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The Role of Gender in Self-Control and Intimate Partner Violence

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by

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ABSTRACT

This study focuses on the interrelationships among gender, self-control and intimate partner violence (IPV). The sample consists of 960 undergraduate and graduate university students who are currently in a dating relationship. A series of bivariate and multivariate analyses are used to: 1) determine if self-control and IPV vary across gender and 2) assess the effect of gender on the relationship between self-control and IPV. Overall, results provide partial support for Gottfredson and Hirschi's (1990) general theory of crime. Self-control operated similarly on IPV for both males and females, supporting the gender-neutrality of their theory. However, the gender gap in crime as it relates to self-control remains in question as females were more likely than males to commit more types of IPV. The implications of these findings, limitations of the current study, and directions for future research are discussed.

CHAPTER ONE:

INTRODUCTION

In one of the most commonly cited and tested criminological theories, Gottfredson and Hirschi (1990) explain in their book, *A General Theory of Crime*, that all crime and analogous behaviors can be accounted for by a single underlying factor, low self-control. The authors assert that self-control is made up of six interrelated components: risk-seeking, preference for simple tasks, quick temper, preference for physical activities, impulsivity, and self-centeredness. Once established through effective child-rearing practices in the first eight to ten years of life, one's level of self-control remains relatively stable throughout the life-course. Gottfredson and Hirschi also address the importance of opportunity as they explain that crime takes place when someone with low self-control is in a situation where there is high opportunity to commit that behavior.

An impressive body of research has tested the link between self-control and crime, as well as other noncriminal deviance and other analogous behaviors (Pratt & Cullen, 2000), revealing modest support for the general theory of crime's main proposition that low self-control is a correlate of crime and delinquency. Gottfredson and Hirschi (1990) assert that their theory is universal in nature and broad in scope as it can explain all types of crime, at all times, in all people. By this definition, the implication of their generality hypothesis is that the general theory of crime implies gender neutrality. Rather than focusing on gender-specific variables, gender-neutral theories argue that gender differences and individual differences in crime should require a single explanatory framework, such that important variables in the explanation of crimes

committed by males should also be important in the explanation of crimes committed by females.

The key variable that is significant to the study of crime, according to the general theory of crime, is self-control. Gottfredson and Hirschi (1990) predict that females will have higher levels of self-control. Indeed, research has consistently supported the claim that females have higher self-control than males (Blackwell & Piquero, 2005; Gibson, Ward, Wright, Beaver, & DeLisi, 2010; Hope & Chapple, 2005). Gottfredson and Hirschi (1990) go on to predict that variations in self-control account for the gender gap (e.g., males commit more crime overall than do females) in crime and analogous behaviors. In other words, males have lower levels of self-control than females and as such, are more likely than females to engage in crime and delinquency.

However, research has often overlooked the gender implication of the general theory of crime by utilizing male-only samples, omitting gender from data analyses, or controlling for gender but failing to report any findings regarding the gender effect in analyses (e.g., Arneklev, Grasmick, Tittle, & Bursik, 1993; Brownfield & Sorenson, 1993; Evans, Cullen, Burton, Dunaway, & Benson, 1997; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996; Polakowski, 1994). In light of these criticisms, studies began to assess the gender implication of the general theory of crime revealing mixed results regarding its gender-neutrality (Benda, Toombs, & Corwyn, 2005; Longshore, Turner, & Stein, 1996).

In addition to the ability of self-control to explain the gender gap in crime, Gottfredson and Hirschi (1990) also discuss the generality of self-control and assert that self-control is able to explain criminal behavior equally well for males and females. Although several studies have found evidence of this (Blackwell & Piquero, 2005; Keane, Maxim, & Teevan, 1993; Tittle,

Ward, & Grasmick, 2003), other studies have found that the predictive power of self-control does not hold the same significance across gender (Burton, Cullen, Evans, Alarid, & Dunaway, 1998; LaGrange & Silverman, 1999; Higgins & Tewksbury, 2006).

Overall, the literature clearly supports the ability of self-control to predict criminality; however, the findings regarding the gender implications of the general theory of crime are not conclusive. Central to this discussion is the fact that gender is one of the most well document correlates of crime. Gendered trends in crime can be seen not only in the types of crimes committed, but in the seriousness and frequency of offending as well (Belknap, 2001). Indeed, these trends consistently indicate that many offenses are male dominated. Both official statistics and empirical literature indicate that males, as compared to females, offend with both higher frequency and severity (Cernkovich & Giordana, 1979; Chesney-Lind & Sheldon, 2004; Steffensmeier & Allan, 2000; U.S. Department of Justice, 2015).

Relevant to the current study, one of the most serious forms of crime in regard to gender differences is intimate partner violence (IPV). IPV is a term that can be used to describe various types of aggressive behavior (e.g., physical abuse, sexual abuse, threats of violence, and emotional abuse) within an intimate relationship. Regarding the gender gap in IPV, although research reveals that IPV is one of the most common forms of violence against women (Payne & Gainey, 2005), with higher perpetration rates for males and higher victimization rates for females (Archer, 2000), the relationship between gender and IPV is far from conclusive. For instance, another body of literature indicates that males and females engage in IPV at rates that are similar across gender (Archer, 2000; Barnett, Lee, & Thelen, 1997; Felson, 2003; Straus, 1993), whereas yet another body of literature indicates that women are more likely than men to be the perpetrators of IPV (Archer, 2000; Kaukinen, Gover, & Hartman, 2012; Straus & Gelles, 1986).

Moreover, the relationship between gender and IPV has been shown to depend on a number of other factors including the types of behavior observed (Arriaga & Foshee, 2004; Hamberger & Guse, 2002), the way in which IPV is measured (Archer, 2000; DeKeseredy & Schwawtz, 1998; Foshee, Bauman, Linder, Rice, & Wilcher, 2007), methodological differences involving sample populations (e.g., general vs. clinical) (Barnett et al., 1997; Harned, 2001; Langhinrichsen-Rohling, Neidig, & Thorn, 1995; O'Keefe, 1997), as well as the theoretical framework in which the study is grounded (Archer, 2000; Johnson, 1995; 2006). However, many of the studies of IPV are hindered by little theoretical development as they are more often strictly descriptive in nature (but see Cochran et al., 2015; Sellers, 1999; Sellers, Cochran, & Branch, 2005).

Taken together, both self-control and IPV are gendered concepts. Moreover, issues remain unresolved in regard to the gender neutrality of the general theory, the complex gendered nature of IPV, and the relatively limited role that theory has played in the development of its study. The intention of the current study is to address some of these gaps in the literature. Specifically, the objective of the current research is to explore the role of gender in the relationship between self-control and IPV by answering two interrelated questions. First, do both self-control and IPV perpetration vary across gender? And second, does the relationship between self-control and IPV perpetration vary across gender?

Toward this end, Chapter Two offers a brief history of Gottfredson and Hirschi's (1990) general theory of crime. Definitions, generally accepted conclusions, and central focuses of this theory are explained. The current body of research related to this theory and specifically, the role that gender plays in its study, is reviewed. This chapter then transitions to a discussion regarding gender differences in crime, namely, IPV. The relationship that self-control may have within the

context of IPV is then addressed. The lack of research regarding this relationship is explained and the limited number of studies that examine these relationships are reviewed. Finally, the research questions for the current study are derived from the reviewed literature.

Chapter Three provides an overview of the methods used in the current study. Data collection procedures and characteristics of the sample are described. The dependent variable is a measure of respondents' use of dating violence in their current dating relationship. Independent variables that are defined and described include gender and self-control, and control variables are also described, which include opportunity, retaliatory IPV, prior intimate partner offending, and prior intimate partner victimization. Models are then presented that employ the analytic techniques of bivariate and multivariate modeling techniques.

Chapter Four presents the bivariate and multivariate analyses of these data and discusses explanations for the associations found among the models. This discussion draws from previous research regarding two potentially gendered concepts, namely self-control and IPV. Then, possible explanations are supported with the limited number of studies that have tapped the relationship between self-control and IPV. The goal of this chapter is to highlight whether self-control predicts IPV perpetration differently across gender.

Finally, Chapter Five concludes with a summary and discussion of the current study and focuses on its purpose, design, major findings, and theoretical implications of the results. Limitations, policy implications, and suggestions for future research regarding self-control and IPV are also presented.

CHAPTER TWO:

GENDER, SELF-CONTROL, AND INTIMATE PARTNER VIOLENCE

The General Theory of Crime

In one of the most influential theoretical statements known to criminologists, Gottfredson and Hirschi (1990) argue that their general theory of crime explains all crimes, at all times, and in all places. Gottfredson and Hirschi go on to explain that all crime, deviance, and reckless acts and behaviors are accounted for by one single underlying factor. Rooted in the works of earlier classical theories of human behavior, which assert that people pursue self-interest by avoiding pain and seeking pleasure, the general theory of crime is based on the assumption that human behavior involves both benefits and costs (Beccaria, 1774; Gottfredson & Hirschi, 1990). Indeed, Gottfredson and Hirschi (1990:9) assert that "the existence of any item of behavior is prima facie evidence that its benefits exceed its costs."

Based on this classical view of human nature, Gottfredson and Hirschi (1990:15) define crime as acts of "force or fraud undertaken in pursuit of self-interest." After reviewing the fundamental characteristics and general patterns of common crimes, they conclude that "criminal acts tend to be short lived, immediately gratifying, easy, simple, and exciting" (Gottfredson & Hirschi, 1990:14). They also claim that crime "requires little in the way of effort, planning, preparation, or skill" and "is largely petty, typically not completed, and usually of little lasting or substantial benefit to the offender" (1990:17, 21). In other words, crime is simply the result of one's preference for immediate benefit and avoidance of pain. Therefore, what requires

explanation is individual differences in offending. According to the general theory of crime, individual differences in offending result from an inability to refrain from participating in acts that provide immediate benefit with little concern for long-term consequences. Gottfredson and Hirschi (1990:87) refer to this tendency as low self-control and define it as "the differential tendency of people to avoid criminal acts whatever the circumstances in which they find themselves." Gottfredson and Hirschi are thus able to distinguish the concept of criminality, which implies that people differ in the extent to which they are compelled to crime, from their concept of low self-control, which implies that people differ in the extent to which they are restrained from committing criminal acts.

Gottfredson and Hirschi (1990) identify six elements that comprise low self-control. First, people with low self-control are impulsive and cannot resist short-term immediate benefits. Those with higher levels of self-control are better able to consider long-term consequences and defer the gratification of their desires. Second, people with low self-control prefer easy and simple undertakings as opposed to actions that take effort or planning. Gottfredson and Hirschi (1990) maintain that it is not necessary to have complex cognitive faculties or high skill levels for the commission of most crimes. Third, people with low self-control are likely to be adventuresome, while those with higher levels of self-control tend to be cautious. Individuals who engage in risky behavior are more likely to engage in crime. Fourth, those with low self-control participate in more physical activities as compared to mental or cognitive pursuits; therefore, those with low self-control are unable to resist the physical nature of crime. Fifth, people lacking self-control tend to be self-centered and indifferent to others. In other words, those with low self-control will lack empathy as compared to those with higher self-control, who are more sensitive to the needs of others. Finally, those with low self-control have little patience

for frustrating events, and are quick-tempered. As a result, they may employ more aggressive or violent coping strategies based on the circumstances.

Gottfredson and Hirschi (1990) suggest that the simultaneous existence of these six distinct elements constitutes low self-control. Moreover, these six elements do not operate independently; rather, they form a single unidimensional latent trait. As the authors (1990: 90-91) explain, "there is a considerable tendency for these traits to come together in the same people, and since the traits tend to persist through life, it seems reasonable to consider them as comprising a stable construct useful in the explanation of crime."

However, in regard to self-control, the general theory of crime is not deterministic. An individual's level of self-control is not, in and of itself, the only necessary condition leading to crime. In their explanation (1990: 89), "lack of self-control does not require crime and can be counteracted by situational conditions or other properties of the individual." Because crime is not the only outcome of low self-control, it is further explained that those with low self-control are also more likely to engage in a wide variety of behaviors including deviance and other acts that are "analogous" to crime. These behaviors include gambling, drug and alcohol use, sexual promiscuity, risky driving, and variability in relationships and employment. Gottfredson and Hirschi (1990) emphasize that crime and analogous behaviors are attractive to those with low self-control due to their inability to resist temptations.

Broadly speaking, control theories assume that humans are hedonistic and engage in self-serving behaviors (Hirschi, 1969; Kornhauser, 1978). The general theory of crime, in particular, furthers this premise by explaining that self-control is not an innate trait within humans. Indeed, "…low self-control is not produced by training or tutelage, or socialization. As a matter of fact, all of the characteristics associated with low self-control tend to show themselves in the absence

of nurturance, discipline, and training" (Gottfredson & Hirschi, 1990:94-95). According to Gottfredson and Hirschi (1990), individuals are inclined to have low self-control unless such control is developed through effective socialization. Specifically, the source of low self-control is ineffective child-rearing. The authors (1990) suggest that in order for self-control to be effectively developed, parents must (1) supervise the child's behavior, (2) acknowledge deviant behavior when it occurs, and (3) discipline the child for engaging in those behaviors. All three of these conditions must be present and consistently delivered for self-control to be effectively developed.

Gottfredson and Hirschi (1990:98) also address the importance of parent-child attachment given that "…parental concern for the welfare or behavior of the child is a necessary condition for successful child rearing." It is argued that if a parent is attached and invested in their child, the three conditions of parenting (monitoring, recognition, and discipline) will follow. In other words, if parent-child attachment does *not* exist, none of the other conditions will be met. However, even when parent-child attachment exists, Gottfredson and Hirschi (1990) point out situations in which their child-rearing model can go wrong. For example, in addition to having concern and care for their child, parents must also have the strength and energy to monitor their child's behavior. It follows that in order for supervision to have an impact on self-control, parents must also be able to identify when their child's behavior is deviant. Finally, once deviant behavior is recognized, parents must then be able to punish their child effectively. Self-control is most effectively instilled in children whose parents consistently rear their child in this way (Gottfredson and Hirschi, 1990).

Once established through effective child-rearing practices, one's level of self-control remains relatively stable throughout the life course (Gottfredson & Hirschi, 1990). "By the age

of 8 or 10, most of us learn to control such tendencies to the degree necessary to get along at home and school…the differences observed at ages 8 or 10 tend to persist from then on. Good children remain good. Not so good children remain a source of concern to their parents, teachers, and eventually to the criminal justice system" (Hirschi & Gottfredson, 2001:90). Once set, Gottfredson and Hirschi (1990) also argue that socializing agents are ineffective in altering one's level of self-control. As such, self-control is seen as a stable and enduring trait through the life course. Those with high self-control are less likely to engage in crime throughout their life course, as compared to those with low self-control, who are more likely to engage in crime throughout their life course. Gottfredson and Hirschi (1990) do mention that manifestations of low self-control may change over time, but the trait does not diminish with maturity or increased age. In reference to the age/crime distribution, criminal involvement varies; however, differences in the relative tendency to commit crime (i.e., propensity) remain constant.

Gottfredson and Hirschi (1990) also explain that low self-control alone does not explain the commission of criminal and analogous behaviors. They explain that "…lack of self-control does not require crime and can be counteracted by situational conditions" (1990:89). In other words, it is the interaction between low self-control and opportunity that is important in the analysis of criminal and analogous behavior. Crimes take place when an individual with low self-control is in a high-opportunity situation to commit that behavior. Gottfredson and Hirschi (1990:4) maintain that "force and fraud are ever-present possibilities in human affairs." As such, while the authors acknowledge that opportunity is an essential condition of offending, they also indicate that opportunities are "limitless" and widely available to everyone (1990:50).

In sum, several major propositions emerge from Gottfredson and Hirschi's general theory of crime. First, self-control is a unidimensional latent trait composed of six elements. An

individual who is impulsive, lazy, risk-taking, physical, self-centered, and unable to tolerate frustration will exhibit low levels of self-control. Second, the trait of low self-control is able to explain all types of crime, noncriminal deviance, and analogous behavior. Third, effective parental socialization via monitoring, supervision, and discipline is essential for the development of self-control in early childhood. Fourth, once stabilized, one's level of self-control remains stable. Finally, depending on the opportunities present, individuals with low self-control will participate in criminal and analogous behaviors.

