
	Excluded	0	.0%
	Total	123	100.0%
female	Included	241	100.0%
	Excluded	0	.0%
	Total	241	100.0%

Continuous Variable Information

Gender			N	Minimum	Maximum
male	Dependent Variable	PhysicalGA	123	.00	32.00
	Covariate	rsqsecure	123	1.80	4.80
		rsqfearful	123	1.00	4.75
		rsqpreocc	123	1.25	4.00
		rsqdismiss	123	1.40	4.60
		LSRPPrimary	123	16.00	52.00
		LSRPSecondary	123	10.00	34.00
female	Dependent Variable	PhysicalGA	241	.00	26.00
	Covariate	rsqsecure	241	1.80	5.00
		rsqfearful	241	1.00	4.75
		rsqpreocc	241	1.25	4.75
		rsqdismiss	241	1.40	4.40
		LSRPPrimary	241	16.00	56.00

Continuous Variable Information

Gender			N	Minimum	Maximum
male	Dependent Variable	PhysicalGA	123	.00	32.00
	Covariate	rsqsecure	123	1.80	4.80
		rsqfearful	123	1.00	4.75
		rsqpreocc	123	1.25	4.00
		rsqdismiss	123	1.40	4.60
		LSRPPrimary	123	16.00	52.00
		LSRPSecondary	123	10.00	34.00
female	Dependent Variable	PhysicalGA	241	.00	26.00
	Covariate	rsqsecure	241	1.80	5.00
		rsqfearful	241	1.00	4.75
		rsqpreocc	241	1.25	4.75
		rsqdismiss	241	1.40	4.40
		LSRPPrimary	241	16.00	56.00
		LSRPSecondary	241	11.00	32.00

Continuous Variable Information

Gender			Mean	Std. Deviation
male	Dependent Variable	PhysicalGA	1.8699	5.06994
	Covariate	rsqsecure	3.4748	.64954
		rsqfearful	2.5102	.94000
		rsqpreocc	2.5894	.61164
		rsqdismiss	3.1837	.64559
		LSRPPrimary	31.7317	8.34902
		LSRPSecondary	20.1951	4.91178
female	Dependent Variable	PhysicalGA	.6846	2.70342
	Covariate	rsqsecure	3.3710	.60634
		rsqfearful	2.6743	.83274
		rsqpreocc	2.7894	.62040
		rsqdismiss	3.0365	.59301
		LSRPPrimary	29.0830	7.33722
		LSRPSecondary	20.4896	4.76280

Goodness of Fit[b]

Gender		Value	df	Value/df
male	Deviance	69.734	115	.606
	Scaled Deviance	69.734	115	
	Pearson Chi-Square	105.140	115	.914
	Scaled Pearson Chi-Square	105.140	115	
	Log Likelihood[a]	-152.674		
	Akaike's Information Criterion (AIC)	321.349		
	Finite Sample Corrected AIC (AICC)	322.612		
	Bayesian Information Criterion (BIC)	343.846		
	Consistent AIC (CAIC)	351.846		
female	Deviance	91.937	233	.395
	Scaled Deviance	91.937	233	
	Pearson Chi-Square	204.835	233	.879
	Scaled Pearson Chi-Square	204.835	233	
	Log Likelihood[a]	-163.797		
	Akaike's Information Criterion (AIC)	343.593		
	Finite Sample Corrected AIC (AICC)	344.214		
	Bayesian Information Criterion (BIC)	371.471		
	Consistent AIC (CAIC)	379.471		

Dependent Variable: PhysicalGA
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[a]

Gender	Likelihood Ratio Chi-Square	df	Sig.
male	21.286	6	.002
female	46.879	6	.000

Dependent Variable: PhysicalGA
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

Gender	Source	Type III Wald Chi-Square	df	Sig.
male	(Intercept)	4.056	1	.044
	rsqsecure	.146	1	.702
	rsqfearful	.300	1	.584
	rsqpreocc	.906	1	.341
	rsqdismiss	.047	1	.829
	LSRPPrimary	3.979	1	.046
	LSRPSecondary	2.763	1	.096
female	(Intercept)	11.502	1	.001
	rsqsecure	.060	1	.806
	rsqfearful	.894	1	.344
	rsqpreocc	3.682	1	.055
	rsqdismiss	2.210	1	.137
	LSRPPrimary	22.865	1	.000
	LSRPSecondary	10.695	1	.001

Dependent Variable: PhysicalGA
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

Parameter Estimates

Gender	Parameter	B	Std. Error	95% Wald Confidence Interval Lower	95% Wald Confidence Interval Upper
male	(Intercept)	-9.058	4.4973	-17.872	-.243
	rsqsecure	.284	.7423	-1.171	1.739
	rsqfearful	.344	.6287	-.888	1.576
	rsqpreocc	.431	.4531	-.457	1.319
	rsqdismiss	-.123	.5682	-1.236	.991
	LSRPPrimary	.113	.0565	.002	.223
	LSRPSecondary	.137	.0826	-.025	.299
	(Scale)	1[a]			
	(Negative binomial)	6.010	1.4806	3.709	9.741
female	(Intercept)	-15.178	4.4753	-23.949	-6.406
	rsqsecure	.125	.5087	-.872	1.122
	rsqfearful	-.347	.3673	-1.067	.373
	rsqpreocc	1.039	.5415	-.022	2.100
	rsqdismiss	.749	.5041	-.239	1.737
	LSRPPrimary	.169	.0354	.100	.239
	LSRPSecondary	.188	.0576	.075	.301
	(Scale)	1[a]			
	(Negative binomial)	5.895	1.4018	3.699	9.395

Dependent Variable: PhysicalGA
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary

Parameter Estimates

Gender	Parameter	B	Std. Error	95% Wald Confidence Interval	
				Lower	Upper
male	(Intercept)	-9.058	4.4973	-17.872	-.243
	rsqsecure	.284	.7423	-1.171	1.739
	rsqfearful	.344	.6287	-.888	1.576
	rsqpreocc	.431	.4531	-.457	1.319
	rsqdismiss	-.123	.5682	-1.236	.991
	LSRPPrimary	.113	.0565	.002	.223
	LSRPSecondary	.137	.0826	-.025	.299
	(Scale)	1[a]			
	(Negative binomial)	6.010	1.4806	3.709	9.741
female	(Intercept)	-15.178	4.4753	-23.949	-6.406
	rsqsecure	.125	.5087	-.872	1.122
	rsqfearful	-.347	.3673	-1.067	.373
	rsqpreocc	1.039	.5415	-.022	2.100
	rsqdismiss	.749	.5041	-.239	1.737
	LSRPPrimary	.169	.0354	.100	.239
	LSRPSecondary	.188	.0576	.075	.301
	(Scale)	1[a]			
	(Negative binomial)	5.895	1.4018	3.699	9.395

Dependent Variable: PhysicalGA
Model: (Intercept), rsqsecure, rsqfearful, rsqpreocc, rsqdismiss, LSRPPrimary, LSRPSecondary
a. Fixed at the displayed value.