Gottfredson and Hirschi's general theory of crime has become one of the most commonly referenced (Cohn & Farrington, 1999) and examined criminological theories (Pratt & Cullen, 2000). Indeed, numerous studies have tested the link between low self-control and crime, while other studies have focused on the link between self-control and noncriminal deviance or analogous behavior (Arneklev et al., 1993; Arneklev, Cochran, & Gainey, 1998; Benson & Moore, 1992; Brownfield & Sorenson, 1993; Burton, Cullen, Evans, & Dunaway, 1994; Burton et al., 1998a; Cochran, Wood, Sellers, Wilkerson, & Chamlin, 1998; Evans et al., 1997; Forde & Kennedy, 1997; Gibbs & Giever, 1995; Gibbs, Giever, & Martin, 1998; Giever, 1995; Grasmick, Tittle, Bursik, & Arneklev, 1993; Keane et al., 1993; LaGrange & Silverman, 1999; Longshore, 1998; Longshore & Turner, 1998; Longshore et al., 1996; Nagin & Paternoster, 1993; Paternoster & Brame, 1997; Piquero & Rosay, 1998; Piquero & Tibbetts, 1996; Polakowski, 1994; Sellers, 1999; Tibbetts, 1999; Tibbetts & Myers, 1999; Winfree & Bernat, 1998; Wright, Caspi, Moffitt, & Silva, 1999; Wood, Pfefferaum, & Arneklev, 1993; Zager, 1993). Arguably, this impressive body of research has found moderate support for the theory's main proposition that low self-control is predictive of criminal and analogous behaviors.

To provide a clearer picture of the predictive accuracy of the general theory of crime, Pratt and Cullen (2000) conducted a meta-analysis of 21 studies. The studies represented 17 independent data sets with 49,727 individual cases. Their analyses revealed consistent effects in the expected direction of the relationship between self-control and crime. Moreover, on average, self-control variables explained 19% of the variance in crime and other analogous behaviors, leading the authors to rank self-control as "…one of the strongest known correlates of crime" (Pratt & Cullen, 2000:952). Although not all of their findings provided unqualified support, the meta-analysis of the extant literature indicated that Gottfredson and Hirschi's (1990) central concept regarding the relationship between self-control and crime was empirically supported.

Over a decade has passed since Pratt and Cullen's (2000) meta-analysis regarding the empirical status of the general theory of crime. During this time, researchers have continued to examine the relationship between self-control and occupational delinquency (Gibson & Wright, 2001), index offenses (DeLisi, 2001), risky driving behavior (Junger, West, & Timman, 2001), bullying (Unnever & Cornell, 2003), various illegal and analogous behaviors (Tittle et al., 2003), media piracy (Higgins, 2005), extreme forms of violent offending, including homicide (Piquero, MacDonald, Dobrin, Daigle, & Cullen, 2005), parole violations (Langton, 2006), academic dishonesty (Cochran, Aleska, & Chamlin, 2006), self-reported antisocial behavior (Cretacci, 2008), self-reported prison violations (Kerley, Hochstetler, & Copes, 2009), adolescent drinking (Baker, 2010), as well as various self-reported offenses and analogous behaviors (Holtfreter, Reisig, Piquero, & Piquero, 2010). Overall, the findings across these studies support the conclusions of Pratt and Cullen (2000): self-control is a correlate of crime and analogous behaviors. In line with Gottfredson and Hirschi's (1990) general theory of crime, as well as

extant empirical research, the current study hypothesizes a relationship between crime perpetration and low self-control.

Gender and the General Theory of Crime

Gottfredson and Hirschi's (1990) general theory of crime is universal in nature and broad in scope. Indeed, their generality hypothesis asserts that self-control predicts not only crime, but analogous behaviors as well. The literature reviewed above has, overall, supported these theoretical claims. Moreover, the authors make a generality claim in that their theory accounts for all crime, at all times throughout the life course. The implication of this statement is that developmental theories are not needed to explain crime at different stages of one's life; rather, self-control is the cause of crime and analogous behaviors at all ages, and results in the stable propensity to commit these behaviors over time. In addition to the claim that self-control predicts crime and analogous behaviors at all times, Gottfredson and Hirschi's (1990) generality hypothesis also asserts that the predictive power of self-control will hold true for all people. By this definition, then, the general theory of crime implies gender-neutrality.

Over the years, theorists have supported the usefulness of gender-neutral theories of crime (Rosenbaum, 1987). Empirical research has also supported the utility of gender-neutral theories in their explanations of male and female crime (e.g., Jensen & Eve, 1976; Simons, Miller, & Aigner, 1980; Smith, 1979; Smith & Paternoster, 1987). In an examination of sex differences in crime, Rowe and colleagues (1995) analyzed whether mean differences and individual differences in crime resulted from similar or different underlying influences. They concluded that "it weakens criminological theories that postulate strikingly different influences on male versus female delinquency" and "…it strengthens those theories that offer unitary explanations of both sexes' delinquency" (Rowe, Vazsonyi, & Flannery, 1995:98-99). Rather

than focusing on individual-level variables, as research on female criminality has often done in the past (Giordano, 1978), gender-neutral theories suggest that sex differences and individual variation in crime should require a single explanatory framework. In other words, criminogenic factors that are significant in the study of male crime should also be significant in the study of female crime.

In regard to the general theory of crime, the key variable that is significant to the study of crime in both males and females is, of course, self-control. Research has consistently found differences in levels of self-control across gender. Specifically, these studies have found that females have higher levels of self-control than males (Blackwell & Piquero, 2005; Gibbs et al., 1998; Gibson et al., 2010; Hayslett-McCall & Bernard, 2002; Hope & Chapple, 2005; Keane et al., 1993; Tittle et al., 2003; Turner & Piquero, 2002; Winfree et al., 2006). According to Gottfredson and Hirschi (1990), females are less likely to engage in criminal and analogous behaviors than males because they have higher levels of self-control. Indeed, their theory predicts a "substantial difference between the sexes such that males will have lower self-control than females" (1990:147). As a result, "men are always and everywhere more likely than women to commit criminal acts" (1990:145).

In Gottfredson and Hirschi's (1990) view, this difference in self-control results because parents apply the conditions of parenting (i.e., monitoring, recognition of deviance, and discipline) differently for males and females. Gottfredson and Hirschi (1990:147) reiterate the importance of effective parenting as central to the development of self-control, noting that "gender differences for all types of crime are established early in life…" The authors explain that, historically, parents monitor girls more closely than boys. In their opinion, this is not because parents believe that girls have higher deviant inclinations than boys, but rather, because

"most forms of delinquency are more costly to females than to males" (1990:148). Furthermore, because parents monitor girls more closely than boys, parents are also more likely to recognize deviance when girls engage in delinquent behavior. And finally, because parents are more likely to recognize when girls engage in delinquent behavior, they have more opportunities to discipline girls effectively.

In sum, Gottfredson and Hirschi (1990:145) recognize the relationship between crime and gender, indicating that "gender differences appear to be invariant over time and space." They assert that females have higher levels of self-control than males and, for this reason, females will engage in lower levels of crime and analogous behavior. Moreover, low self-control should account for both female and male criminal behavior. It is for these reasons that Gottfredson and Hirschi are able to maintain gender-neutrality within their theory. However, if their theory is in fact gender-neutral, variations in self-control should explain the gender gap in crime and analogous behaviors in addition to differences in these types of behavior among females and males. The following section will address the extant research regarding these two criminological issues.

The General Theory of Crime: Gender Implications

The Gender Gap

The first gender implication of the general theory of crime suggests that variation in self-control accounts for the association between gender and crime. Conversely, proponents of gender-specific theories argue that offending is different across gender because of the gendered nature of society (McCarthy, Hagan, & Woodward, 1999; Steffensmeier & Allan, 1996). Due to power differentials within society, females are exposed to different situations that affect their likelihood of engaging in criminal behavior. In other words, females have less opportunity to

commit crime. Gottfredson and Hirschi (1990:148) discount this notion, however, as "male-female differences in the use of force and fraud emerge early in life, well before differences in opportunity are possible, and persist into adulthood, where differences in supervision by agents of social control are minimal." In contrast to gender-specific theories, and critical to the gender-neutrality of their own theory, Gottfredson and Hirschi (1990) assert that self-control can explain why males commit more crime overall than do females. However, the ability of the general theory of crime to fully explain gender differences in crime and delinquency is still an issue that remains unresolved.

With limited exception, researchers have largely ignored the implications of the general theory of crime for exploring the relationship between gender and crime. Moreover, despite its generality claims, much of the empirical research that was done shortly after the publication of *A General Theory of Crime* either omitted gender altogether from its analyses or used samples composed only of males (Burton et al., 1998). For example, Brownfield and Sorenson (1993) selected only White males for their analyses that examined the construct of self-control and its relationship to official and self-reported measures of delinquency. In another study, Polakowski (1994) used several waves of data comprised of only males in his analysis of self-control and its relation to various personality disorders and minor conduct problems. Polakowski noted that Gottfredson and Hirschi "…proposed a general theory of crime that is meant to apply to deviance at all class levels, for women as well as men, and for all races as well; therefore…the results…should be viewed with caution" (Polakowski, 1994: 54). Unfortunately for studies such as these, not including females in analyses that test the accuracy and validity of a theory asserting claims of generality, leaves the applicability of this theory to females unresolved.

A small body of research has addressed the relationship between self-control and crime, deviance, and other imprudent/analogous behaviors while including gender in the analyses. However, these studies failed to consider the theoretical role of gender and include it only as a control variable (Arneklev et al., 1993, Grasmick et al., 1993). Grasmick and colleagues (1993) acknowledge that the general theory of crime offers hypotheses concerning the links between gender and self-control. However, they elect not to investigate these links beyond their inclusion of controls for gender, and these coefficients were not even presented as part of their findings.

In another study of self-control and criminal activities, Nagin and Paternoster (1993) examined the importance of both persistent individual differences in criminal propensity and choice-relevant variables. With self-control in the model, gender remained significant for intentions to drink and drive. However, the gender effect lost significance for intentions to commit theft. A footnote indicated that gender was "not central to the investigation" and was "…merely included as a control variable" (Nagin & Paternoster, 1993:486). Building on this work, Piquero and Tibbetts (1996) proposed the integration of low self-control into a rational choice framework. The authors noted in a footnote that gender was used as a control variable in preliminary analyses. They reported that its effect was not significant in predicting intentions to deviate. Moreover, gender did not have an effect on other exogenous variables included in the models; therefore, the authors chose to exclude gender from further analyses.

Research has also focused on the predictive power of the composite self-control measure. For example, Wood, Pfefferbaum, and Arneklev (1993) reported that, overall, self-control (both as a composite and disaggregated measure) did not always eliminate the gender gap for delinquency and imprudent behaviors; yet, in several instances, the gender effect was accounted for. In another test of self-control's influence on behavior, Gibbs and Giever (1995) assessed

"crime equivalents" (i.e., alcohol consumption and cutting class) among a sample of college students. Their findings regarding the independent impact of self-control on "crime equivalents" lend support to the general theory of crime. However, although analyses revealed that self-control eliminated the gender gap in cutting class, it did not do so for alcohol consumption. Using other behavioral measures, Evans and colleagues (1997) examined the effects of self-control on crime and analogous behaviors. Specifically, analogous imprudent behaviors were used as outcomes of low self-control as well as indicators of low self-control's effects on crime. After controlling for gender, results indicated that self-control was significantly and positively related to crime and analogous behaviors, and the measure of analogous behaviors was also strongly associated with involvement in general crime. The authors, however, did not report any findings regarding the gender effect in their analyses.

Longshore (1998) conducted a prospective test of self-control as a predictor of personal and property crimes among drug-using juvenile and adult offenders in the criminal justice system. Results of their regression analyses indicated that, after controlling for gender, the number of both property and personal crimes was higher among persons with lower self-control. In further analyses, the results of which were not included in his publication, Longshore dropped all covariates from the models and stated that the "…beta coefficients for self-control changed only slightly" (Longshore, 1998:108). In other words, low self-control's impact on personal and property crime included in the models was unaffected by gender. However, a more recent study that included gender in its models as a control did not find conclusive evidence in support of Gottfredson's and Hirschi's assertions regarding the gender gap. Using a sample of boot camp graduates, Benda and colleagues (2005) investigated the influence of self-control as a predictor of recidivism while controlling for gender (Benda et al., 2005). Consistent with prior literature,

models indicated that self-control and gender were significant predictors of recidivism when considered separately. Contrary to the claims of the general theory of crime regarding gender neutrality, however, both self-control and gender remained significant predictors when analyzed simultaneously within the same model.

In time, researchers began to note that although these studies advanced understanding of self-control as a criminological construct, their bearing on the validity of the general theory of crime was limited by the fact that most did not include gender as anything more than a control variable (Longshore, Turner, & Stein, 1996). For example, samples used by Grasmick and colleagues (1991, 1993) and Arneklev and colleagues (1993) were split evenly by gender. However, results were aggregated and not reported separately by gender. Indeed, the evidence regarding the validity of Gottfredson and Hirschi's theory within gender groups remained limited.

In light of these criticisms, empirical studies began to assess the gender implications of Gottfredson and Hirschi's theory. For example, Longshore and colleagues (1996) attempted to resolve some of the unanswered questions regarding gender and self-control by utilizing a sample of people who were extensively involved in serious crime. While the primary purpose of the study was to assess the properties of the self-control measure developed by Grasmick and colleagues (1993), Longshore and colleagues (1996) also tested the measure as a correlate of crime reported by a sample of drug-using juvenile and adult offenders. Although the findings and interpretations of this study have been debated (see Piquero and Rosay's 1998 reanalysis of the same data which led to different conclusions), Longshore's (1996) results revealed distinctive male and female patterns of offending. As such, it was evident that further research was needed to assess the efficacy of low self-control in its explanation of female crime. In a rejoinder to

Piquero and Rosay's findings, Longshore and colleagues (1998) defended their original analytic techniques and subsequent findings. Moreover, they went on to state that the techniques used by Piquero and Rosay (1998) were "…inappropriate, and in any event, led to substantive conclusions identical to ours" (Longshore et al., 1998:176).

Generality of Self-Control

Not only do Gottfredson and Hirschi (1990) assert that variation in self-control accounts for the gender gap in crime and analogous behavior, but also that self-control is able to explain differences in these types of behavior equally well for males and females. The authors note that "variables related to differences in criminality among boys are the same as those for girls" (1990:148). Indeed, as their theory would predict, several studies have found that self-control is a good predictor of delinquency across gender (Blackwell & Piquero, 2005; Hayslett-McCall & Bernard, 2002; Tittle et al., 2003). For example, utilizing behavior-based measures of self-control, Keane and colleagues (1993) performed an exploratory study testing the relationship between self-control and driving under the influence of alcohol. Data were drawn from a sample of active drivers using respondents' blood alcohol level as a measure of driving under the influence and a roadside questionnaire that included behavioral indicators of low self-control such as not wearing seat belts. Findings revealed a significant relationship between drunk driving and behavioral indicators of self-control. Moreover, the generality claims of Gottfredson and Hirschi appear supported in that the same risk-taking variables could be used to explain variations in drunk driving for both males and females.

This area of research is mixed, however, as other studies have found that the predictive power of self-control does not hold the same significance for both males and females. Burton and colleagues (1998) focused on the ability of self-control to explain the gender gap in males' and

females' criminal and delinquent behavior as well as its generality. Specifically, they questioned whether self-control exhibited general effects or gender-specific effects in explaining criminal involvement. Data were collected through a self-report sample of the general population, ages 18 and older, within an urban area in a Midwestern city. Analysis of their final sample of 555 respondents indicated that self-control was the only variable significantly related to criminal involvement for males. However, when variables from rival criminological theories were added to the model, the self-control effect for females lost significance. These results, therefore, "…are inconsistent, with gender having varying effects with self-control in the analysis" (Burton et al., 1998:136). Overall, the authors affirmed support for the generality of self-control's effects across gender. However, they offered their interpretations "cautiously" due to possible methodological limitations within their models. Moreover, they called for further research regarding the ability of self-control to account for the gender gap in offending as well as the generality of the effects of self-control.