Parameter Estimates

Gender	Parameter	Hypothesis Test		
		Wald Chi-Square	df	Sig.
male	(Intercept)	4.056	1	.044
	Rsqsecure	.146	1	.702
	Rsqfearful	.300	1	.584
	Rsqpreocc	.906	1	.341
	Rsqdismiss	.047	1	.829
	LSRPPrimary	3.979	1	.046
	LSRPSecondary	2.763	1	.096
female	(Intercept)	11.502	1	.001
	Rsqsecure	.060	1	.806
	Rsqfearful	.894	1	.344
	Rsqpreocc	3.682	1	.055
	Rsqdismiss	2.210	1	.137
	LSRPPrimary	22.865	1	.000
	LSRPSecondary	10.695	1	.001

Parameter Estimates

Gender	Parameter	Hypothesis Test		
		Wald Chi-Square	df	Sig.
male	(Intercept)	4.056	1	.044
	Rsqsecure	.146	1	.702
	Rsqfearful	.300	1	.584
	Rsqpreocc	.906	1	.341
	Rsqdismiss	.047	1	.829
	LSRPPrimary	3.979	1	.046
	LSRPSecondary	2.763	1	.096
female	(Intercept)	11.502	1	.001
	Rsqsecure	.060	1	.806
	Rsqfearful	.894	1	.344
	Rsqpreocc	3.682	1	.055
	Rsqdismiss	2.210	1	.137
	LSRPPrimary	22.865	1	.000
	LSRPSecondary	10.695	1	.001

SPSS Analysis for Chapter 7

General Linear Model

Between-Subjects Factors

		Value Label	N
gender	1	Male	149
	2	Female	246

Descriptive Statistics

	gender	Mean	Std. Deviation	N
CTSIverbal	Male	7.2179	7.52875	149
	Female	11.0919	9.33899	246
	Total	9.6306	8.89158	395
CTSIDisplacement	Male	.3959	1.24769	149
	Female	.6259	1.60197	246
	Total	.5392	1.48089	395
CTSIPhysical	Male	.7794	3.29089	149
	Female	1.5961	3.66034	246
	Total	1.2880	3.54351	395
CTSverbal	Male	7.0403	8.09895	149
	Female	6.4981	7.65160	246
	Total	6.7026	7.81756	395
CTSdisplacement	Male	.4698	1.47299	149
	Female	.2491	1.08762	246
	Total	.3324	1.24982	395
CTSphysical	Male	2.0202	5.28441	149
	Female	.9268	3.87598	246
	Total	1.3393	4.48475	395

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.278	24.853[a]	6.000	387.000	.000
	Wilks' Lambda	.722	24.853[a]	6.000	387.000	.000
	Hotelling's Trace	.385	24.853[a]	6.000	387.000	.000
	Roy's Largest Root	.385	24.853[a]	6.000	387.000	.000
age	Pillai's Trace	.079	5.501[a]	6.000	387.000	.000
	Wilks' Lambda	.921	5.501[a]	6.000	387.000	.000
	Hotelling's Trace	.085	5.501[a]	6.000	387.000	.000
	Roy's Largest Root	.085	5.501[a]	6.000	387.000	.000
gender	Pillai's Trace	.083	5.819[a]	6.000	387.000	.000
	Wilks' Lambda	.917	5.819[a]	6.000	387.000	.000
	Hotelling's Trace	.090	5.819[a]	6.000	387.000	.000

Roy's Largest Root	.090	5.819[a]	6.000	387.000	.000

a. Exact statistic

b. Design: Intercept + age + gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	CTSIverbal	1563.637[a]	2	781.819	10.359	.000
	CTSIDisplacement	5.941[b]	2	2.970	1.357	.259
	CTSIPhysical	97.228[c]	2	48.614	3.929	.020
	CTSverbal	1793.532[d]	2	896.766	15.774	.000
	CTSdisplacement	10.934[e]	2	5.467	3.545	.030
	CTSphysical	253.967[f]	2	126.983	6.489	.002
Intercept	CTSIverbal	4706.968	1	4706.968	62.365	.000
	CTSIDisplacement	16.807	1	16.807	7.678	.006
	CTSIPhysical	167.141	1	167.141	13.509	.000
	CTSverbal	6625.970	1	6625.970	116.550	.000
	CTSdisplacement	21.234	1	21.234	13.770	.000
	CTSphysical	415.497	1	415.497	21.234	.000
age	CTSIverbal	170.966	1	170.966	2.265	.133
	CTSIDisplacement	1.031	1	1.031	.471	.493
	CTSIPhysical	35.346	1	35.346	2.857	.092
	CTSverbal	1766.258	1	1766.258	31.068	.000
	CTSdisplacement	6.416	1	6.416	4.160	.042
	CTSphysical	143.031	1	143.031	7.310	.007
gender	CTSIverbal	1031.077	1	1031.077	13.661	.000
	CTSIDisplacement	3.382	1	3.382	1.545	.215
	CTSIPhysical	34.440	1	34.440	2.784	.096
	CTSverbal	284.682	1	284.682	5.008	.026
	CTSdisplacement	7.585	1	7.585	4.918	.027
	CTSphysical	181.711	1	181.711	9.286	.002
Error	CTSIverbal	29586.069	392	75.475		
	CTSIDisplacement	858.111	392	2.189		
	CTSIPhysical	4850.010	392	12.372		
	CTSverbal	22285.501	392	56.851		
	CTSdisplacement	604.512	392	1.542		
	CTSphysical	7670.543	392	19.568		
Total	CTSIverbal	67785.303	395			
	CTSIDisplacement	978.881	395			
	CTSIPhysical	5602.534	395			
	CTSverbal	41824.543	395			

	CTSdisplacement	659.084	395			
	CTSphysical	8633.000	395			
Corrected Total	CTSIverbal	31149.706	394			
	CTSIDisplacement	864.052	394			
	CTSIPhysical	4947.238	394			
	CTSverbal	24079.033	394			
	CTSdisplacement	615.446	394			
	CTSphysical	7924.510	394			

General Linear Model

Between-Subjects Factors

		Value Label	N
gender	1	Male	149
	2	Female	246

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.882	581.555[a]	5.000	388.000	.000
	Wilks' Lambda	.118	581.555[a]	5.000	388.000	.000
	Hotelling's Trace	7.494	581.555[a]	5.000	388.000	.000
	Roy's Largest Root	7.494	581.555[a]	5.000	388.000	.000
age	Pillai's Trace	.081	6.816[a]	5.000	388.000	.000
	Wilks' Lambda	.919	6.816[a]	5.000	388.000	.000
	Hotelling's Trace	.088	6.816[a]	5.000	388.000	.000
	Roy's Largest Root	.088	6.816[a]	5.000	388.000	.000
gender	Pillai's Trace	.334	38.967[a]	5.000	388.000	.000
	Wilks' Lambda	.666	38.967[a]	5.000	388.000	.000
	Hotelling's Trace	.502	38.967[a]	5.000	388.000	.000
	Roy's Largest Root	.502	38.967[a]	5.000	388.000	.000

a. Exact statistic

b. Design: Intercept + age + gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square
Corrected Model	empathytotal	5771.026[a]	2	2885.513
	SCTOTAL	10819.576[b]	2	5409.788
	anxietytotal	2632.007[c]	2	1316.003
	fearPagg	1631.835[d]	2	815.917
	fearSSagg	1142.766[e]	2	571.383
Intercept	empathytotal	145067.230	1	145067.230
	SCTOTAL	342658.518	1	342658.518
	anxietytotal	15990.223	1	15990.223
	fearPagg	1891.796	1	1891.796
	fearSSagg	4325.510	1	4325.510
age	empathytotal	.989	1	.989
	SCTOTAL	10176.102	1	10176.102
	anxietytotal	325.683	1	325.683
	fearPagg	10.105	1	10.105
	fearSSagg	57.786	1	57.786
gender	empathytotal	5269.498	1	5269.498
	SCTOTAL	17.124	1	17.124
	anxietytotal	1679.162	1	1679.162
	fearPagg	1562.659	1	1562.659
	fearSSagg	1138.747	1	1138.747
Error	empathytotal	47428.730	392	120.992
	SCTOTAL	127645.620	392	325.627
	anxietytotal	21138.231	392	53.924
	fearPagg	5742.865	392	14.650
	fearSSagg	7366.871	392	18.793
Total	empathytotal	1613197.012	395	
	SCTOTAL	4968629.794	395	
	anxietytotal	157796.000	395	
	fearPagg	21974.073	395	
	fearSSagg	41347.100	395	
Corrected Total	empathytotal	53199.756	394	
	SCTOTAL	138465.197	394	
	anxietytotal	23770.238	394	
	fearPagg	7374.700	394	
	fearSSagg	8509.638	394	

a. R Squared = .108 (Adjusted R Squared = .104)

b. R Squared = .078 (Adjusted R Squared = .073)

c. R Squared = .111 (Adjusted R Squared = .106)

d. R Squared = .221 (Adjusted R Squared = .217)

e. R Squared = .134 (Adjusted R Squared = .130)

Tests of Between-Subjects Effects

Source	Dependent Variable	F	Sig.
Corrected Model	empathytotal	23.849	.000
	SCTOTAL	16.613	.000
	anxietytotal	24.405	.000
	fearPagg	55.693	.000
	fearSSagg	30.404	.000
Intercept	empathytotal	1198.985	.000
	SCTOTAL	1052.305	.000
	anxietytotal	296.532	.000
	fearPagg	129.131	.000
	fearSSagg	230.166	.000
Age	empathytotal	.008	.928
	SCTOTAL	31.251	.000
	anxietytotal	6.040	.014
	fearPagg	.690	.407
	fearSSagg	3.075	.080
Gender	empathytotal	43.553	.000
	SCTOTAL	.053	.819
	anxietytotal	31.139	.000
	fearPagg	106.665	.000
	fearSSagg	60.594	.000

Correlations

Correlations

		empathytotal	CTSIPhysical	SCTOTAL	CTSphysical
empathytotal	Pearson Correlation	1	.081	-.068	-.036
	Sig. (2-tailed)		.107	.176	.470
	N	395	395	395	395
CTSIPhysical	Pearson Correlation	.081	1	-.187**	.475**
	Sig. (2-tailed)	.107		.000	.000
	N	395	395	395	395
SCTOTAL	Pearson Correlation	-.068	-.187**	1	-.259**
	Sig. (2-tailed)	.176	.000		.000
	N	395	395	395	395
CTSphysical	Pearson Correlation	-.036	.475**	-.259**	1
	Sig. (2-tailed)	.470	.000	.000	
	N	395	395	395	395
fearPagg	Pearson Correlation	-.087	.000	-.075	.159**
	Sig. (2-tailed)	.084	.994	.136	.002
	N	395	395	395	395
fearSSagg	Pearson Correlation	-.153**	-.018	-.034	.022
	Sig. (2-tailed)	.002	.727	.501	.667
	N	395	395	395	395
anxietytotal	Pearson Correlation	.431**	.132**	-.348**	.084
	Sig. (2-tailed)	.000	.009	.000	.094
	N	395	395	395	395

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		fearPagg	fearSSagg	anxietytotal
empathytotal	Pearson Correlation	-.087	-.153**	.431**
	Sig. (2-tailed)	.084	.002	.000
	N	395	395	395
CTSIPhysical	Pearson Correlation	.000	-.018	.132**
	Sig. (2-tailed)	.994	.727	.009
	N	395	395	395
SCTOTAL	Pearson Correlation	-.075	-.034	-.348**
	Sig. (2-tailed)	.136	.501	.000
	N	395	395	395
CTSphysical	Pearson Correlation	.159**	.022	.084
	Sig. (2-tailed)	.002	.667	.094
	N	395	395	395
fearPagg	Pearson Correlation	1	.558**	-.007
	Sig. (2-tailed)		.000	.892

	N	395	395	395
fearSSagg	Pearson Correlation	.558**	1	-.022
	Sig. (2-tailed)	.000		.662
	N	395	395	395
anxietytotal	Pearson Correlation	-.007	-.022	1
	Sig. (2-tailed)	.892	.662	
	N	395	395	395

**. Correlation is significant at the 0.01 level (2-tailed).

Generalized Linear Models

Model Information

Dependent Variable	CTSIPhysical
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

gender		N	Percent
Male	Included	147	98.7%
	Excluded	2	1.3%
	Total	149	100.0%
Female	Included	243	98.8%
	Excluded	3	1.2%
	Total	246	100.0%

Continuous Variable Information

Gender			N	Minimum	Maximum
Male	Dependent Variable	CTSIPhysical	147	.00	29.00
	Covariate	empathytotal	147	16.00	87.00
		SCTOTAL	147	59.00	165.00
		fearPagg	147	.00	20.00
		anxietytotal	147	.00	32.00
Female	Dependent Variable	CTSIPhysical	243	.00	24.00
	Covariate	empathytotal	243	20.00	94.00
		SCTOTAL	243	59.00	152.00
		fearPagg	243	.00	18.00
		anxietytotal	243	3.00	40.00

Continuous Variable Information

Gender			Mean	Std. Deviation
Male	Dependent Variable	CTSIPhysical	.7007	3.22748
	Covariate	empathytotal	57.9301	11.36368
		SCTOTAL	112.6871	20.69174
		fearPagg	8.7279	4.16699
		anxietytotal	15.2381	7.22091
Female	Dependent Variable	CTSIPhysical	1.4979	3.38369
	Covariate	empathytotal	65.7915	10.81351
		SCTOTAL	109.4514	17.20496
		fearPagg	4.4570	3.60407
		anxietytotal	20.2963	7.48681

Goodness of Fit[b]

gender		Value	df	Value/df
Male	Deviance	61.410	141	.436
	Scaled Deviance	61.410	141	
	Pearson Chi-Square	159.329	141	1.130
	Scaled Pearson Chi-Square	159.329	141	
	Log Likelihood[a]	-111.824		
	Akaike's Information Criterion (AIC)	235.648		
	Finite Sample Corrected AIC (AICC)	236.248		
	Bayesian Information Criterion (BIC)	253.591		
	Consistent AIC (CAIC)	259.591		
Female	Deviance	170.082	237	.718
	Scaled Deviance	170.082	237	
	Pearson Chi-Square	252.655	237	1.066
	Scaled Pearson Chi-Square	252.655	237	
	Log Likelihood[a]	-341.170		
	Akaike's Information Criterion (AIC)	694.339		
	Finite Sample Corrected AIC (AICC)	694.695		
	Bayesian Information Criterion (BIC)	715.297		
	Consistent AIC (CAIC)	721.297		