Likewise, LaGrange and Silverman (1999) tested the general theory of crime as an explanation for gender differences in delinquency. Specifically, they used measures of low self-control to predict self-reported delinquency, measured both as general delinquency as well as specific offense types. A cross-sectional survey of secondary school students yielded an effective sample size of 2,095 students between the ages of 11 and 18. Regression analyses revealed that although the effect of gender on delinquency was substantially reduced after the addition of self-control into the model, this did not entirely eliminate gender as a predictor. Specifically, with the inclusion of self-control, gender differences were eliminated for drug offenses. However, gender retained a small but statistically significant effect for general delinquency, property, and violent offenses. In other words, the variables included in the analyses did not fully explain differences

in offending across gender. This led the authors (1999:63) to suggest that "there may be different patterns of causality leading to male and female offending."

More recently, Higgins and Tewksbury (2006) examined the distribution differences across gender in key measures of the general theory of crime. The authors hoped to provide a direct test of whether self-control theory is better suited for one sex. Data for the analyses were derived from a sample of middle and high school students. Results indicated that although the general theory of crime was able to explain delinquency among males and females, the theory more strongly predicted male delinquency. The authors noted that their study "…supports the premise that self-control theory seems to explain male delinquency better than it does female delinquency and warrants separate models when examining the theory" (Higgins and Tewksbury, 2006:496).

Taken together, the ability of self-control to predict criminal and analogous behaviors is clearly supported in the literature. However, the research is quite mixed regarding the gender implications of Gottfredson and Hirschi's general theory of crime. Regarding the gender gap, research has shown that self-control can reduce, and in some studies, fully account for, the effect of gender on delinquent and criminal behavior. However, other studies present analyses that contradict this finding. According to the assertions of Gottfredson and Hirschi, theoretical factors such as gender should lose their significance when analyzed alongside self-control. As this is not always the case, the gender implications of the general theory are called into question. Regarding the theory's generality claims, studies clearly show that differences in self-control do exist across gender. Moreover, delinquent and criminal behaviors have been found to be a function of self-control for males and females. However, some studies have found distinctive male and female offending patterns, or that self-control is a better predictor of behavior for one sex more than the

other. In sum, these results suggest that the general theory of crime may be less broadly applicable than originally proposed. Indeed, research regarding the role of sex in the theory has left unresolved issues (Higgins & Tewksbury, 2006).

Measurement of Self-Control

One of these unresolved issues, as it relates to gender, involves the valid measurement of self-control. Shortly after the publication of Gottfredson and Hirschi's (1990) theory, Grasmick and colleagues (1993) developed one of the most widely used and accepted measures of self-control in criminological literature (DeLisi, Hochstetler, & Murphy, 2003; Marcus, 2003; 2004; Pratt & Cullen, 2000; Title et al., 2003). The Grasmick scale, as it is often referred to, comprises a 24-item attitudinal scale (four items per component) designed to capture the six components of self-control as proposed by Gottfredson and Hirschi (1990): impulsivity, simple tasks, risk seeking, physical activities, self-centeredness, and temper. Results from Grasmick et al.'s (1993) study indicate good scale reliability and the presence of a single underlying factor, which supports a unidimensional, rather than multidimensional, conceptualization of self-control.

However, even though their results provided evidence for the reliability and validity of their scale, Grasmick and colleagues (1993) did not address whether or not their scale could be used among different types of samples or across gender. The results of subsequent studies have continued to find support for the reliability and validity of the Grasmick scale (Arneklev, Grasmick, Bursik, 1999; DeLisi et al., 2003; Gibson, 2005; Longshore et al., 1996; Piquero et al., 2000; Piquero & Rosay, 1998; Vazsonyi et al., 2001), yet many of these studies have neglected gender comparisons altogether (Arneklev et al., 1999; DeLisi et al., 2003; Grasmick et al., 1993; Marcus, 2003). The few that have actually incorporated gender (Longshore et al., 1996; Piquero

& Rosay, 1998; Vazsonyi et al., 2001) have not truly questioned whether the Grasmick scale is able to measure self-control for both males and females.

In fact, only three studies have used the Grasmick scale (1993) to assess whether or not the measurement of self-control is gender invariant. Utilizing an IRT Rasch model, Piquero and colleagues (2000) examined if the Grasmick scale was invariant across groups defined by gender. Results indicated that discrepancies existed in the measurement of self-control across gender. Higgins (2007) examined the Grasmick scale for differential item functioning (DIF) across sexes and found that several items functioned differently for males and females. Building on these two studies, Gibson and colleagues (2010) also used Rasch rating scale analyses to assess gender differences in the measurement of self-control. Although results from this study found that the Grasmick scale subscales were reliable across genders, a number of the items in the scale functioned differently for males and females. As Piquero et al. (2000) noted, these are important findings because if "…scores are not on the same measurement scale across groups, differences among groups in mean levels with regard to external variables may be artificial and misleading" (p. 918). Taken together, it is clear that more research needs to focus on the measurement of self-control, particularly on whether self-control measures can be equally valid across males and females.

Gender Differences in Crime

As issues remain unresolved regarding both the gender neutrality of the general theory of crime as well as the gendered measurement of self-control, a discussion of gender differences in crime and delinquency is warranted. Indeed, gender is one of the most well documented correlates of crime. Strong trends differentiate by gender the types of crimes committed as well as the frequency of offending (Belknap, 2001). Specifically, females commit fewer crimes and

are less likely to commit crimes that are serious and violent in nature as compared to males (Chesney-Lind & Sheldon, 2004; Moffiitt, Caspi, Rutter, & Silva, 2001). According to the Federal Bureau of Investigation (U.S. Department of Justice, 2015), nationwide, law enforcement made an estimated 11,205,833 arrests in 2014. Regarding gender, approximately 73 percent of the persons arrested during 2014 were males. Of these arrests, males accounted for 79.8 percent of persons arrested for violent crime and 61.8 percent of persons arrested for property crime. Reviewing ten-year arrest trends by sex, the number of males arrested for violent crimes in 2014 decreased 18.6 percent from the number arrested in 2005, and the number of females arrested for violence crimes decreased by 4.7 percent. A similar comparison of data showed that the number of males arrested for property crimes in 2014 decreased by 12.0 percent from the number arrested in 2005, but the number of females arrested for property crimes rose 12.6 percent.

As these official statistics show, males are involved in more crime and delinquency than females. These trends are also corroborated by other sources including victimization (U.S. Department of Justice, 2014) and self-report surveys (Tittle et al., 2003). According to the National Academy of Sciences, "the most consistent pattern with respect to gender is the extent to which male criminal participation in serious crime at any age greatly exceeds that of females, regardless of source of data, crime type, level of involvement, or measure of participation" (Blumstein et al., 1986). Indeed, a large body of empirical work, spanning over two decades, has supported this finding (Cernkovich & Giordano, 1979; Smith & Visher, 1980; Steffensmeier & Allan, 2000; Steffensmeier, Zhong, Ackerman, Schwartz, & Agha, 2006; Sutherland, Cressey, & Luckenbill, 1992; Tittle et al., 2003). As observed by Gottfredson and Hirschi (1990), gender

differences are, and always will be, constant. Moreover, males will always be more likely than females to commit criminal acts.

In addition to offending with higher frequency, statistics also indicate that males have higher levels of involvement in serious and/or violent crimes in comparison to females. When comparing ten-year arrest trends by sex, males have a higher arrest rate than females for a majority of crimes included in the UCR. In fact, the only crime in which females have a higher arrest rate than that of males is for embezzlement, likely reflecting the larger number of females who are sales clerks; prostitution, likely the result of greater demand; and status offenses such as running away from home (Smith & Visher, 1980; Steffensmeier & Allan, 1991. Although female arrest rates are lower than male arrest rates for a majority of crimes, the rates of arrests for females have increased more than that of males during the past decade. For example, between 2005 and 2014, the female arrest rate increased for robbery, a violent personal crime. During this same period, the female arrest rate also increased for several property crimes including burglary, larceny, and (non-violent) arson, as well as driving under the influence. It is interesting to note that, during this same time span, the male arrest rate decreased for all crimes in which the female rate increased (U.S. Department of Justice, 2015).

While female arrest rates for some offenses have shown slight increases in recent years, it is clear from numerous sources of data that males are still offending at higher frequencies than females for a majority of offenses. Indeed, the data consistently indicate that the "…vast majority of offenses are male-gender-related" (Belknap, 2001). Both official and unofficial data sources also confirm that the biggest gender difference in crime remains males' greater participation in violent and more serious property crime. Indeed, the Uniform Crime Report arrest statistics indicate that the male-female arrest ratio is 5 males to 1 female for serious crimes. Relevant to

the current study, one of the most hotly debated forms of serious crime with respect to gender difference is intimate partner violence (IPV).

Intimate Partner Violence

Intimate partner violence (IPV) is a term used to describe current or former intimate relationships where one or both partners are violent toward the other. IPV includes four types of behavior: physical violence/abuse (e.g., slapping, pushing/shoving, beating, burning, choking), sexual violence/abuse (e.g., rape, sexual coercion, unwanted sexual contact), threats of physical/sexual violence, and emotional abuse (e.g., stalking, psychological aggression, and coercive tactics/control). Intimate partners may be considered cohabitating or non-cohabitating, romantic or sexual partners, of the same or opposite sex, who are currently or formerly dating or married. It is also important to note that the characteristics of IPV may differ based on how the respondent perceives the relationship with the offender. According to the U.S. Department of Justice (Catalano, 2012), since the mid-1990s, the overall rate of IPV in the United States has declined considerably. However, during the past decade, this decline has slowed and stabilized. Indeed, the number of intimate violence victimizations is still quite staggering, with approximately 907,000 instances reported in 2010 alone (Catalano, 2012).

Regarding the gender gap in IPV, research corroborates that IPV is among one of the most common forms of violence against women (Doerner & Lab, 2005; Payne & Gainey, 2005; Wiehe, 2005). The CDC (2011) estimates that more than one-third of women in the United States, over 42 million women, have experienced some form of IPV at some point during their lives. Moreover, one in three women has experienced physical violence by an intimate partner and nearly one in 10 has been raped by an intimate partner in her lifetime. In 2010, approximately 6 percent (nearly 7 million women) of women in the United States reported

experiencing some form of violence by an intimate partner within the last 12 months prior to the survey. Among all women who reported experiencing at least one form of IPV in their lifetime, approximately 64 percent experienced one form of violence by an intimate partner; about 57 percent experienced physical violence alone, about 9 percent experienced rape and physical violence, and about 4 percent experienced rape alone (CDC, 2011).

A controversial issue regarding the gender analysis of IPV concerns the victimization of men. Although it is much more common for women to experience various types of violence within intimate partner relationships, an estimated 1 in 4 victims of IPV are male. An estimated 1 in 20 men in the United States reported experiencing some form of violence by an intimate partner within the 12 months prior to the survey (CDC, 2011). Among all men who reported experiencing at least one form of IPV in their lifetime, 92 percent experienced physical violence. According to this same survey conducted by the CDC (2011:41), "too few men reported rape or other combinations of IPV to produce a reliable estimate." However, it is clear from these statistics that, whereas female victims experience multiple forms of IPV, male victims most often experience physical violence (Breiding, 2014). It is important to note that victimization surveys likely underestimate acts of IPV because many people, both men and women, are unwilling to report these crimes (Hines & Malley-Morrison, 2005). This reluctance is quite possibly even greater in men than in women because admitting to victimization by a woman may be considered emasculating (Steinmetz, 1977).

Several other trends regarding IPV are worth noting. Research has found that not only does the degree and frequency of violence/abuse differ among relationships, but that IPV often begins early in marriage or even during the courtship or dating stage (Schwartz & DeKeseredy, 1997). These trends are corroborated in official statistics as well. For example, in a recent FBI

study conducted on violence among family members and intimate partners, the most prevalent relationship in which IPV was reported was that of boyfriend/girlfriend (approximately 30 percent), followed by spouse (approximately 24 percent) (UCR, 2003). According to the U.S. Department of Justice (Catalano, 2012), females ages 18 to 24 and 25 to 34 generally experienced higher rates of IPV than females of any other age categories. Rates of IPV also vary according to living arrangement and household type. For example, in 2010, females living in households with one female adult and children experienced IPV at a rate more than 10 times higher than households with married adults and children and 6 times higher than households with one female only (Catalano, 2012).

Gender Differences in Intimate Partner Violence

Historically, in regard to the relationship between IPV and gender, research commonly focused on only males as perpetrators (Kernsmith, 2005). These studies indicated higher perpetration rates for males (Bergman, 1992; Makepeace, 1981; Roscoe & Kelsey, 1986) and higher victimization rates for females (Follingstad, Wright, Lloyd, & Sebastian, 1991; Makepeace, 1981; Stets & Pirog-Good, 1987). Other studies have suggested that, as compared to females, males are more likely to use more serious and severe acts against their partners (Arriaga & Foshee, 2004; Dobash, Dobash, Wislon, & Daly, 1992; Lane & Gwartney-Gibbs, 1985; Makepeace, 1986). Much of the research on IPV-related injuries reveals higher rates of injury inflicted by males than females (Stets & Straus, 1989; Straus, 1997; Straus, 2004). Indeed, female victims of IPV are more likely to suffer both psychological and physical injuries (Archer, 2000; Bookwala, Frieze, Smith, & Ryan, 1992; Cantos, Neidig, & O'Leary, 1994; Cascardi, Langinrichsen, & Vivian, 1992; Cascardi & Vivian, 1995; Foshee, 1996; Makepeace, 1981; Molidor & Tolman, 1998; Morse, 1995; Saunders, 2002; Tjaden & Toennes, 2000; Vivian &

Langinrichsen-Rohling, 1994). Females are also more likely to experience sexual assault and forced sexual activity within their intimate partner relationships (Foshee, 1996; Hines & Saudino, 2003; Lane & Gwartney-Gibbs, 1985; O'Keefe & Treister, 1998; Zweig, Barber, & Eccles, 1997).

Adding to the complexities surrounding gender and IPV is the finding that the males and females report engaging in interpartner abuses at rates that are comparable or equal across gender (Arias, Samios, & O'Leary, 1987; Follette & Alexander, 1992; Barnett et al., 1997; Laner & Thompson, 1992; Pirog-Good & Stets, 1987; Riggs & O'Leary, 1989; Straus, 1993; Sugarman & Hotaling, 1989). Numerous studies have also reported similar non-sexual physical violence victimization rates among males and females (Follette & Alexander, 1992; Foshee, 1996; Marshall & Rose, 1988). For example, in his study of courtship violence, Makepeace (1983) found that both males and females reported receiving a similar rate of violence within their partnerships. In another study of dating violence, O'Keefe & Treister (1998) found similar frequencies among males and females who reported receiving some form of physical aggression from their dating partners. Comparable rates across males and females have also been found regarding IPV perpetration. Using a nationally representative sample, Straus (1989) found that females reported initiating violence against their partner about as frequently as males. Among married couples, Straus and colleagues (1980) reported that the rate at which husbands attacked their wives was very similar to the rate at which wives attacked their husbands (Straus, Gelles, & Steinmetz (1980). Analyses of other research reveals that women and men assault their partners at proportionately similar rates (Archer, 2000; Felson, 2003; Moffitt, Caspi, Rutter, & Silva, 2001; Straus, 1999).

This debate is furthered still when taking into account increased arrest rates of women for IPV offenses (Henning, Martinsson, & Holdford, 2009). Indeed, several studies reveal that women are more likely than men to be the perpetrators of IPV (Arias et al., 1987; Bernard & Bernard, 1983; Kaukinen et al., 2012; Lane & Gwartney-Gibbs, 1985. A national study of IPV prevalence demonstrated that women reported initiating assaults against their male partners at a slightly higher rate than did male respondents (Straus et al., 1980; Straus & Gelles, 1986). In a meta-analysis of 82 studies, Archer (2000) discovered that, according to self-reports, women were more likely than men to report using physical aggression in intimate relationships. In another study examining gender differences in dating violence, Foshee (1996) found that females perpetrated more violence towards their partners than males. Studies using samples of university or college students have found similar results in that females have reported the expression of as much or more violence in their relationships as men (Bookwala et al., 1992; Follingstad, et al., 1991; Sellers, 1999). Several recent studies also indicate higher victimization rates among males (Cercone, Beach, & Arias, 2005; Windle & Mrug, 2009; Jain, Buka, Subramanian, & Molnar, 2010).