Dependent Variable: CTSIPhysical
Model: (Intercept), empathytotal, SCTOTAL, fearPagg, anxietytotal

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[a]

gender	Likelihood Ratio Chi-Square	df	Sig.
Male	12.823	4	.012
Female	8.860	4	.065

Dependent Variable: CTSIPhysical
Model: (Intercept), empathytotal, SCTOTAL, fearPagg, anxietytotal

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

gender	Source	Type III Wald Chi-Square	df	Sig.
Male	(Intercept)	1.761	1	.185
	empathytotal	.048	1	.826
	SCTOTAL	8.314	1	.004
	fearPagg	1.327	1	.249
	anxietytotal	.032	1	.858
Female	(Intercept)	1.251	1	.263
	empathytotal	1.247	1	.264
	SCTOTAL	6.311	1	.012
	fearPagg	.142	1	.706
	anxietytotal	.057	1	.811

Dependent Variable: CTSIPhysical
Model: (Intercept), empathytotal, SCTOTAL, fearPagg, anxietytotal

Parameter Estimates

				95% Wald Confidence Interval	
gender	Parameter	B	Std. Error	Lower	Upper
Male	(Intercept)	4.549	3.4283	-2.171	11.268
	empathytotal	-.009	.0396	-.086	.069
	SCTOTAL	-.050	.0175	-.085	-.016
	fearPagg	.097	.0846	-.068	.263
	anxietytotal	-.009	.0490	-.105	.087
	(Scale)	1[a]			
	(Negative binomial)	8.380	2.3713	4.812	14.592
Female	(Intercept)	1.783	1.5942	-1.342	4.908
	empathytotal	.018	.0161	-.014	.050
	SCTOTAL	-.025	.0098	-.044	-.005
	fearPagg	-.017	.0453	-.106	.072
	anxietytotal	.005	.0229	-.039	.050
	(Scale)	1[a]			

	(Negative binomial)	4.972	.7832	3.651	6.770

Dependent Variable: CTSIPhysical
Model: (Intercept), empathytotal, SCTOTAL, fearPagg, anxietytotal
a. Fixed at the displayed value.

Parameter Estimates

		Hypothesis Test		
gender	Parameter	Wald Chi-Square	df	Sig.
Male	(Intercept)	1.761	1	.185
	empathytotal	.048	1	.826
	SCTOTAL	8.314	1	.004
	fearPagg	1.327	1	.249
	anxietytotal	.032	1	.858
Female	(Intercept)	1.251	1	.263
	empathytotal	1.247	1	.264
	SCTOTAL	6.311	1	.012
	fearPagg	.142	1	.706
	anxietytotal	.057	1	.811

Dependent Variable: CTSIPhysical
Model: (Intercept), empathytotal, SCTOTAL, fearPagg, anxietytotal

Generalized Linear Models

Model Information

Dependent Variable	CTSphysical
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

Gender		N	Percent
Male	Included	148	99.3%
	Excluded	1	.7%
	Total	149	100.0%
Female	Included	246	100.0%
	Excluded	0	.0%
	Total	246	100.0%

Continuous Variable Information

Gender			N	Minimum	Maximum
Male	Dependent Variable	CTSphysical	148	.00	31.00
	Covariate	empathytotal	148	16.00	87.00
		SCTOTAL	148	59.00	165.00
		anxietytotal	148	.00	32.00
		fearSSagg	148	.00	19.00
Female	Dependent Variable	CTSphysical	246	.00	28.00
	Covariate	empathytotal	246	20.00	94.00
		SCTOTAL	246	59.00	152.00
		anxietytotal	246	3.00	40.00
		fearSSagg	246	-6.38	20.00

Continuous Variable Information

Gender			Mean	Std. Deviation
Male	Dependent Variable	CTSphysical	2.0338	5.29974
	Covariate	empathytotal	58.0218	11.30341
		SCTOTAL	112.1014	21.05120
		anxietytotal	15.3986	7.16353
		fearSSagg	11.2287	3.84606
Female	Dependent Variable	CTSphysical	.9268	3.87598
	Covariate	empathytotal	65.8185	10.78056
		SCTOTAL	109.5882	17.18566
		anxietytotal	20.3008	7.49632
		fearSSagg	7.8279	4.62583

Goodness of Fit[b]

Gender		Value	df	Value/df
Male	Deviance	95.599	142	.673
	Scaled Deviance	95.599	142	
	Pearson Chi-Square	148.083	142	1.043
	Scaled Pearson Chi-Square	148.083	142	
	Log Likelihood[a]	-198.882		
	Akaike's Information Criterion (AIC)	409.763		
	Finite Sample Corrected AIC (AICC)	410.359		
	Bayesian Information Criterion (BIC)	427.747		
	Consistent AIC (CAIC)	433.747		
Female	Deviance	61.934	240	.258
	Scaled Deviance	61.934	240	
	Pearson Chi-Square	175.834	240	.733

	Scaled Pearson Chi-Square	175.834	240	
	Log Likelihood[a]	-162.276		
	Akaike's Information Criterion (AIC)	336.552		
	Finite Sample Corrected AIC (AICC)	336.903		
	Bayesian Information Criterion (BIC)	357.584		
	Consistent AIC (CAIC)	363.584		

Dependent Variable: CTSphysical
Model: (Intercept), empathytotal, SCTOTAL, anxietytotal, fearSSagg

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[b]

gender	Likelihood Ratio Chi-Square	df	Sig.
Male	23.890	4	.000
Female	.[a]	.	.

Dependent Variable: CTSphysical
Model: (Intercept), empathytotal, SCTOTAL, anxietytotal, fearSSagg

a. Unable to compute the initial model log likelihood due to numerical problems.

b. Compares the fitted model against the intercept-only model.

Tests of Model Effects

		Type III		
gender	Source	Wald Chi-Square	df	Sig.
Male	(Intercept)	8.008	1	.005
	empathytotal	1.918	1	.166
	SCTOTAL	12.102	1	.001
	anxietytotal	.210	1	.647
	fearSSagg	.718	1	.397
Female	(Intercept)	.800	1	.371
	empathytotal	.312	1	.576
	SCTOTAL	1.796	1	.180
	anxietytotal	.356	1	.551
	fearSSagg	.020	1	.888

Dependent Variable: CTSphysical
Model: (Intercept), empathytotal, SCTOTAL, anxietytotal, fearSSagg

Parameter Estimates

gender	Parameter	B	Std. Error	95% Wald Confidence Interval Lower	Upper
Male	(Intercept)	6.652	2.3505	2.045	11.259
	Empathytotal	-.038	.0272	-.091	.016
	SCTOTAL	-.047	.0136	-.074	-.021
	Anxietytotal	.020	.0446	-.067	.108
	fearSSagg	.056	.0662	-.074	.186
	(Scale)	1[a]			
	(Negative binomial)	5.284	1.1113	3.499	7.979
Female	(Intercept)	4.614	5.1601	-5.499	14.728
	Empathytotal	-.027	.0480	-.121	.067
	SCTOTAL	-.039	.0291	-.096	.018
	Anxietytotal	.059	.0986	-.134	.252
	fearSSagg	-.010	.0697	-.147	.127
	(Scale)	1[a]			
	(Negative binomial)	26.935	6.4275	16.873	42.997

Dependent Variable: CTSphysical
Model: (Intercept), empathytotal, SCTOTAL, anxietytotal, fearSSagg
a. Fixed at the displayed value.

Parameter Estimates

gender	Parameter	Hypothesis Test Wald Chi-Square	df	Sig.
Male	(Intercept)	8.008	1	.005
	empathytotal	1.918	1	.166
	SCTOTAL	12.102	1	.001
	anxietytotal	.210	1	.647
	fearSSagg	.718	1	.397
Female	(Intercept)	.800	1	.371
	empathytotal	.312	1	.576
	SCTOTAL	1.796	1	.180
	anxietytotal	.356	1	.551
	fearSSagg	.020	1	.888

Dependent Variable: CTSphysical
Model: (Intercept), empathytotal, SCTOTAL, anxietytotal, fearSSagg

SPSS Analysis for Chapter 8

General Linear Model

Between-Subjects Factors

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.197	13.641[a]	6.000	334.000	.000
	Wilks' Lambda	.803	13.641[a]	6.000	334.000	.000
	Hotelling's Trace	.245	13.641[a]	6.000	334.000	.000
	Roy's Largest Root	.245	13.641[a]	6.000	334.000	.000
Age	Pillai's Trace	.054	3.205[a]	6.000	334.000	.005
	Wilks' Lambda	.946	3.205[a]	6.000	334.000	.005
	Hotelling's Trace	.058	3.205[a]	6.000	334.000	.005
	Roy's Largest Root	.058	3.205[a]	6.000	334.000	.005
Gender	Pillai's Trace	.091	5.583[a]	6.000	334.000	.000
	Wilks' Lambda	.909	5.583[a]	6.000	334.000	.000
	Hotelling's Trace	.100	5.583[a]	6.000	334.000	.000
	Roy's Largest Root	.100	5.583[a]	6.000	334.000	.000

a. Exact statistic

b. Design: Intercept + Age + Gender

		Value Label	N
Gender	1	Male	125
	2	Female	217

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	CTSverbal	970.466[a]	2	485.233	7.287	.001
	CTSdisplacement	17.391[b]	2	8.696	4.023	.019
	CTSphysical	182.661[c]	2	91.331	5.801	.003
	CTSIverbal	1432.780[d]	2	716.390	9.659	.000
	CTSIdisplacement	2.725[e]	2	1.362	.705	.495
	CTSIphysical	62.653[f]	2	31.327	2.248	.107
Intercept	CTSverbal	4953.871	1	4953.871	74.392	.000
	CTSdisplacement	36.320	1	36.320	16.802	.000
	CTSphysical	245.319	1	245.319	15.582	.000
	CTSIverbal	2597.141	1	2597.141	35.017	.000
	CTSIdisplacement	17.064	1	17.064	8.830	.003
	CTSIphysical	186.153	1	186.153	13.356	.000
Age	CTSverbal	929.771	1	929.771	13.962	.000

	CTSdisplacement	13.877	1	13.877	6.419	.012
	CTSphysical	87.364	1	87.364	5.549	.019
	CTSIverbal	.001	1	.001	.000	.997
	CTSIdisplacement	2.725	1	2.725	1.410	.236
	CTSIphysical	51.843	1	51.843	3.720	.055
Gender	CTSverbal	3.393	1	3.393	.051	.822
	CTSdisplacement	7.763	1	7.763	3.591	.059
	CTSphysical	140.942	1	140.942	8.952	.003
	CTSIverbal	1334.730	1	1334.730	17.996	.000
	CTSIdisplacement	.174	1	.174	.090	.764
	CTSIphysical	1.649	1	1.649	.118	.731
Error	CTSverbal	22574.363	339	66.591		
	CTSdisplacement	732.818	339	2.162		
	CTSphysical	5337.154	339	15.744		
	CTSIverbal	25143.299	339	74.169		
	CTSIdisplacement	655.135	339	1.933		
	CTSIphysical	4724.926	339	13.938		
Total	CTSverbal	43836.044	342			
	CTSdisplacement	812.791	342			
	CTSphysical	5931.000	342			
	CTSIverbal	60447.140	342			
	CTSIdisplacement	733.732	342			
	CTSIphysical	5364.000	342			
Corrected Total	CTSverbal	23544.829	341			
	CTSdisplacement	750.209	341			
	CTSphysical	5519.816	341			
	CTSIverbal	26576.080	341			
	CTSIdisplacement	657.860	341			
	CTSIphysical	4787.579	341			

a. R Squared = .041 (Adjusted R Squared = .036)
b. R Squared = .023 (Adjusted R Squared = .017)
c. R Squared = .033 (Adjusted R Squared = .027)
d. R Squared = .054 (Adjusted R Squared = .048)
e. R Squared = .004 (Adjusted R Squared = -.002)
f. R Squared = .013 (Adjusted R Squared = .007)

General Linear Model

Between-Subjects Factors

		Value Label	N
Gender	1	Male	125
	2	Female	217

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.906	533.456[a]	6.000	334.000	.000
	Wilks' Lambda	.094	533.456[a]	6.000	334.000	.000
	Hotelling's Trace	9.583	533.456[a]	6.000	334.000	.000
	Roy's Largest Root	9.583	533.456[a]	6.000	334.000	.000
Age	Pillai's Trace	.099	6.103[a]	6.000	334.000	.000
	Wilks' Lambda	.901	6.103[a]	6.000	334.000	.000
	Hotelling's Trace	.110	6.103[a]	6.000	334.000	.000
	Roy's Largest Root	.110	6.103[a]	6.000	334.000	.000
Gender	Pillai's Trace	.296	23.381[a]	6.000	334.000	.000
	Wilks' Lambda	.704	23.381[a]	6.000	334.000	.000
	Hotelling's Trace	.420	23.381[a]	6.000	334.000	.000
	Roy's Largest Root	.420	23.381[a]	6.000	334.000	.000

a. Exact statistic

b. Design: Intercept + Age + Gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	PartnerCosts	2729.739[a]	2	1364.870	21.870	.000
	PartnerBenefits	468.200[b]	2	234.100	4.720	.010
	InstrumentalBeliefs	1193.343[c]	2	596.671	14.269	.000
	ExpressiveBeliefs	90.654[d]	2	45.327	1.510	.222
	GACosts	403.876[e]	2	201.938	2.530	.081
	GABenefits	3358.351[f]	2	1679.175	21.061	.000
Intercept	PartnerCosts	47644.483	1	47644.483	763.428	.000
	PartnerBenefits	12161.188	1	12161.188	245.179	.000
	InstrumentalBeliefs	17072.502	1	17072.502	408.272	.000
	ExpressiveBeliefs	13180.364	1	13180.364	439.160	.000
	GACosts	43829.187	1	43829.187	549.011	.000