While some research indicates higher perpetration rates among women than men, it is important to note that these findings are sometimes dependent on the type of behavior observed. Research has found that gender similarities are more often observed with mild to moderate types of IPV (e.g., slapping, pushing, grabbing, shoving), while gender differences are more often observed with serious and/or severe types of IPV (e.g., punching, kicking, beating up, threatening or actual use of weapons, forcing sex/raping). In other words, while offending in IPV occurs across gender, females are more likely to engage in less serious forms of IPV as compared to males. For example, Arriaga and Foshee (2004) found that girls were more likely to

use moderate behaviors against their partners, whereas boys were more likely to use severe behaviors against their partners. In a sample of university students, Foo and Margolin (1995) found that women's perpetration rates were higher than men's perpetration rates on less severe items, whereas men's perpetration rates were higher than women's perpetration rates on more severe items. In a clinical sample of participants in a court ordered abuse program and women in a shelter, women reported experiencing higher rates of severe violence than did men, whereas men reported a higher rate of minor physical acts used against them by women (Hamberger & Guse, 2002).

Central to the discussion of gender differences in IPV and the types of behavior studied, is a debate often centered on the way in which IPV is measured. The Conflict Tactics Scale (CTS; Straus, 1979) measures frequency and types of behavior that people use when in conflict with a family member or intimate partner, and is one of the most widely used surveys of aggression in the family violence field (Straus, 1979, 1981; Straus et al., 1996). Studies based on the self-report Conflict Tactics Scale usually find that women and men are equally violent (Barnett et al., 1997; DeKeseredy & Schwartz, 1998). However, results using the CTS have been criticized because it is an act scale, and as such, different acts of violence are often treated as equivalent. Although these acts can be rated by researchers, a complete picture of the nature and severity of the act is not captured when using an act scale (Foshee et al., 2007). The CTS has also been criticized for the limited number of acts included in the scale, as well as its inability to account for various gender-contextual differences in factors such as the initiation of violence, strength and severity of acts or injuries, motivations, emotional impact, and other consequences of using violence against an intimate (Archer, 2000; Barnett et al., 1997; Foshee, et al., 2007;

Hamberger, 2005)[1]. For example, the CTS does not differentiate between self-initiated violence and violence used in self-defense. However, despite these limitations, numerous studies have found the CTS to be both a reliable and valid measure of physical aggression against an intimate (summarized in Straus, 1990).

In addition to the type of behavior and measurement, methodological differences in IPV studies also impact the nature of the relationship between gender and IPV. Studies of IPV have utilized numerous types of samples, including general population surveys, non-representative convenience samples, cohort samples, as well as adolescent and college dating samples (Follingstad, Wright, Lloyd, & Sebastian, 1991; Harned, 2001; Magdol, Moffitt, Caspi, Newman, Fagan, & Silva, 1997; O'Keefe, 1997; Straus et al., 1980; Straus & Gelles, 1986). Other studies have utilized clinical samples derived from women's shelters, law enforcement settings, marital clinics, and IPV/domestic violence perpetrator treatment programs (Barnett et al., 1997; Cantos, Neidig, & O'Learl, 1994; Hamberger, Lohr, Bonge, & Tolin, 1997; Langhinrichsen-Rohling et al., 1995).

It is important to note that the type of population studied is often related to the theoretical framework in which each particular study is grounded. Regarding our understanding of IPV in the context of criminological research, most studies can be grouped into one of two larger perspectives: the feminist or the family conflict model. Studies grounded in feminist theory generally rely on the National Crime Victimization Study (NCVS) or use smaller clinical samples from hospitals, domestic violence shelters, or other law enforcement settings, whereas studies grounded in family conflict theory generally utilize large scale surveys distributed to large samples of the general population. However, a nationally representative general population

[1] The Revised Conflict Tactics Scale (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) addresses some of the limitations of the original CTS by including more types of behaviors, and injury and physical outcome measures (DeKeseredy & Schwartz, 1998).

survey measures a very different data source than a clinical sample (Hamberger & Guse, 2002). Indeed, Johnson (1995) has noted that these two types of data samples, general population versus clinical, involve non-overlapping populations.

Johnson (1995) goes on to theorize that there are two different types of violence that can occur among intimates: situational couple violence and intimate terrorism. What differentiates these two types of violence is the context and motivation in which the violent acts occur. Namely, situational couple violence is episodic and is the result of conflict that is situationally provoked and escalates into violence, whereas intimate terrorism is the result of one partner controlling the other. According to Johnson (1995), situational couple violence is usually mutual, not frequent, less severe, and does not include patterns of control and power. Intimate terrorism, however, involves patterned violence that is not situational and exists throughout the entire relationship. Intimate terrorism usually involves more frequent and severe violence that is predominantly perpetrated by men (Caldwell, Swan, Allen, Sullivan, & Snow, 2009; Capaldi & Kim, 2007; Johnson, 1995; 2006).

Johnson (1995) suggests that these qualitatively different forms of violence are tapped by different populations: specifically, one that is gender symmetric (e.g., situational couple violence) and is likely to be found in general population surveys, and one that is gender asymmetric (e.g., intimate terrorism) and is likely found in agency and clinical samples (Johnson, 1995; 2006). Studies grounded in feminist theory often support the idea of gender asymmetry within rates of IPV. When utilizing data from victimization surveys and clinical samples, these studies find that women use severe violence less frequently than men and/or that men use severe violence more frequently than women (Brush, 1990; Hamberger et al., 1997; Saunders, 1990). However, research grounded in family conflict theory, which uses data based

on self-report surveys using large representative samples, often supports the argument of gender symmetry within rates of IPV. In other words, women and men are equally violent within their intimate partner relationships (Archer, 2000; Johnson, 1995; Straus, 1979; Straus & Gelles, 1986; Straus, Gelles, & Steinmetz, 1980).

Broad support exists for the major tenets of Johnson's theory (Archer, 2000; Graham-Kevan, & Archer, 2003; Johnson, 1999; 2005). Archer's (2000) comprehensive meta-analysis indicated that IPV was predominately male-perpetrated when using agency samples, whereas community and general population samples revealed more gender symmetry. Other studies have also shown support for male dominated intimate terrorism (Frye, Manganello, Campbell, Walton-Moss, & Wilt, 2006; Graham-Kevan & Archer, 2003; Johnson & Leone, 2005). However, the research examining whether this typology exists in non-overlapping populations, as well as how this typology relates to gender, remains unresolved. For instance, contrary to Johnson's theory (1995) research has not only found evidence of intimate terrorism among community-based samples, but also that intimate terrorism can be perpetrated by both males as well as females at similar rates (Capaldi, Short, Kim, Wilson, Crosby, & Tucci, 2009; Frye & Karney, 2006; Hines & Douglas, 2010; LaRoche, 2005).

Overall, it is clear that the question regarding gender symmetry vs asymmetry has yet to be resolved within the IPV literature. The body of literature regarding gender differences in IPV is quite varied and oftentimes contradictory. Gender differences have been shown to exist in IPV-related injuries, injury severity, and the types of IPV-behaviors observed. These gender differences also vary by population and methodologies utilized. However, many of the studies and reports conducted on IPV tend to be descriptive in nature with less attention paid to

theoretical issues. Indeed, the study of IPV is limited by little theoretical development (but see Cochran et al., 2015; Sellers, 1999; Sellers et al., 2005).

As issues remain unresolved as to the gender neutrality of the general theory of crime, as well as the gendered nature of IPV and limited theoretical development of its study, a discussion of the operation of self-control within the context of IPV is now warranted. Although Gottfredson and Hirschi (1990) developed their theory to apply to all types of crime and analogous behaviors, researchers have questioned its applicability to certain types of crime including IPV (Belknap, 2001; Miller & Burack, 1993). The following section will explore the very limited body of criminological research that has specifically addressed self-control within the context of IPV.

Self-Control and Intimate Partner Violence

IPV is not directly addressed by Gottfredson and Hirschi (1990), yet the authors assert a clear connection between low self-control and interpersonal violence as "people with low self-control tend to have minimal tolerance for frustration and little ability to respond to conflict through verbal rather than physical means" (p. 90). A number of studies have supported this assertion, finding a relationship between low self-control and various types of interpersonal violence such as robbery, rape, assault, and homicide (Baron, 2004; Longshore & Turner, 1998; Vazsonyi & Crosswhite, 2004). However, very few studies have tested self-control within the context of IPV.

Using data from a national probability sample, Avakame (1998a) examined the explanatory relevance of self-control in the transmission of intergenerational violence and psychological aggression. Avakame (1998b) later extended this initial study to examine females' psychological aggression as well as males' and females' physical violence. These two studies

found little support for the mediating effects of self-control on intergenerational violence. Nonetheless, although the intergenerational transmission of violence is beyond the scope of the current study, it is relevant to note that results from Avakame's (1998a, 1998b) path analytic models indicate a strong and positive effect of self-control on psychological aggression and physical violence. In other words, as the level of one's self-control decreased, females' and males' psychological aggression and physical violence increased.

Using a sample of college students, Sellers (1999) examined the relationship between self-control and dating violence. Results from logistic regression analyses indicate a direct effect of low self-control in predicting dating violence among college students. This effect was modest but significant, explaining 10% of the variance in dating violence. When other measures including opportunity and perception of reward were added to the models, the explained variance rose to 17%. Chapple and Hope (2003) utilized a self-report sample of high-school students to examine self-control and the criminal versatility of dating violence offenders. Multivariate analyses indicated that low self-control was a significant predictor of physical dating violence among high-school students. Using survey data from a victimization survey conducted among married females in Thailand, Kerley, Xu, and Sirisunyaluck (2008) examined the impact of self-control on both perpetration of and victimization by IPV. Regression results reveal that only some of the components of low self-control were able to explain victimization and perpetration of intimate violence and that the predictive power of these components varied in their abilities to predict intimate partner victimization and perpetration.

Payne, Higgins, & Blackwell (2010) studied the relationship between self-control and domestic violence with other predictors including bad parenting and general criminal behavior histories. After conducting a telephone survey in a small metropolitan area in a southeastern

state, the final sample consisted of 375 respondents who were either single, married, or divorced. The authors explained that due to time constraints related to conducting the telephone interview, their measure of self-control was a shorter, modified version of the Grasmick et al., (1993) self-control scale, including only 18 of the original 24 items. A composite scale of partner violence was created from the respondents answering three statements that assessed their experiences with relationship violence during the past year. Analyses revealed that self-control had both indirect and direct effects on domestic violence.

A few recent studies have also examined the link between self-control and physical perpetration. For example, Gover and colleagues (2008) used a large convenience sample of undergraduate university students to investigate gender differences in the intergenerational transmission of violence (Gover, Kaukinen, & Fox, 2008). Measures for their analyses were modified from the Revised CTS (Straus et al., 1996) and included both physical and psychological abuse perpetration and victimization. The authors reported that self-control was a risk factor of physical perpetration and victimization for both males and females, and that those with high self-control had lower likelihoods of perpetrating physical violence (Gover et al., 2008).

Gover and others (2011) went on to examine the relationships between child maltreatment, self-control, and dating violence among college students in both the United States and South Korea (Gover, Jennings, Tomsich, Park, & Rennison, 2011). Their investigation used the Family and Relationship Experiences and Attitudes Among College Students survey (Gover et al., 2008), 23 self-control measures from Gasmick et al.'s (1993) self-control scale, and other social learning and child maltreatment variables to compare aspects of social learning theory and self-control theory on dating violence. Logistic regression analyses revealed that self-control

variables were significantly and positively related to both victimization and perpetration for both samples of students (Gover et al., 2011). Regarding the relationship between gender and self-control, coefficient comparison tests found that, among U.S. students, being female had a stronger effect on physical perpetration than being male (Gover et al., 2011).

Jennings and colleagues (2011) found similar results in their cross-cultural study of the influence of social learning and self-control on dating violence (Jennings, Park, Tomsich, Gover, & Akers, 2011). Using the same dating violence survey as Gover et al. (2008), they examined psychological dating violence offending and victimization as well as physical dating violence offending and victimization among university student samples in both the United States and South Korea. Dating violence measures were based on a modified version of the Revised Conflict Tactics Scale (Straus et al., 1996) and dichotomized as 1 = experience or use of one or more behaviors and 0 = no experience or use of any behaviors. The authors measured self-control with 23 items from the Grasmick et al. (1993) self-control scale. Bivariate probit analyses revealed similar findings to Gover et al.'s (2011) study in that those with lower levels of self-control reported being both offenders and victims of IPV.

Overall, the results of the studies examining the relationship between self-control and IPV provide partial support for self-control theory. This relatively small body of research reveals not only an empirical but also a theoretical basis for the study of self-control within the context of IPV. It is clear that additional research is needed to examine self-control as a predictor of IPV and specifically gender differences in IPV. Of particular concern is the lack of research that addresses the impact that gender may have on the effects of self-control on IPV. While gender has been included in studies of self-control and IPV, its inclusion has been used only for statistical control (Sellers, 1999; Chapple & Hope, 2003). However, gender has strong theoretical

relevance in the explanation of IPV and as such, continued research should examine the applicability of self-control to IPV as it relates to gender. Therefore, the current study seeks to examine the relationship between self-control and IPV within the context of gender in order to address this gap in the literature.

Current Study

The literature reviewed above suggests that self-control and crime are both gendered concepts. Indeed, not only can the measurement of self-control be gendered, but IPV can be gendered as well. However, more research is necessary regarding these associations. The purpose of the current study is to explore the role played by gender in the relationship between self-control and IPV by examining whether self-control predicts IPV differently by gender. To accomplish this, a sample of currently dating undergraduate and graduate college students was analyzed. Exploring these relationships extends previous research on gender, self-control, and IPV by building upon the limitations discussed above. Based on the literature reviewed in the present chapter, two main research questions guide the current study:

R1) Do self-control and intimate partner violence vary across gender?

R2) Does the relationship between self-control and intimate partner violence vary across gender?

The present investigation contributes to the extant research on self-control and IPV in several ways. First, many studies of IPV use either clinical or student samples, and although a student sample is utilized here, the three remaining domains set the current study apart from previous studies. For instance, although many of the studies reviewed above utilize self-reported IPV perpetration, the items used to create their perpetration scale are limited to a handful of behaviors, whereas the current study utilizes eight IPV physical perpetration behaviors. Next,

previous studies that have examined self-control in the context of IPV have done so with limited self-control items, or a truncated version of the Grasmick et al., (1993) scale, whereas the current study uses all 24 behavioral items that were included in the original self-control scale. Finally, while other studies that have investigated these relationships do not include gender in the analysis or simply control for gender's effect, the current study attempts to address the theoretical role of gender in the relationship between self-control and IPV by addressing both direct and moderating effects.

CHAPTER THREE:

METHODS

The current study focuses on the relationships among gender, self-control, and intimate partner violence within a sample of dating undergraduate and graduate college students. The literature reviewed above suggests that both IPV and low self-control are gendered concepts. Specifically, the role that gender plays in the relationship between IPV and low self-control bears further exploration. The first objective is to determine whether self-control and IPV vary across gender. The second objective is to examine whether the relationship between self-control and IPV varies across gender. In order to address these objectives, the following chapter will explain in detail the sample, the use of variables and their construction, the statistical analyses utilized and why they are relevant, as well as the statistical models needed to answer the research questions.

Sample

The current study is based on secondary analysis of data collected through a self-administered survey of 1,826 students attending a large university in Florida. The students were surveyed in both undergraduate and graduate classes that were randomly selected across five colleges (Arts and Sciences, Business Administration, Education, Engineering, and Fine Arts) during the first four weeks of the Spring 1995 semester. Courses were sampled from each college in proportion to the enrollments each contributed to the university's total enrollment. This sampling strategy targeted a total of 2,500 students; however, absenteeism on the day of

the survey and enrollments of students in more than one sampled course produced an overall response rate of 73%.

The current study is based on students who completed the questionnaire, who reported being currently involved in an intimate dating relationship (i.e., dating, going steady, and/or cohabitating with a partner), and who also reported their sex (n = 960).[2] The socio-demographic characteristics of the sample are very similar to that of the total enrollment of the university. Of these students, 339 (35.3%) were male and 621 (64.7%) were female. The mean age of the students was about 22 years (22.4), the majority lived off campus (85.5%), most were juniors (40.3%), about three-quarters were white (75.2%), and most did not report membership in a fraternity or sorority (87.4%). In terms of degree of commitment in dating relationships, about 46% of the students indicated that they were currently going steady and almost a quarter (23.3%) indicated that they were cohabitating (whether engaged or not engaged) with their current partner. Sample characteristics of the final sample are provided in Table 1.

Dependent Variable

Drawn from the physical aggression items in the original Conflict Tactics Scale[3] (Straus, 1979), the dependent variable used in this study is a measure of respondents' use of physical aggression in their current dating relationship. The Conflict Tactics Scale (CTS) measures frequency and types of behavior that people use when in conflict with a family member or intimate partner, and is one of the most widely used surveys of aggression in the family violence field (Straus, 1979; Straus et al., 1996).

[2] Although 985 students reported being involved in a current relationship at the time of data collection, 25 respondents did not indicate their sex on the survey. As the current study includes gendered analyses, these 25 respondents were excluded from the final sample.

[3] The data for the current study were collected before the Revised Conflict Tactics Scale was developed (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996).

Table 1. Sample characteristics of the sample (n = 960).

Variable	N	% of Sample
Gender:		
Male	339	35.3
Female	621	64.7
Race:		
White	722	75.2
Non-White	238	24.8
Age:		
Mean Age = 22.4 (SD = 4.78)		
Classification:		
Freshman	100	10.5
Sophomore	114	12.0
Junior	387	40.6
Senior	292	30.6
Graduate	60	6.3
Where do you live:		
Live On-campus	134	14.0
Live Off-campus	821	85.5
Involvement in fraternity/sorority:		
No	839	87.4
Yes	121	12.6
Current Dating Situation:		
Dating but not going steady	204	21.3
Going steady	443	46.1
Cohabitating but not engaged	148	15.4
Engaged but not cohabitating	89	9.3
Cohabitating and engaged	76	7.9

The dependent variable for the current study is a measure of how many serious IPV offense types the respondent committed against their partner in their current dating relationship. It should be noted that Straus' (1979) CTS asks respondents about the use of physical aggression in the past 12 months. However, because IPV does not always follow a direct linear path of

escalation (Sellers, 1999), the entire duration of respondents' current dating relationship was used as the reporting period in the current analysis. Memory recall and potential subsequent underreporting can occur when using longer reporting periods (a problem that can also occur in shorter recall periods as well); however, research indicates that respondents can recall significant life events, including types of delinquency, with a substantial degree of accuracy (Henry, Moffitt, Caspi, Langley, & Silva, 1994).

Specifically, respondents were asked how many times during their current relationship had they done to their current partner the following eight acts of IPV: (1) threw something, (2) pushed, grabbed, or shoved, (3) slapped, (4) kicked, bit, or hit with a fist, (5) hit with something, (6) beat up, (7) threatened with a knife or a gun, and (8) used a knife or gun. Responses to these items were never, once or twice, 3 to 5 times, 6 to 10 times, 11 to 20 times, and 21 or more times, coded from 0 to 5.[4]

A principal components factor analysis was performed on the eight IPV items, which produced two factors with eigenvalues greater than one. However, the scree discontinuity test revealed a single factor solution, with an eigenvalue of 3.43 and 42.88% of the variance explained by one factor. The Kaiser-Meyer-Olkin value was .89, exceeding the recommended value of .6 (Kaiser, 1970, 1974), and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix. Five of the IPV items had strong factor loadings between .74 and .83. The three remaining IPV items with weaker factor loadings were the less frequently reported IPV items: beating up (.34), threatening with a gun/knife (.43), and using a gun/knife (.10). Additional factor analyses were conducted without these three items; however, removal from the scale did not substantially increase the

[4] To summarize the relationship between gender and the eight indicators of IPV, cross-tabulations are provided in Appendix B.

Cronbach's alpha reliability coefficient (.786). Therefore, all eight IPV items were retained in the final offending scale to maintain consistency with the CTS.

Each IPV variable was then dichotomized indicating whether or not the respondent committed each crime type at least once, coded 0 = none and 1 = at least once. These eight newly dichotomized IPV offending indicators were then added together to create a variety scale of offending. An "ever variety" or variety scale of offending reports the total number of types of deviant behavior a respondent has engaged in (Bendixen, Endresen, & Olweus, 2003; Moffitt et al., 2001; Sweeten, 2012). Variety scales are often used in studies of antisocial behavior, as well as etiological research and theory testing (Bendixen & Olweus, 1999; Bendixen et al., 2003; Elliott, Huizinga & Menard, 1989; Gottfredson & Hirschi, 1990). In addition to often being less skewed, variety scales avoid another limitation of frequency scales because they do not place undue weight on less serious offending (Hindelang, 1981). Studies have indicated that variety scaling is a superior measure of offending because variety scales have higher reliability than frequency scales, higher predictive validity than frequency and weighted-frequency scales, higher internal consistency than frequency scales, and higher correlations with official reports of delinquency when compared to other self-report measures (Bendixen et al., 2003; Hindelang, 1981; Sweeten, 2012).

Cross tabulation indicated that there was at least one female in each offense type category. However, there were zero males in categories 4 or 5 (i.e., there were no males who indicated that they had committed 4 of 8 or 5 of 8 of the IPV crime types). Given the lack of variance across two of the offending categories for males, and since the current study involves gendered analyses, three of the categories in the variety scale were collapsed into one category, coded as 0 = none, 1 = 1 crime type, 2 = 2 crime types, 3 = 3 crime types, 4 = 4 or more crime

types. Scores on the IPV variety scale ranged from 0 to 4. Consistent with previous findings within the literature (Archer, 2000), one-quarter (24.9%) of the sample reported that they committed at least one IPV crime type against their current dating partner.

Independent Variables

Gender. Gender is a dichotomized variable coded 0 = female and 1 = male. Approximately 35% of the sample were male and 65% were female.

Self-Control. Self-control was measured by a 24-item attitudinal scale identical to Grasmick et al.'s (1993) well-established self-control scale. Very recently, a meta-analysis of 13 samples found similar results as did Pratt and Cullen's meta-analysis (2000) in that the attitudinal measures of the Grasmick scale correlate well with measures of crime and delinquency (Walters, 2016). This scale consists of six components identified to reflect self-control's theoretical elements as interpreted by Gottfredson and Hirschi (1990): impulsivity, preference for simple tasks, risk-seeking, physical activities, self-centeredness, and temper. Respondents are presented with four items for each of the six components and asked to respond to each question with a four-point Likert-type scale (strongly disagree, disagree, agree, strongly agree), coded from 1 to 4.

A principal components factor analysis was performed on the 24 self-control items intended to measure the concept of self-control, which produced six factors with eigenvalues greater than one. However, the scree discontinuity test revealed a single factor solution, with an eigenvalue of 5.42 and 22.57% of the variance explained by one factor. The Kaiser-Meyer-Olkin value was .87, exceeding the recommended value of .6 (Kaiser, 1970, 1974), and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix. The higher the factor loading, the better the observed variable is explained

by the latent factor. Generally, a factor loading greater than 0.4 indicates that an observed variable adequately loads onto the latent variable (Raubenheimer, 2004). Twenty of the self-control items had strong factor loadings between .40 - .62. The four remaining self-control items with weaker factor loadings were items measuring physical activities, a result comparable to other studies utilizing a similar scale (Grasmick et al., 1993; Piquero & Tibbetts, 1996; Sellers, 1999). Additional factor analyses were conducted without these items; however, removal from the scale did not substantially increase the Cronbach's alpha reliability coefficient (.842). Therefore, all twenty-four self-control items were retained in the final self-control scale.

Although the primary interest in the current study concerns the relationships between gender and self-control in the context of IPV, a few other variables are included in the current analyses as controls. As informed by previous research, other predictors included in the various models tested are opportunity, retaliatory IPV, previous intimate partner offending, and previous intimate partner victimization.

Opportunity. Opportunity was measured with respect to the degree to which an individual had the opportunity to use violence against a partner during their current dating relationship. *Frequency of seeing partner* was assessed by asking "If you are currently dating, going steady, or engaged to one person, how often do you see that person?" Responses to this categorical item included once or twice a month, once or twice a week, three to six times a week, and every day, coded from 1 to 4. However, how often one sees their partner many not provide sufficient opportunity to use violence against them unless there is also privacy outside the view of others (Sellers, 1999). Therefore, a second indicator, *cohabitation*, was also used in the measurement of opportunity. Whether or not a respondent was cohabitating with their dating partner was coded as 1 = not cohabitating and 2 = cohabitating. However, cohabitation alone may not provide

sufficient opportunity to use violence against a partner if they do not see one another frequently. As such, these two indicators were combined to measure the concept of opportunity. A single variable was created by multiplying the respondents' score on frequency of seeing their partner by their score on cohabitation. The resulting opportunity variable ranged in value from 1 to 8 (Mean = 3.95, SD = 2.34), with lower scores indicating lower opportunity and higher scores indicating higher opportunity.

Retaliation. Although the current study does not attempt to fully address the many complexities of IPV perpetration, an indicator of retaliatory IPV is used in the current study to tap context and motivation for dating violence within the sample. Retaliation was measured with the question "If you have ever used physical actions against your partner, did your partner use such physical actions against you first?" Retaliation is a dichotomous variable coded 0 = no and 1 = yes.

Prior IPV Offending. Drawing from the physical aggression items in the Conflict Tactics Scale (Straus, 1979), respondents were asked to indicate how many partners in *past* relationships had they done the following eight acts of IPV to: (1) thrown something, (2) pushed, grabbed, or shoved, (3) slapped, (4) kicked, bit, or hit with a fist, (5) hit with something, (6) beat up, (7) threatened with a knife or a gun, and (8) used a knife or gun. Responses to these questions were no partners, one partner, two partners, three partners, four partners, five partners, or 6 or more partners, coded from 0 to 6.

A principal components factor analysis was performed on the eight prior IPV offending items, which produced two factors with eigenvalues greater than one. However, the scree discontinuity test revealed a single factor solution, with an eigenvalue of 3.97 and 49.56% of the variance explained by one factor. The Kaiser-Meyer-Olkin value was .80, exceeding the

recommended value of .6 (Kaiser, 1970, 1974), and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix. Seven of the prior IPV offending items had strong factor loadings between .50 - .90, with one moderate factor loading (.44) for the least reported physical aggression item (used a knife or gun). An additional factor analysis was conducted without this item; however, removal from the scale did not substantially increase the Cronbach's alpha reliability coefficient (.835). Therefore, all eight prior IPV offending items were retained in the final victimization.

These eight indicators were then added together to create one continuous variable of prior IPV offending (i.e., "how many partners have you done these things to in past dating relationships?"), with values ranging from 0 – 36 (M = 1.35, SD = 3.52). About 32% of the sample reported using violence against at least one intimate partner in prior dating relationships. While using this additive count variable is beneficial as a measure of prior IPV offending, descriptive statistics revealed a skewed distribution (skewness = 4.98, kurtosis = 32.71) which is problematic for data analysis. To account for skewness and to approach normality, the log transformed frequency variable for prior IPV offending was used in the final analyses (Kline, 2004).[5]

Prior IPV Victimization. Drawing from the physical aggression items in the Conflict Tactics Scale (Straus, 1979), respondents were asked to indicate how many partners in *past* relationships had done the following things *to them*: (1) thrown something, (2) pushed, grabbed, or shoved, (3) slapped, (4) kicked, bit, or hit with a fist, (5) hit with something, (6) beat up, (7) threatened with a knife or a gun, and (8) used a knife or gun. Responses to these questions were

[5] It is not uncommon for studies to take the natural log of various predictors to reduce skewness (Brody, Yu, Beach, & Kogan, 2013; Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Lucas-Thompson & Hostinar, 2013; Meldrum, Barnes, & Hay, 2013).

no partners, one partner, two partners, three partners, four partners, five partners, or 6 or more partners, coded from 0 to 6.

A principal components factor analysis was performed on the eight prior IPV victimization items, which produced two factors with eigenvalues greater than one. However, the scree discontinuity test revealed a single factor solution, with an eigenvalue of 4.76 and 59.47% of the variance explained by one factor. The Kaiser-Meyer-Olkin value was .86, exceeding the recommended value of .6 (Kaiser, 1970, 1974), and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix. All eight prior IPV victimization items had strong factor loadings between .50 - .90 (Cronbach's alpha = .893). Therefore, all eight prior IPV victimization items were retained in the final offending scale to maintain consistency with the CTS.

These eight indicators were then added together to create one continuous variable of prior IPV victimization (i.e., "how many partners have done these things to you in a past relationship?"), with values ranging from 0 – 47 (M = 1.56, SD = 4.01). About 34% of the sample reported being victimized by at least one intimate partner in prior dating relationships. While using this additive count variable is beneficial as a measure of prior IPV victimization, descriptive statistics revealed a skewed distribution (skewness = 5.40, kurtosis = 40.06) which is problematic for data analysis. To account for skewness and approach normality, the log transformed frequency variable for prior IPV victimization was used in the final analyses (Kline, 2004).

Demographic Characteristics. The original categories of race (African American, Caucasian, Latino, American Indian, Asian American, and other) were dichotomized and coded as 0 = White and 1 = Nonwhite. Approximately one-quarter (24.8%) of the sample was

Nonwhite (Table 1). Research has indicated that minorities are more likely to be involved in IPV, both as victims and as offenders (Barnett, Miller-Perrin, & Perrin, 1997). It should be noted that age is another common correlate of IPV. Approximately 85% of the sample was between the ages of 17-25, which is typical a college sample. Due to the lack of variance in this regard, age was excluded from the current analyses.

Analytic Plan

Analyses for the current study were carried out in several steps. First, a series of bivariate analyses were conducted to determine the level of association among key theoretical concepts, namely gender, self-control, IPV offending, and other relevant variables. The purpose of these analyses was threefold and addressed: (1) whether males have lower self-control than females, (2) whether males are more likely to engage in IPV than females, and (3) whether low self-control predicts IPV. Specifically, correlations and independent sample t-tests were carried out to address these questions.

Next, the interrelationships among IPV offending, self-control, and other theoretical variables were examined utilizing a series of structural equation modeling (SEM) analyses. Specifically, SEM is used to examine a priori specified relationships between both observed and unobserved (i.e., latent) variables (Kline, 2004). SEM has a few advantages over other multivariate analysis techniques. For example, in multiple regression, paths within the model are analyzed iteratively. This process is not able to accurately account for the variance in all of the measures simultaneously, resulting in possible bias in estimates (Kline, 2004). SEM, however, allows for the examination of multiple paths at the same time, and thus, allows one to correct for these measurement issues (Bollen, 1989; Kline, 2004).

Standard SEM models rely on maximum likelihood (ML) estimation, which assumes that the observed variables are continuous and follow a normal distribution. Indeed, multivariate normality is a key assumption of SEM (Kline, 2004). However, as noted previously in this chapter, the categorical and/or skewed nature of some of the variables in the current study violate this assumption. Use of maximum likelihood estimation in the current analyses would result in an inflated chi-square, underestimated parameters, and biased standard errors (Muthen & Kaplan, 1985).

Due to the nature of the variables used in the current analyses and to minimize the impact of violating this assumption, the statistical modeling program Mplus was used to perform these analyses (Muthen & Muthen, 1998 – 2007). Mplus is a multivariate statistical modeling program that estimates a variety of simple and sophisticated models (e.g., path analysis, growth models, multilevel models) for continuous and categorical observed and latent variables (Muthen & Muthen, 2007). One of the advantages of using Mplus, as compared to other statistical packages that are also able to perform SEM, is that it allows for the use of the weighted least squares and mean- and variance-adjusted chi-square (WLSMV) as an estimator when categorical variables are involved (Muthen & Muthen, 2010). The WLSMV is a robust estimator which does not assume normally distributed variables and provides what has been considered the best option for modelling categorical or ordered data (Brown, 2006; Proitsi et al., 2011).