	GABenefits	27766.084	1	27766.084	348.259	.000
Age	PartnerCosts	.115	1	.115	.002	.966
	PartnerBenefits	321.752	1	321.752	6.487	.011
	InstrumentalBeliefs	786.366	1	786.366	18.805	.000
	ExpressiveBeliefs	57.567	1	57.567	1.918	.167
	GACosts	124.694	1	124.694	1.562	.212
	GABenefits	2647.966	1	2647.966	33.212	.000
Gender	PartnerCosts	2550.823	1	2550.823	40.873	.000
	PartnerBenefits	48.622	1	48.622	.980	.323
	InstrumentalBeliefs	719.457	1	719.457	17.205	.000
	ExpressiveBeliefs	12.678	1	12.678	.422	.516
	GACosts	363.005	1	363.005	4.547	.034
	GABenefits	1537.986	1	1537.986	19.290	.000
Error	PartnerCosts	21156.507	339	62.409		
	PartnerBenefits	16814.795	339	49.601		
	InstrumentalBeliefs	14175.797	339	41.817		
	ExpressiveBeliefs	10174.302	339	30.013		
	GACosts	27063.360	339	79.833		
	GABenefits	27027.887	339	79.728		
Total	PartnerCosts	552286.991	342			
	PartnerBenefits	119968.303	342			
	InstrumentalBeliefs	308066.994	342			
	ExpressiveBeliefs	181296.490	342			
	GACosts	594621.004	342			
	GABenefits	184632.759	342			
Corrected Total	PartnerCosts	23886.246	341			
	PartnerBenefits	17282.995	341			

Model Information

Dependent Variable	CTSphysical
Probability Distribution	Negative binomial (1)
Link Function	Log

	InstrumentalBeliefs	15369.140	341			
	ExpressiveBeliefs	10264.956	341			
	GACosts	27467.236	341			
	GABenefits	30386.238	341			

Case Processing Summary

Gender		N	Percent
Male	Included	126	100.0%
	Excluded	0	.0%
	Total	126	100.0%
Female	Included	219	100.0%
	Excluded	0	.0%
	Total	219	100.0%

Continuous Variable Information

Gender			N	Minimum	Maximum
Male	Dependent Variable	CTSphysical	126	.00	48.00
	Covariate	NEWinstrumental	126	8.00	40.00
		NEWExpressive	126	8.00	40.00
		GACosts	126	11.00	55.00
		GABenefits	126	11.00	55.00
Female	Dependent Variable	CTSphysical	219	.00	30.00
	Covariate	NEWinstrumental	219	8.00	34.00
		NEWExpressive	219	8.00	36.00
		GACosts	219	11.00	55.00
		GABenefits	219	10.00	50.00

Continuous Variable Information

Gender			Mean	Std. Deviation
Male	Dependent Variable	CTSphysical	1.7857	5.37492
	Covariate	NEWinstrumental	20.2381	7.21823
		NEWExpressive	25.2540	5.64402
		GACosts	39.3333	9.78080
		GABenefits	23.1429	10.42667
Female	Dependent Variable	CTSphysical	.6895	2.88534
	Covariate	NEWinstrumental	17.9680	6.27679
		NEWExpressive	25.9498	5.22540
		GACosts	41.4110	8.53783
		GABenefits	20.1142	8.60929

Goodness of Fit[b]

Gender		Value	df	Value/df
Male	Deviance	75.259	120	.627
	Scaled Deviance	75.259	120	
	Pearson Chi-Square	91.255	120	.760
	Scaled Pearson Chi-Square	91.255	120	
	Log Likelihood[a]	-155.741		
	Akaike's Information Criterion (AIC)	323.483		
	Finite Sample Corrected AIC (AICC)	324.189		
	Bayesian Information Criterion (BIC)	340.501		
	Consistent AIC (CAIC)	346.501		
Female	Deviance	76.897	213	.361
	Scaled Deviance	76.897	213	
	Pearson Chi-Square	185.940	213	.873
	Scaled Pearson Chi-Square	185.940	213	
	Log Likelihood[a]	-150.616		
	Akaike's Information Criterion (AIC)	313.232		
	Finite Sample Corrected AIC (AICC)	313.628		
	Bayesian Information Criterion (BIC)	333.567		

	Consistent AIC (CAIC)	339.567		

Dependent Variable: CTSphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, GACosts, GABenefits

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[a]

Gender	Likelihood Ratio Chi-Square	df	Sig.
Male	27.030	4	.000
Female	17.554	4	.002

Dependent Variable: CTSphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, GACosts, GABenefits

a. Compares the fitted model against the intercept-only model.

Tests of Model Effects

		Type III		
Gender	Source	Wald Chi-Square	df	Sig.
Male	(Intercept)	4.231	1	.040
	NEWinstrumental	9.626	1	.002
	NEWExpressive	.250	1	.617
	GACosts	2.978	1	.084
	GABenefits	7.142	1	.008
Female	(Intercept)	.132	1	.716
	NEWinstrumental	5.270	1	.022
	NEWExpressive	.013	1	.909
	GACosts	6.884	1	.009
	GABenefits	.676	1	.411

Dependent Variable: CTSphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, GACosts, GABenefits

Parameter Estimates

				95% Wald Confidence Interval	
Gender	Parameter	B	Std. Error	Lower	Upper
Male	(Intercept)	-3.228	1.5692	-6.304	-.152
	NEWinstrumental	.109	.0350	.040	.177
	NEWExpressive	.031	.0617	-.090	.152
	GACosts	-.045	.0259	-.096	.006

	GABenefits	.076	.0285	.020	.132
	(Scale)	1[a]			
	(Negative binomial)	4.945	1.1491	3.136	7.797
Female	(Intercept)	-.618	1.7026	-3.955	2.719
	NEWinstrumental	.113	.0493	.017	.210
	NEWExpressive	-.006	.0554	-.115	.102
	GACosts	-.068	.0260	-.119	-.017
	GABenefits	.027	.0324	-.037	.090
	(Scale)	1[a]			
	(Negative binomial)	10.988	2.8328	6.629	18.212

Dependent Variable: CTSphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, GACosts, GABenefits
a. Fixed at the displayed value.