Mplus also provides several fit indices that are used to assess model fit. Good fit indicates that the specified model is supported by the sample data. The first, a chi-square test of the null hypothesis, is used to test the fit of the model to the data. Lack of significance for the chi-square indicates an acceptable model fit (Byrne, 2001). Three other model fit indices were used in the current study: (1) the comparative fit index (CFI; Bentler, 1990), (2) the Tucker-Lewis

coefficient (TLI; Tucker & Lewis, 1973), and (3) root mean square error of approximation (RMSEA; Byrne, 2001). Both the CFI and TLI measure the covariation among the observed variables (Bentler, 1990; Tucker & Lewis, 1973). The typical range for both CFI and TLI is between 0 and 1, with values greater than .90 indicating acceptable fit (Arbuckle & Wothke, 1999; Brown & Cudeck, 1993). The RMSEA represents the goodness of fit if the model were to be tested on the entire population, with values at .05 or less indicating good model fit, and values between .05 and .08 indicating an adequate model fit (Browne & Cudeck, 1993).

The bivariate analyses referenced above laid the groundwork for the structural equation models. An initial baseline structural equation model examined the impact of gender, self-control, and other predictors on IPV (Figure 1).

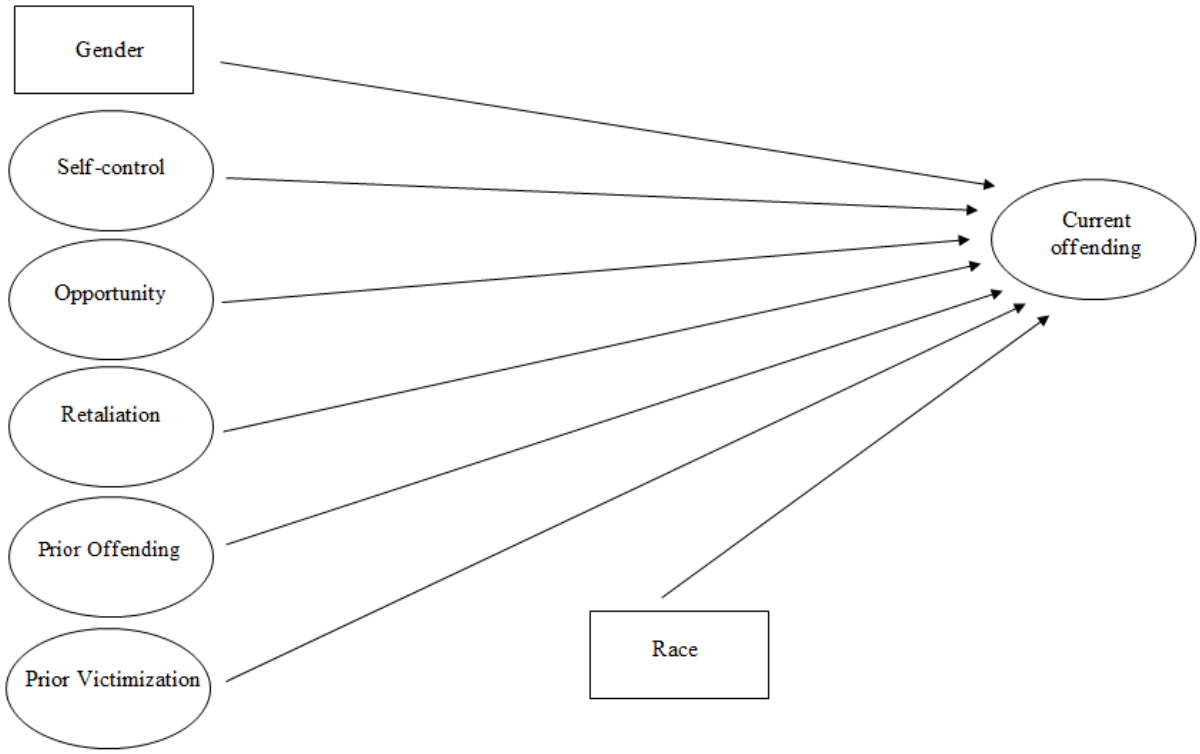

Figure 1. Statistical Diagram of Baseline SEM.

Next, a second structural equation model examined the moderating effect of gender on self-control and its impact on the outcome variable, IPV [Figure 2 (conceptual model) and Figure 3 (statistical model)]. Specifically, this model addressed whether low self-control leads to IPV more for males than for females. Unlike previous studies that control for gender, this model examined the effect of self-control on IPV as a function of gender. The following chapter presents the results of the current study as outlined in the analytic plan discussed above.

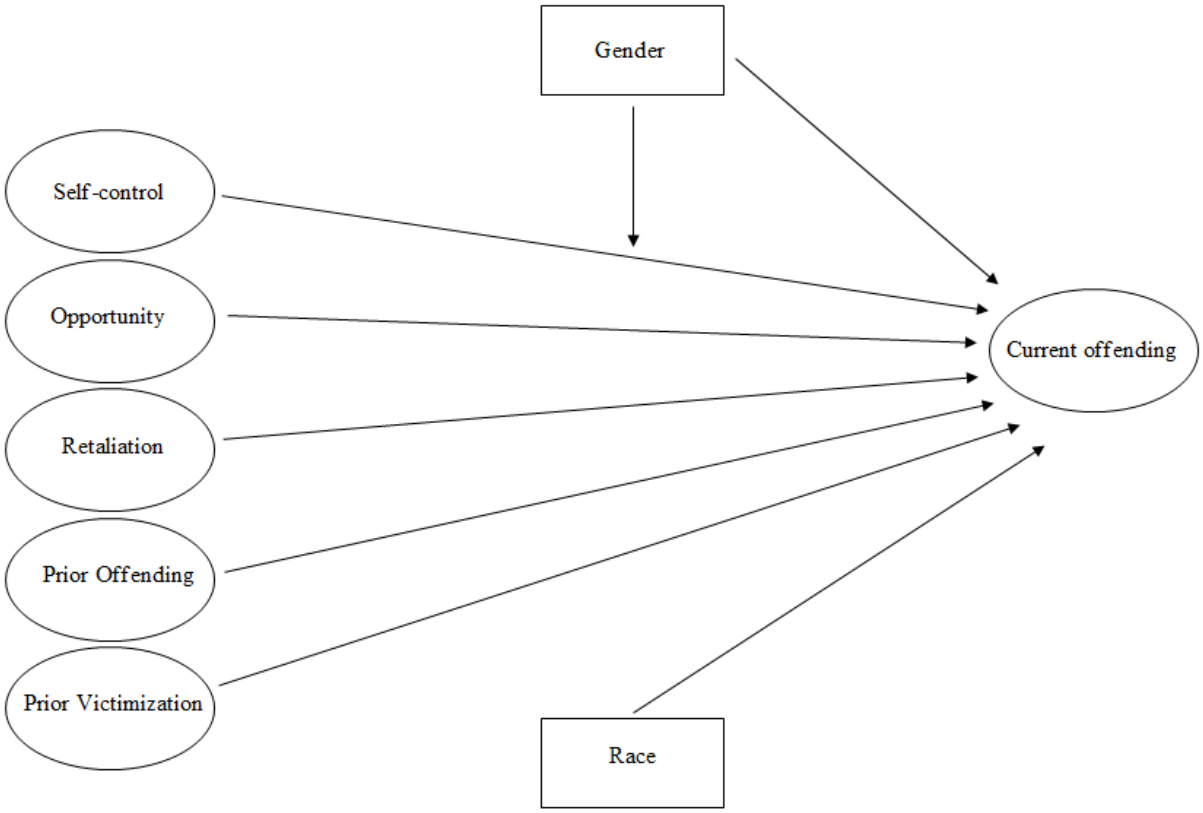

Figure 2. Conceptual Diagram of Moderating SEM.

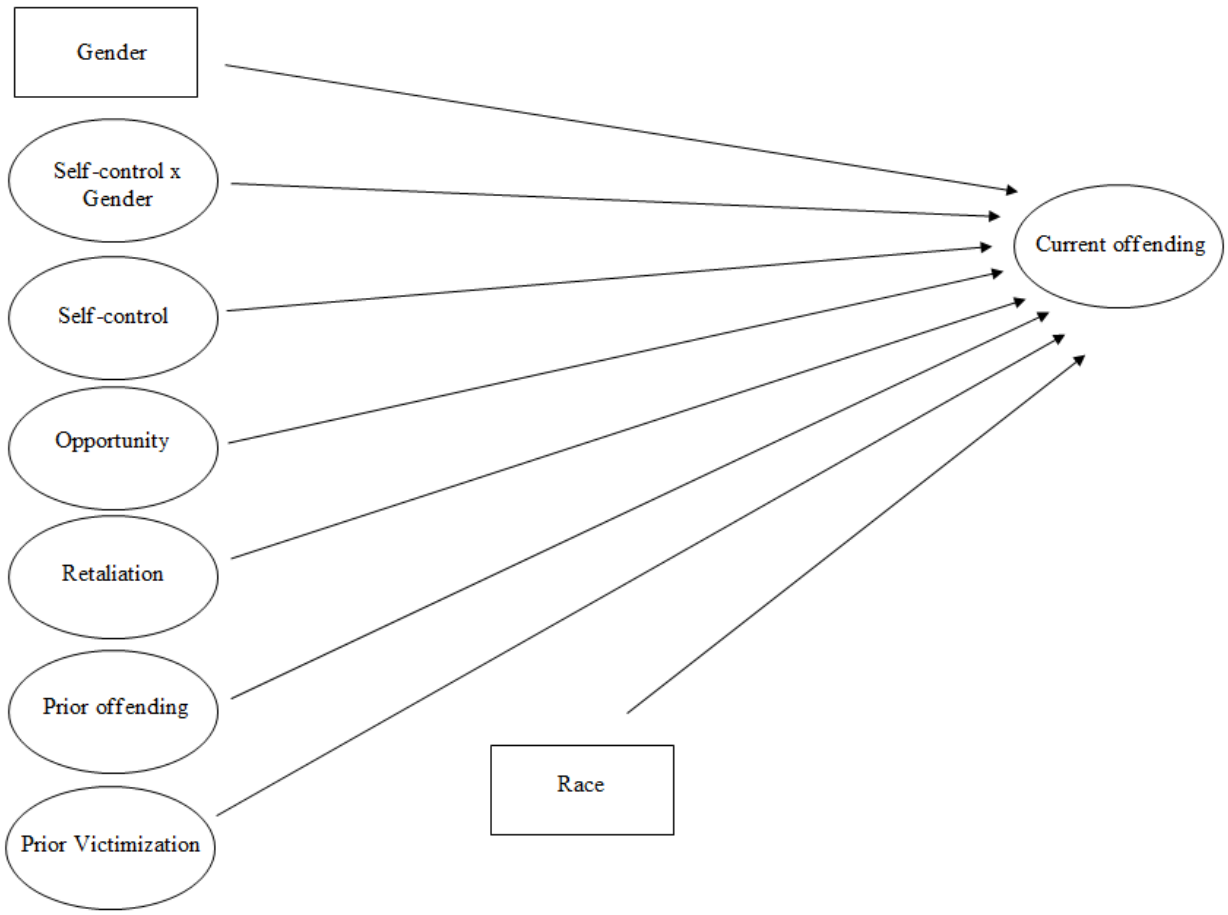

Figure 3. Statistical Diagram of Moderating SEM.

CHAPTER FOUR:

RESULTS

The objectives of the current study were to: 1) determine if self-control and IPV vary across gender and 2) assess the effect of gender on the relationship between self-control and IPV. To accomplish these goals, data analysis for the current study took place in several stages. The first stage presents analyses that examined the relationships among key variables. The second stage presents analyses that examined the distribution differences of these measures by gender. The third stage presents the structural equation models. Based on a sample of 960 undergraduate and graduate university students who are currently in a dating relationship, this chapter presents the findings of the current study. Descriptive statistics of all the variables are provided in Table 2.

Relationships Among Gender, Self-Control, and Intimate Partner Violence

Bivariate Analyses

A major focus of these analyses was on the relationships between gender, self-control, and IPV. Correlations (Pearson's *r*) obtained among these variables, as well as the other measures included in the current study, are shown in Table 3. A significant inverse relationship was found between self-control and IPV (r = -.152). This relationship indicates, as expected, that those with lower self-control had an association with committing more types of IPV. A significant inverse relationship was also found between gender and IPV (r = -.181), indicating that there is an association with being female and committing more types of IPV. Although relatively modest, both of these relationships were statistically significant at the $p < .01$ level.

Table 2. Descriptives.[6]

Variables	N	Min	Max	Mean	Std. Deviation
Current offending	960	.00	4.00	.4812	1.00035
Threw things	960	.00	6.00	.2042	.70599
Push	960	.00	6.00	.3875	.92574
Slap	960	.00	6.00	.1292	.53451
Kick	960	.00	5.00	.1198	.56968
Hit	960	.00	6.00	.1250	.60671
Beat	960	.00	2.00	.0052	.09673
Threatened with gun	960	.00	2.00	.0052	.08528
Gun	960	.00	1.00	.0010	.03227
Gender	960	.00	1.00	.3531	.47819
Race	960	.00	1.00	.2479	.43203
Retaliation	960	.00	1.00	.14	.345
Opportunity	938	1.00	8.00	3.9488	2.33610
Cohabitation	960	1.00	2.00	1.2333	.42317
See Partner	938	1.00	4.00	3.0512	1.09014
Prior Offending (ln)	960	.00	3.61	.4382	.74901
Threw things	960	.00	6.00	.2490	.78403
Push	960	.00	6.00	.4354	1.02013
Slap	960	.00	6.00	.2458	.71479
Kick	960.	.00	6.00	.1854	.69182
Hit	960	.00	6.00	.1760	.70248
Beat	960	.00	6.00	.0323	.34779
Threatened with gun	960	.00	6.00	.0208	.23192
Gun	960	.00	6.00	.0073	.19629
Prior Victimization (ln)	960	.00	3.87	.4832	.78900
Threw things	960	.00	6.00	.2354	.70953
Push	960	.00	6.00	.4729	.98014
Slap	960	.00	6.00	.2667	.78551
Kick	960	.00	6.00	.1969	.70437
Hit	960	.00	6.00	.2240	.74959
Beat	960	.00	6.00	.0802	.46664
Threatened with gun	960	.00	5.00	.0510	.29684
Gun	960	.00	6.00	.0281	.28563
Self-Control (t-scores)	573	-2.34	2.80	.0000	.99913
Self-control (pre-standardized)	573	35.00	94.00	60.9511	11.48415
Risk taking	815	4.00	16.00	9.3865	3.39664
Impulsivity	878	4.00	16.00	10.5672	3.07851
Simple tasks	919	4.00	16.00	10.5408	2.88679
Physical Activities	734	4.00	16.00	9.1199	2.81039
Self-centered	933	4.00	16.00	10.5048	3.24686
Temper	863	4.00	16.00	10.3233	3.39967
Valid N (listwise)	560				

[6] Please see Appendix A for a detailed descriptives table of indicators used to create self-control and offending.

The remaining predictors all had statistically significant associations with IPV offending ($p <$ .01), with the exception of race, which was not significant ($r = .045$).[7] Those who had ever used retaliatory violence in a dating relationship had a relatively weak, yet positive association with committing more types of IPV ($r = .147$). Those who had higher levels of opportunity also had a positive association with committing more types of IPV ($r = .121$). Those who perpetrated IPV on more previous partners had a moderate and positive association with committing more types of IPV ($r = .406$). Those who were victimized by more previous partners had a modest, yet positive association with committing more types of IPV ($r = .182$).

Table 3. Correlations of main predictors and outcome.[8]

	Current Offending	Gender	Race	Retaliation	Opportunity	Prior Offending (ln)	Prior Victimization (ln)	Self-Control (t-scores)
Current Offending								
Gender 0 = Females 1 = Males	-.181**							
Race 0 = White 1 = Non-white	.045	-.010						
Retaliation	.147**	-.080*	.009					
Opportunity	.121**	.012	-.129**	.022				
Prior Offending (ln)	.406**	-.211**	-.004	.467**	.031			
Prior Victimization (ln)	.182**	-.017*	-.050	.523**	.060	.539**		
Self-Control	-.152**	-.192**	-.054	-.036	.019	-.081	-.055	

** Correlation significant at the .01 level (2-tailed)
* Correlation significant at the .05 level (2-tailed)

Next, to compare group means, a series of independent sample t-tests explored whether self-control and IPV differed between males and females. The gender specific analyses are summarized in Tables 4 and 5.

[7] Being non-white had a positive association with committing more types of IPV, however this relationship was not statistically significant at the $p < .01$ level. This finding is not to imply that Nonwhites are more innately criminal than whites, but rather, may be an indication of larger social and cultural phenomena pertaining to specific experiences of minorities that contribute to the existence of discrimination and a variety of negative outcomes (Agnew, 2011). This is a complex issue that cannot be addressed by looking solely at race.
[8] Please see Appendix C for a detailed correlations table.

Table 4. Group statistics of self-control and IPV across gender.[9]

	Gender	N	Mean	Std. Dev.	Std. Error Mean	Cohen's *d*	Effect size *r*
Self-control	Female	398	62.4146	11.27988	0.56541	0.425	0.207
	Male	175	57.6229	11.27889	0.85260		
Current offending	Female	621	0.6151	1.13523	0.04556	0.415	0.203
	Male	339	0.2360	0.61807	0.03357		

Table 5. Independent samples t-tests of self-control and IPV across gender.[10]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Self-control	Equal variances assumed	.000	.983	4.684	571	.000	4.79172	1.02309	2.78226	6.80119
	Equal variances not assumed			4.684	332.509	.000	4.79172	1.02303	2.77926	6.80417
Current offending	Equal variances assumed	114.010	.000	5.704	958	.000	.37915	.06647	.24871	.50959
	Equal variances not assumed			6.700	957.997	.000	.37915	.05659	.26810	.49020

Specifically, the first research question asked if self-control varies across gender. Therefore, the first independent sample t-test was conducted to investigate differences in self-control for males and females. Results (Table 5) revealed that males had lower self-control than

[9] Group statistics for the indicators of self-control and the indicators of offending are presented in Appendix D.
[10] Independent samples t-tests for the indicators of self-control and the indicators of offending are presented in Appendix E.

females. Specifically, there was a significant difference in self-control for females (M = 62.414, SD = 11.279) and males (M = 57.622, SD = 11.278); t (571) = 4.684, $p < .001$, two-tailed. This suggests that there are gender differences in self-control and that the difference in means is not due to chance. The effect size of self-control across gender was then measured as the difference between two means. Cohen (1988) defined *d* as the difference between the means, M1 - M2, divided by standard deviation of either group. Results from these calculations are presented in Table 4. The size of this effect ($d = .425$), as indexed by Cohen's (1998, 1992) coefficient *d*, was slightly below the level for a moderate effect size ($d = .5$). These analyses support Gottfredson and Hirschi's (1990) claims that males have lower self-control than females.

The first research question also asked if IPV varies across gender. Therefore, a second independent sample t-test was conducted to compare whether there were group differences in males and females in IPV. Results (Table 5) revealed a significant difference in IPV for females (M = .615, SD = 1.135) and males (M = .236, SD = .618); t (957.997) = 6.700, $p = .000$, two-tailed. This suggests that there are gender differences in IPV and the differences in means is not due to chance. Specifically, females commit more types of IPV than males. The effect size of IPV across gender was then measured as the difference between two means. Results from these calculations are presented in Table 4. The size of this effect ($d = .415$), as indexed by Cohen's (1998, 1992) coefficient *d*, was slightly below the level for a moderate effect size ($d = .5$). These findings do not support Gottfredson and Hirschi's (1990) claim that females are less likely to engage in criminal and analogous behaviors than males.

Baseline Structural Equation Model

The baseline structural equation model that forms the foundation of the current study examined the impact of gender, self-control, and other predictors on IPV. Results from this

model are presented in Table 7. The fit of the overall model is marginally acceptable (Table 6).[11] The Root Mean Square Error Approximation (.056) is barely past the .05 cutoff for close model fit. However, RMSEA values between .05 and .08 indicate adequate model fit (Browne & Cudeck, 1993). The CFI (.905) is greater than the cut-off level of .90, indicating acceptable model fit. Although the TLI (.826) falls just slightly below this .90 level, overall, the model statistics indicate adequate fit.

Table 6. Model fit for the baseline SEM.

Chi-square test of model fit	
Value	32.781
Df	12
p-value	.010
CFI	.905
TLI	.826
RMSEA	.056

The baseline structural model explained 24.5% of the total variance of IPV (Table 7). The statistically significant predictors of the outcome variable IPV included gender, prior IPV offending, self-control, and opportunity (Figure 4). Gender had the strongest magnitude of all the predictors with a standardized path coefficient of -.350, indicating that females were more likely than males to engage in more types of intimate partner with a standardized path coefficient of -.221, indicating that those with lower self-control were more likely to engage in more types of IPV. Finally, of the significant predictors, opportunity had the least strong relationship (b_{stdYX} = .167), indicating that those who had higher opportunity to commit IPV were more likely to

[11] Covariance and threshold matrices are presented in Appendices F and G, respectively.

engage in more types of IPV. All four of these relationships were statistically significant at the $p < .01$ level. The remaining predictors in the model including race ($p = .230$), retaliation ($p = .518$), and prior IPV victimization ($p = .800$) did not have statistically significant relationships with the outcome variable.

Table 7. Path model results for the baseline SEM. [12]

Outcome		Predictors	B	β	S.E.	Est./S.E.	*p*	R^2
Current offending	ON							0.245
		Gender	-0.822	-0.350	0.177	-4.643	0.000	
		Race	0.164	0.063	0.137	1.200	0.230	
		Self-control	-0.222	-0.221	0.064	-3.481	0.000	
		Opportunity	0.075	0.167	0.025	3.050	0.002	
		Retaliation	0.133	0.040	0.205	0.646	0.518	
		Prior offending (ln)	0.510	0.310	0.071	7.136	0.000	
		Prior victimization (ln)	-0.024	-0.016	0.093	-0.253	0.800	
Retaliation	WITH							
		Prior offending (ln)	0.097	0.454	0.024	4.036	0.000	
		Prior victimization (ln)	0.121	0.517	0.028	4.335	0.000	
Prior offending (ln)	WITH							
		Prior victimization (ln)	0.246	0.520	0.023	10.782	0.000	

[12] In both the baseline and moderated models, standardized scores of the self-control items were calculated and then used to create the self-control scale in Mplus.

Examination of the correlation matrix (Table 3) revealed high correlations among three of the predictors in the model. The correlation between retaliation and prior IPV offending (r = .467) was statistically significant at the $p < .01$ level. The correlation between retaliation and prior IPV victimization (r = .523) was statistically significant at the $p < .01$ level. The correlation between prior IPV victimization and prior IPV offending (r = .539) was also statistically significant at the $p < .01$ level. Given these high correlations, it was expected that these variables would co-vary in the baseline structural equation model. To account for this high covariance, three co-vary statements were included in the baseline model: 1) prior offending was expected to co-vary with prior victimization, 2) retaliation was expected to co-vary with prior IPV offending, and 3) retaliation was expected to co-vary with prior IPV victimization. The strength of these associations [prior IPV offending with prior IPV victimization (b_{stdYX} = .520); retaliation with prior IPV offending (b_{stdYX} = .454); and retaliation with prior IPV victimization (b_{stdYX} = .517)] were all strong, positive, and statistically significant at the p = .00 level.

Overall, the baseline structural equation model found that females, those who perpetrated IPV against a greater number of previous partners, those with lower self-control, and those with greater opportunity all had a higher likelihood of engaging in more types of IPV against their current dating partner.

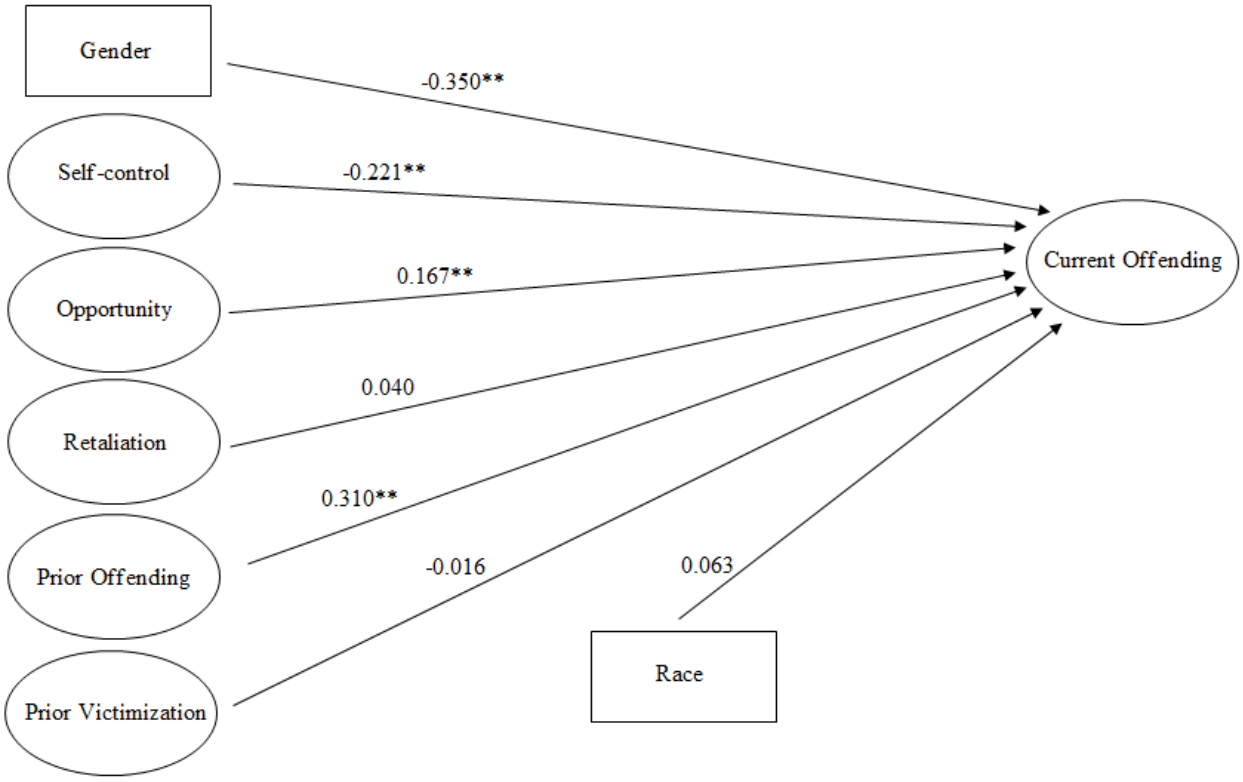

Figure 4. Baseline SEM.

Moderating Structural Equation Model

Given the statistical significance and strength of the standardized path coefficients in the baseline SEM, the ground work was laid for the moderating structural equation model which examined the role of gender in the relationship between self-control and IPV offending. Results from this model are presented in Table 9. Compared to the baseline SEM, the moderating structural equation model revealed better model fit statistics (Table 8). The Root Mean Square Error Approximation improved from .056 to .042, now falling below the .05 cutoff for close model fit (Browne & Cudeck, 1993). The CFI remained greater than the cut-off level of .90, improving from .905 to .929, indicating acceptable model fit. Although the TLI (.877) fell just slightly below this .90 level, it improved from the baseline SEM (.826). Overall, the moderating

structural equation model revealed acceptable model fit and is an improvement over the baseline model discussed above.

Table 8. Model fit for the moderating SEM.

Chi-square test of model fit		
	Value	29.554
	Df	15
	p-value	.013
CFI		.929
TLI		.877
RMSEA		.042

Explained variance for the moderating SEM model remained similar to the baseline SEM, with the final model explaining 24.7% of the total variance of IPV (Table 9). The statistically significant predictors of the outcome variable included gender, prior IPV offending, self-control, and opportunity (Figure 5).

Gender still had the strongest magnitude of all the predictors with a standardized path coefficient of -.354, indicating that females were more likely than males to engage in more types of IPV. Prior IPV offending had the next strongest relationship (b_{stdYX} = .311), indicating that those who perpetrated IPV against a greater number of partners were more likely to perpetrate more types of IPV against their current partner. Self-control had the next strongest relationship (b_{stdYX} = -.217), indicating that those with lower self-control were more likely to engage in more types of IPV. Finally, of the significant predictors, opportunity had the least strong relationship

Table 9. Path model results for the moderating SEM.

Outcome		Predictors	B	β	S.E.	Est./S.E.	*p*	R^2
Current offending	ON							0.247
		Gender	-0.833	-0.354	0.205	-4.059	0.000	
		Race	0.165	0.063	0.137	1.204	0.229	
		Self-control x Gender	-0.024	-0.013	0.183	-0.130	0.897	
		Self-control	-0.218	-0.217	0.069	-3.176	0.001	
		Opportunity	0.075	0.166	0.025	3.046	0.002	
		Retaliation	0.133	0.040	0.203	0.657	0.511	
		Prior offending (ln)	0.513	0.311	0.072	7.155	0.000	
		Prior victimization (ln)	-0.027	-0.018	0.092	-0.292	0.770	
Retaliation	WITH							
		Prior offending (ln)	0.097	0.454	0.024	4.088	0.000	
		Prior victimization (ln)	0.121	0.517	0.028	4.347	0.000	
Prior offending (ln)	WITH							
		Prior victimization (ln)	0.247	0.524	0.023	10.774	0.000	

with a standardized path coefficient of .166, indicating that those who had higher opportunity to commit IPV were more likely to engage in more types of IPV. All four of these relationships were statistically significant at the $p < .01$ level. As in the baseline structural equation model, the remaining predictors in the moderating model including race ($p = .229$), retaliation ($p = .511$),

and prior IPV victimization (p = .770) did not have statistically significant relationships with the outcome variable.

One of the main purposes of the current study, and in this final model, was to examine if the effect of self-control on IPV varies by gender. To accomplish this, an interaction term was created by multiplying gender by self-control. The impact of the interaction term on IPV was not statistically significant (p = .897) with a standardized path coefficient of -.013. Of all the included predictors, this was the weakest relationship in the model. Additionally, the mean difference between males and females (B = -.833) at average levels of self-control indicated that females have significantly higher levels of self-control. However, the difference in the slopes (e.g., interaction term, B = -.024) for men and women on self-control was not statistically significant, meaning that the male and female slopes were not different from one another.

Due to high correlations among predictors, the same three co-vary statements used in the baseline structural equation model were included in the moderating model as well. These statements included: 1) prior offending was expected to co-vary with prior victimization, 2) retaliation was expected to co-vary with prior IPV offending, and 3) retaliation was expected to co-vary with prior IPV victimization. The strength of these associations [prior IPV offending with prior IPV victimization (b_{stdYX} = .524); retaliation with prior IPV offending (b_{stdYX} = .454); and retaliation with prior IPV victimization (b_{stdYX} = .517)] were all strong, positive, and statistically significant at the p = .00 level.

Overall, these findings indicate that females, those who perpetrated IPV against a greater number of previous partners, those with lower self-control, and those with greater opportunity all had a higher likelihood of engaging in more types of IPV against their current partner. However, the impact of the interaction term between gender and self-control did not statistically impact

IPV offending. This lack of effect indicates that the effect of self-control on IPV operated similarly across gender. The final, and next chapter, discusses the implications of these results, the limitations of the current study, as well as future directions for research.