Parameter Estimates

		Hypothesis Test		
Gender	Parameter	Wald Chi-Square	df	Sig.
Male	(Intercept)	4.231	1	.040
	NEWinstrumental	9.626	1	.002
	NEWExpressive	.250	1	.617
	GACosts	2.978	1	.084
	GABenefits	7.142	1	.008
Female	(Intercept)	.132	1	.716
	NEWinstrumental	5.270	1	.022
	NEWExpressive	.013	1	.909
	GACosts	6.884	1	.009
	GABenefits	.676	1	.411

Dependent Variable: CTSphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, GACosts, GABenefits

Generalized Linear Models

Model Information

Dependent Variable	CTSIphysical
Probability Distribution	Negative binomial (1)
Link Function	Log

Case Processing Summary

Gender		N	Percent
Male	Included	126	100.0%
	Excluded	0	.0%
	Total	126	100.0%
Female	Included	219	100.0%
	Excluded	0	.0%
	Total	219	100.0%

Continuous Variable Information

Gender			N	Minimum	Maximum
Male	Dependent Variable	CTSIphysical	126	.00	28.00
	Covariate	NEWinstrumental	126	8.00	40.00
		NEWExpressive	126	8.00	40.00
		PartnerCosts	126	11.00	55.00
		PartnerBenefits	126	11.00	47.00
Female	Dependent Variable	CTSIphysical	219	.00	22.00
	Covariate	NEWinstrumental	219	8.00	34.00
		NEWExpressive	219	8.00	36.00
		PartnerCosts	219	11.00	55.00
		PartnerBenefits	219	10.00	54.00

Continuous Variable Information

Gender			Mean	Std. Deviation
Male	Dependent Variable	CTSIphysical	1.0556	4.14402
	Covariate	NEWinstrumental	20.2381	7.21823
		NEWExpressive	25.2540	5.64402
		PartnerCosts	43.0000	7.32339
		PartnerBenefits	16.4841	6.93597
Female	Dependent Variable	CTSIphysical	1.4247	3.47567
	Covariate	NEWinstrumental	17.9680	6.27679
		NEWExpressive	25.9498	5.22540
		PartnerCosts	37.2329	8.18062
		PartnerBenefits	17.8584	7.20875

Goodness of Fit[b]

Gender		Value	df	Value/df
Male	Deviance	49.243	120	.410
	Scaled Deviance	49.243	120	
	Pearson Chi-Square	112.155	120	.935
	Scaled Pearson Chi-Square	112.155	120	
	Log Likelihood[a]	-106.411		
	Akaike's Information Criterion (AIC)	224.822		

	Finite Sample Corrected AIC (AICC)	225.528		
	Bayesian Information Criterion (BIC)	241.840		
	Consistent AIC (CAIC)	247.840		
Female	Deviance	149.986	213	.704
	Scaled Deviance	149.986	213	
	Pearson Chi-Square	235.451	213	1.105
	Scaled Pearson Chi-Square	235.451	213	
	Log Likelihood[a]	-288.057		
	Akaike's Information Criterion (AIC)	588.114		
	Finite Sample Corrected AIC (AICC)	588.510		
	Bayesian Information Criterion (BIC)	608.448		
	Consistent AIC (CAIC)	614.448		

Dependent Variable: CTSIphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, PartnerCosts, PartnerBenefits

a. The full log likelihood function is displayed and used in computing information criteria.

b. Information criteria are in small-is-better form.

Omnibus Test[b]

Gender	Likelihood Ratio Chi-Square	df	Sig.
Male	.[a]	.	.
Female	21.602	4	.000

Dependent Variable: CTSIphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, PartnerCosts, PartnerBenefits

a. Unable to compute the initial model log likelihood due to numerical problems.

b. Compares the fitted model against the intercept-only model.

Tests of Model Effects

		Type III		
Gender	Source	Wald Chi-Square	df	Sig.
Male	(Intercept)	1.565	1	.211
	NEWinstrumental	.543	1	.461
	NEWExpressive	1.034	1	.309
	PartnerCosts	2.685	1	.101
	PartnerBenefits	.351	1	.554

Female	(Intercept)	.027	1	.870
	NEWinstrumental	.072	1	.788
	NEWExpressive	5.140	1	.023
	PartnerCosts	13.805	1	.000
	PartnerBenefits	3.217	1	.073

Dependent Variable: CTSIphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, PartnerCosts, PartnerBenefits

Parameter Estimates

				95% Wald Confidence Interval	
Gender	Parameter	B	Std. Error	Lower	Upper
Male	(Intercept)	4.019	3.2127	-2.278	10.316
	NEWinstrumental	.046	.0620	-.076	.167
	NEWExpressive	-.100	.0982	-.292	.093
	PartnerCosts	-.075	.0459	-.165	.015
	PartnerBenefits	.029	.0498	-.068	.127
	(Scale)	1[a]			
	(Negative binomial)	12.942	3.6563	7.440	22.515
Female	(Intercept)	.179	1.0960	-1.969	2.327
	NEWinstrumental	-.009	.0341	-.076	.058
	NEWExpressive	.083	.0366	.011	.155
	PartnerCosts	-.081	.0219	-.124	-.039
	PartnerBenefits	.052	.0288	-.005	.108
	(Scale)	1[a]			
	(Negative binomial)	4.510	.7783	3.216	6.325

Dependent Variable: CTSIphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, PartnerCosts, PartnerBenefits
a. Fixed at the displayed value.

Parameter Estimates

		Hypothesis Test		
Gender	Parameter	Wald Chi-Square	df	Sig.
Male	(Intercept)	1.565	1	.211
	NEWinstrumental	.543	1	.461
	NEWExpressive	1.034	1	.309
	PartnerCosts	2.685	1	.101
	PartnerBenefits	.351	1	.554
Female	(Intercept)	.027	1	.870
	NEWinstrumental	.072	1	.788
	NEWExpressive	5.140	1	.023
	PartnerCosts	13.805	1	.000
	PartnerBenefits	3.217	1	.073

Dependent Variable: CTSIphysical
Model: (Intercept), NEWinstrumental, NEWExpressive, PartnerCosts, PartnerBenefits

Correlations

Correlations

		CTSIphysical	PartnerCosts	PartnerBenefits
CTSIphysical	Pearson Correlation	1	-.215**	.205**
	Sig. (2-tailed)		.000	.000
	N	345	345	345
PartnerCosts	Pearson Correlation	-.215**	1	-.124*
	Sig. (2-tailed)	.000		.022
	N	345	345	345
PartnerBenefits	Pearson Correlation	.205**	-.124*	1
	Sig. (2-tailed)	.000	.022	
	N	345	345	345
NEWinstrumental	Pearson Correlation	.105	-.009	.399**
	Sig. (2-tailed)	.051	.872	.000
	N	345	345	345
NEWExpressive	Pearson Correlation	.021	.105	.130*
	Sig. (2-tailed)	.695	.052	.016
	N	345	345	345
CTSphysical	Pearson Correlation	.296**	-.049	.254**
	Sig. (2-tailed)	.000	.368	.000
	N	345	345	345
GACosts	Pearson Correlation	-.049	.512**	-.070
	Sig. (2-tailed)	.366	.000	.195
	N	345	345	345
GABenefits	Pearson Correlation	.156**	-.026	.571**
	Sig. (2-tailed)	.004	.634	.000
	N	345	345	345

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		NEWinstrumental	NEWExpressive	CTSphysical	GACosts
CTSIphysical	Pearson Correlation	.105	.021	.296**	-.049
	Sig. (2-tailed)	.051	.695	.000	.366
	N	345	345	345	345
PartnerCosts	Pearson Correlation	-.009	.105	-.049	.512**
	Sig. (2-tailed)	.872	.052	.368	.000
	N	345	345	345	345
PartnerBenefits	Pearson Correlation	.399**	.130*	.254**	-.070

	Sig. (2-tailed)	.000	.016	.000	.195
	N	345	345	345	345
NEWinstrumental	Pearson Correlation	1	.427**	.303**	-.125*
	Sig. (2-tailed)		.000	.000	.021
	N	345	345	345	345
NEWExpressive	Pearson Correlation	.427**	1	.055	.129*
	Sig. (2-tailed)	.000		.306	.016
	N	345	345	345	345
CTSphysical	Pearson Correlation	.303**	.055	1	-.095
	Sig. (2-tailed)	.000	.306		.078
	N	345	345	345	345
GACosts	Pearson Correlation	-.125*	.129*	-.095	1
	Sig. (2-tailed)	.021	.016	.078	
	N	345	345	345	345
GABenefits	Pearson Correlation	.610**	.238**	.256**	-.191**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	345	345	345	345

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		GABenefits
CTSIphysical	Pearson Correlation	.156**
	Sig. (2-tailed)	.004
	N	345
PartnerCosts	Pearson Correlation	-.026
	Sig. (2-tailed)	.634
	N	345
PartnerBenefits	Pearson Correlation	.571**
	Sig. (2-tailed)	.000
	N	345
NEWinstrumental	Pearson Correlation	.610**
	Sig. (2-tailed)	.000
	N	345
NEWExpressive	Pearson Correlation	.238**
	Sig. (2-tailed)	.000
	N	345
CTSphysical	Pearson Correlation	.256**
	Sig. (2-tailed)	.000
	N	345
GACosts	Pearson Correlation	-.191**
	Sig. (2-tailed)	.000
	N	345

GABenefits	Pearson Correlation	1
	N	345

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

Correlations

Gender			CTSIphysical	PartnerCosts	PartnerBenefits	NEWinstrumental
Male	CTSIphysical	Pearson Correlation	1	-.201*	.194*	.063
		Sig. (2-tailed)		.024	.029	.484
		N	126	126	126	126
	PartnerCosts	Pearson Correlation	-.201*	1	-.174	-.172
		Sig. (2-tailed)	.024		.052	.054
		N	126	126	126	126
	PartnerBenefits	Pearson Correlation	.194*	-.174	1	.404**
		Sig. (2-tailed)	.029	.052		.000
		N	126	126	126	126
	NEWinstrumental	Pearson Correlation	.063	-.172	.404**	1
		Sig. (2-tailed)	.484	.054	.000	
		N	126	126	126	126
	NEWExpressive	Pearson Correlation	-.031	.105	.190*	.405**
		Sig. (2-tailed)	.733	.242	.034	.000
		N	126	126	126	126
	CTSphysical	Pearson Correlation	.219*	-.087	.309**	.345**
		Sig. (2-tailed)	.014	.332	.000	.000
		N	126	126	126	126
	GACosts	Pearson Correlation	-.058	.650**	-.060	-.182*
		Sig. (2-tailed)	.515	.000	.502	.042
		N	126	126	126	126
	GABenefits	Pearson Correlation	.107	-.095	.546**	.568**
		Sig. (2-tailed)	.232	.290	.000	.000
		N	126	126	126	126
Female	CTSIphysical	Pearson Correlation	1	-.222**	.208**	.155*
		Sig. (2-tailed)		.001	.002	.022
		N	219	219	219	219
	PartnerCosts	Pearson Correlation	-.222**	1	-.062	-.007
		Sig. (2-tailed)	.001		.364	.916
		N	219	219	219	219
	PartnerBenefits	Pearson Correlation	.208**	-.062	1	.435**
		Sig. (2-tailed)	.002	.364		.000

		N	219	219	219	219
	NEWinstrumental	Pearson Correlation	.155*	-.007	.435**	1
		Sig. (2-tailed)	.022	.916	.000	
		N	219	219	219	219
	NEWExpressive	Pearson Correlation	.054	.150*	.087	.473**
		Sig. (2-tailed)	.422	.026	.201	.000
		N	219	219	219	219
	CTSphysical	Pearson Correlation	.432**	-.124	.260**	.234**
		Sig. (2-tailed)	.000	.068	.000	.000
		N	219	219	219	219
	GACosts	Pearson Correlation	-.051	.555**	-.095	-.054
		Sig. (2-tailed)	.450	.000	.163	.429
		N	219	219	219	219
	GABenefits	Pearson Correlation	.213**	-.077	.634**	.626**
		Sig. (2-tailed)	.001	.255	.000	.000
		N	219	219	219	219

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

Gender			NEWExpressive	CTSphysical	GACosts	GABenefits
Male	CTSIphysical	Pearson Correlation	-.031	.219*	-.058	.107
		Sig. (2-tailed)	.733	.014	.515	.232
		N	126	126	126	126
	PartnerCosts	Pearson Correlation	.105	-.087	.650**	-.095
		Sig. (2-tailed)	.242	.332	.000	.290
		N	126	126	126	126
	PartnerBenefits	Pearson Correlation	.190*	.309**	-.060	.546**
		Sig. (2-tailed)	.034	.000	.502	.000
		N	126	126	126	126
	NEWinstrumental	Pearson Correlation	.405**	.345**	-.182*	.568**
		Sig. (2-tailed)	.000	.000	.042	.000
		N	126	126	126	126
	NEWExpressive	Pearson Correlation	1	.113	.110	.288**
		Sig. (2-tailed)		.208	.218	.001
		N	126	126	126	126
	CTSphysical	Pearson Correlation	.113	1	-.043	.260**
		Sig. (2-tailed)	.208		.634	.003
		N	126	126	126	126
	GACosts	Pearson Correlation	.110	-.043	1	-.284**
		Sig. (2-tailed)	.218	.634		.001
		N	126	126	126	126

	GABenefits	Pearson Correlation	.288**	.260**	-.284**	1
		Sig. (2-tailed)	.001	.003	.001	
		N	126	126	126	126
Female	CTSIphysical	Pearson Correlation	.054	.432**	-.051	.213**
		Sig. (2-tailed)	.422	.000	.450	.001
		N	219	219	219	219
	PartnerCosts	Pearson Correlation	.150*	-.124	.555**	-.077
		Sig. (2-tailed)	.026	.068	.000	.255
		N	219	219	219	219
	PartnerBenefits	Pearson Correlation	.087	.260**	-.095	.634**
		Sig. (2-tailed)	.201	.000	.163	.000
		N	219	219	219	219
	NEWinstrumental	Pearson Correlation	.473**	.234**	-.054	.626**
		Sig. (2-tailed)	.000	.000	.429	.000
		N	219	219	219	219
	NEWExpressive	Pearson Correlation	1	.013	.132	.225**
		Sig. (2-tailed)		.845	.051	.001
		N	219	219	219	219
	CTSphysical	Pearson Correlation	.013	1	-.135*	.227**
		Sig. (2-tailed)	.845		.047	.001
		N	219	219	219	219
	GACosts	Pearson Correlation	.132	-.135*	1	-.093
		Sig. (2-tailed)	.051	.047		.172
		N	219	219	219	219
	GABenefits	Pearson Correlation	.225**	.227**	-.093	1
		Sig. (2-tailed)	.001	.001	.172	
		N	219	219	219	219

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).