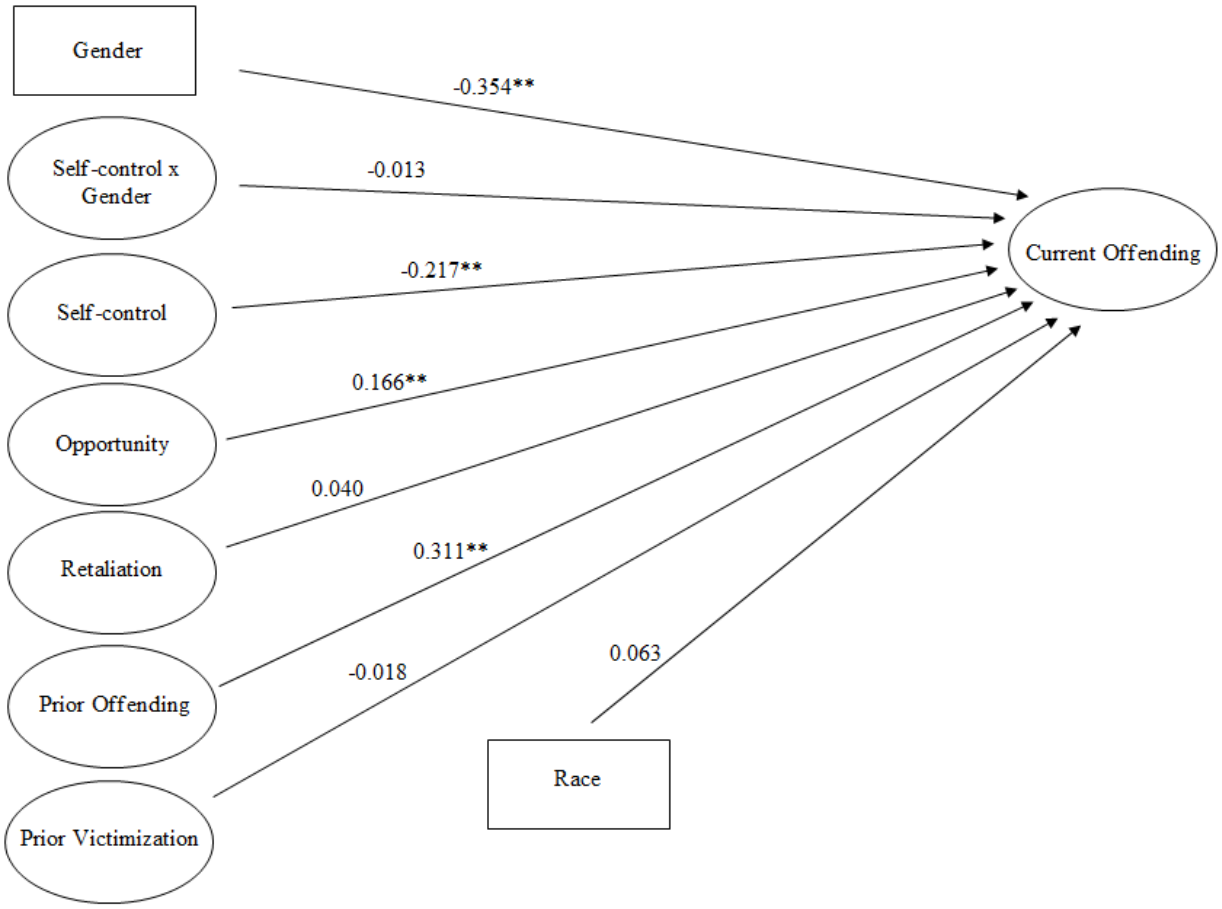

Figure 5. Moderating SEM.

CHAPTER FIVE:

DISCUSSION AND CONCLUSION

In *A General Theory of Crime*, Gottfredson and Hirschi (1990) assert that their theory can explain all crimes, at all times, and in all places. Specifically, they argue that one underlying factor, low self-control, can account for all crimes and analogous behaviors. Relevant to the current study, the gender implications of the general theory of crime suggest that not only does self-control address the gender gap in crime, but that self-control can also explain crime equally well across males and females. However, the literature regarding these implications is mixed and thus, other perspectives have called into question the applicability of the general theory of crime when examining the relationship between gender and crime. As gender is one of the most common correlates of crime, this is an area of research that warrants further investigation. In particular, one of the most serious forms of crime with respect to gender differences is intimate partner violence. However, the body of literature regarding gender differences in IPV is also mixed and hindered by limited theoretical development.

The current study sought to address these limitations in the literature by exploring the role of gender in the relationship between self-control and IPV. The first objective assessed whether self-control and IPV vary across males and females. The second objective assessed the effect of self-control on IPV as a function of gender. The data used to answer these research questions were collected through a self-administered survey of university students. Of the 1,826 students who completed the survey, 960 students reported being currently involved in an intimate

dating relationship. It is these 960 respondents that were included in the following bivariate and multivariate model summaries.

Summary of Findings

Specifically, bivariate analyses addressed three interrelated questions as part of the first broad research question: (1) whether males have lower self-control than females, (2) whether males are more likely to engage in IPV than females, and (3) whether low self-control predicts IPV.

First, bivariate analyses indicated that males had lower self-control than females. A significant difference of means in self-control was also found between males and females, confirming that males had lower self-control than females. Not only does this finding support Gottfredson and Hirschi's (1990) theory, but previous literature as well, indicating that females have higher levels of self-control than males (Blackwell & Piquero, 2005; Gibson et al., 2010; Hayslett-McCall & Bernard, 2002; Hope & Chapple, 2005; Tittle et al., 2003; Turner & Piquero, 2002; Winfree et al., 2006).

Second, contrary to what was expected, the current study found that females were more likely than males to engage in IPV. Bivariate analyses revealed a significant association with being female and committing more types of IPV. Further comparisons of means confirmed this association, indicating a significant gender difference in IPV; namely, that females committed more types of IPV. This finding does not support Gottfredson and Hirschi's (1990) assertion that females are less likely than males to engage in crime because they have higher levels of self-control. Females in the current sample did indeed have higher levels of self-control than males, but females were also more likely than males to commit more types of IPV. Although the latter part of this finding does not support Gottfredson and Hirschi's (1990) claims, it is possible that

this anomalous finding could be due, in part, to limitations in the use of the CTS, as was discussed in Chapter Two. However, a sizeable body of family conflict literature reveals that females are more likely than males to be the perpetrators of IPV (Arias et al., 1987; Bernard & Bernard, 1983; Kaukinen et al., 2012; Lane & Gwartney-Gibbs, 1985).

Third, bivariate analyses, as expected, found that respondents with lower self-control had an association with committing more types of IPV. Indeed, a large body of prior research has consistently found support for the theory's central proposition that low self-control is predictive of criminal and analogous behaviors (Arneklev et al., 1993; Baker, 2010; Brownfield & Sorenson, 1993; Cochran et al., 2006; Cretacci, 2008; DeLisi, 2001; Forde & Kennedy, 1997; Gibson & Wright, 2001; Higgins, 2005; Holtfreter et al., 2010; Junger et al., 2001; Kerley et al., 2009; Langton, 2006; Longshore, 1998; Paternoster & Brame, 1997; Piquero et al., 2005; Pratt & Cullen, 2000; Sellers, 1999; Wright et al., 1999). Based on these significant relationships and associations, it was appropriate for the current study to move on to examine the impact of gender, self-control, and other predictors on IPV.

The current study then used multivariate analyses to address the second main research question regarding whether low self-control leads to IPV more for males than for females. The initial baseline structural equation model revealed marginally acceptable fit and explained 24.5% of the total variance of IPV. The statistically significant predictors of the outcome variable IPV included gender, prior IPV offending, self-control, and opportunity. It is important to note that these variables maintained significance even after controlling for other variables in the model. This finding lends support to the idea that these relationships are not spurious and are not mediated by other variables.

Based on these findings, a subsequent structural equation model was then conducted to examine the potential moderating effect of gender on the relationship between self-control and IPV. The model fit of the moderating model improved slightly in comparison to the baseline model and was able to explain a very similar percent of total variance in the outcome variable (24.7%). All of the predictors that had a statistically significant relationships with IPV in the baseline model continued to maintain their significant relationships in the final moderating model. However, the difference in the slopes (i.e., interaction term) for men and women in the self-control/IPV relationship was not statistically significant.

These results indicate that even though there were statistically significant effects of both gender and self-control, separately, on IPV, in both the baseline and final model, the relationship between self-control and IPV was not moderated by gender. In other words, self-control operated similarly on IPV for both males and females. This finding supports Gottfredson and Hirschi's (1990) assertions that their general theory of crime can maintain gender neutrality in regard to the operation of self-control across gender. However, in the current study, the gender gap in crime as it relates to self-control remains in question as females were more likely than males to commit more types of IPV.

Limitations

Hirschi and Gottfredson (1993) acknowledge a methodological limitation of using survey methods to study their theory due to the "… general unwillingness or inability of those low on self-control to participate in surveys, thereby restricting the range of both independent and dependent variables…" (p. 48). Moreover, if they do participate, those with self-control may be less likely to respond accurately and/or complete the survey in its entirety as they "…lack diligence, tenacity, or persistence in a course of action" (Gottfredson & Hirschi, 1990, p. 89). In

fact, in the current study, 387 respondents (out of 960 respondents who were currently dating and indicated their gender) had missing data on the self-control variable. Thirteen other respondents did not answer one of the items used to create the opportunity measure. Due to list-wise deletion, this resulted in only 560 cases that were included in the structural equation models, decreasing the statistical power of the analyses as compared to the total sample of 960 cases.[13] It is also possible that students who did not participate in the survey due to absenteeism may be lower in self-control. On the other hand, it has been suggested that college students may have higher levels of self-control as a result of their college achievement (Sellers, 1999). Nevertheless, respondents in the current sample report a wide range of scores on the self-control items resulting in a reasonable level of variation in self-control among those surveyed.

Another methodological weakness common to studies of dating violence is their heavy reliance on student samples. Utilizing a college sample to study IPV prevents the examination of these behaviors among couples who are not attending college, making the findings less generalizable. However, it is relevant to study IPV in college students because levels of dating and/or cohabitating are likely high in this population (Sellers, 1999). Moreover, establishing prevalence rates of IPV is beyond the scope of the current study. Another weakness when utilizing a student sample concerns the examination of self-control theory itself because this type of sample may exclude economically disadvantaged populations. However, the extant literature does not indicate that IPV is limited to the lower class. More importantly, the goal of the current study is to examine a general theory that asserts that low self-control can explain any act of force or fraud in any population (Gottfredson and Hirschi, 1990).

[13] Cross tabulation between gender and IPV offending on these 400 missing cases revealed that females scored higher on the variety scale of offending than males, paralleling the finding that females in the current study committed more type of IPV than males.

The current study is also limited in the measurement of several important variables. For instance, the data relied on self-report measures in which respondents were asked to recall past behaviors and experiences. Therefore, the data are subject to common self-report limitations such as memory recall, memory decay, underreporting, and honesty. However, although recalling specific details of past events may be less accurate, research indicates that respondents are able to recall significant life events with a considerable degree of accuracy (Henry, Moffitt, Caspi, Langley, & Silva, 1994). Relatedly, variables that ask respondents about current and past offending behaviors are structured differently within the survey. Specifically, current offending is measured by asking respondents the frequency with which they engage in IPV, whereas prior offending is measured by asking respondents how many partners they have perpetrated IPV against in the past. A direct examination of current and previous offending is not possible as these two constructs are not measured in the same manner. Nevertheless, previous crime and delinquency is the best predictor of future crime and delinquency (Akers, 1989; Elliott, 1994; Nagin & Paternoster, 2000; Sampson and Laub, 1993) and therefore, previous offending, as measured in the current study, is an adequate proxy for examining this relationship. Indeed, despite this limitation, one of the strongest relationships in the moderating model existed between current offending and past offending.

Another limitation concerns the current study's measure of self-control as gender may affect the general use and validity of self-control scales. Longshore and colleagues (2006) note that the creation of certain scales is often done by using male profiles and situations as a reference, which could influence the scores. Indeed, Gibson et al. (2010) argue that the role of gender has often been overlooked in self-control measurement because studies seldom address whether the items used to measure self-control make sense for both males and females. In a

recent assessment of the Grasmick scale's reliability across gender, Gibson and colleagues (2010) found that the scale was relatively reliable for both males and females, yet several items did operate differently across gender. The implication of findings such as these, along with others (e.g., Piquero & Rosay, 1998), suggests that the Grasmick scale may not be tapping the same constructs for males and females. Nevertheless, the use of the Grasmick scale (1993) still remains viable.

Another limitation regarding measurement involves the current study's use of race as it dichotomized race into two categories and did not examine ethnicity. Student samples are often not generalizable to the greater population due to their lack of racial variance. However, limiting the assessment of race in this way may overlook racial and ethnic differences in key concepts and variables.

Without longitudinal data, it was not possible for the current study to address causal paths between the included predictors and IPV. Although not ideal to use cross-sectional data for longitudinal data analyses such as structural equation modeling, these analyses are not uncommon (Luk, Wang, & Simmon-Morton, 2010; Trenz, Harrell, Scherer, Mancha, & Latimer, 2012; Weiner et al., 2003). However, given the fact that the survey instrument asks about both current and past offending, the current study was still able to differentiate two distinct points in time, which is appropriate for structural equation modeling.

Regarding the measures of IPV, the current study utilized measures from the original Conflict Tactics Scale (Straus, 1979). Although studies have found this to be a valid and reliable indicator of physical aggression in intimate relationships, it has been criticized for issues related to measurement and its ability to account for contextual differences across gender. The Revised Conflict Tactics Scale (CTS-2, Straus et al., 1996) addresses some of these limitations, but the

CTS-2 was not yet developed when the survey used in the current analyses was originally constructed.

The current study utilizes a variety scale of offending, which measures how many types of IPV respondents committed during the course of their current dating relationship. As such, results from these analyses cannot be interpreted to mean that one group engages in higher levels of frequency than another. Although violence severity is commonly measured by utilizing frequency scores, variety scores have proved to be a useful alternative (Moffitt, Robbins, & Caspi, 2001; Kuijpers, van der Knaap, & Winkel, 2011). Variety scales are particularly valuable when examining IPV because "'Has X happened?' is a more accurate response format than is 'How many times has X happened?' especially among respondents whose violent acts have lost their salience because they happen frequently" (Moffitt et al., 2001, p. 15). However, with limited exception (e.g. Cochran, Jones, Jones, & Sellers, 2016; Jones & Miller, 2012; Kuijpers et al., 2011; Kuijpers, van der Knaap, & Winkel, 2012), studies of IPV often utilize a frequency scale of offending. In this regard, the current study is novel in its use of a variety scale of IPV offending. Moreover, Hirschi and Gottfredson (1995) favor variety measures of misbehavior to reflect self-control and thus, it is not a stretch to assume that they would also favor variety measures of deviance and crime. Furthermore, variety scales are often less skewed, more reliable, and more valid when compared to frequency scales.

The final limitation concerns the fact that the data were collected over two decades ago in the Spring of 1995. Although this data may be criticized for being dated, this criticism should not affect the ability of self-control to explain IPV. As a general theory, self-control's explanatory ability should not be period specific, that is, limited to data collected at some but not other points in time (Cochran et al., 2016). However, the age of the data does limit the implications of the

current study's results as it is unable to capture changes in IPV over the past two decades. For instance, the overall rate of IPV in the United States declined by 64% from 1994 – 2010. During this period, IPV declined for both males and females. However, more recent trends do not reveal that this decline is gender symmetric in that the rate of IPV against females remained stable as compared to males who experienced a 39% decline in victimization (Catalano, 2015).

Moreover, results should also be interpreted cautiously as the college environment regarding violence and victimization among university students is likely different today than it was when the current study's data were originally collected. Public discussion and awareness of IPV continues to grow as advances are made in education, advocacy, and legislation regarding these issues. Specifically, recent efforts have been made on college campuses to raise awareness related to dating violence and sexual assaults, including "Take Back the Night" marches, "Denim Day" sponsorships, participation in the "Clothesline Project," and various other protests, observances, and events during Sexual Assault Month and Domestic Violence Month (Ashworth, Viada, & Franklin, 2015).

Future Directions of Research

The current study examined the theoretical role that gender plays within the context of IPV. Specifically, Gottfredson and Hirschi's (1990) gender implications regarding their general theory of crime were analyzed with regard to whether self-control operates differently on IPV for males and females. Future research should not be limited to gender, but should also address other socio-demographic characteristics including race, age, and socio-economic status, and assess whether the generality claims of self-control exist across these groups within the context of IPV.

Relatedly, future research should also address IPV in the context of race and ethnicity. The current analyses revealed that race did not have a significant association with the outcome

variable IPV. One explanation for this finding, as mentioned in the limitations above, may be due to the lack of racial variance within the sample as approximately 75% of the sample was White. It is also important to note that the subject of IPV is considered taboo among African Americans communities (Hattery, 2009). This "internal silence" "...concerns violence against black women at the hands of black men…" (Collins, 2004, p. 225). Adding to the complexities regarding IPV and race is the argument that the concerns of African American women, as women, go unheard due to the large and constant existence of other race-based discussions. Therefore, future research should examine the nexus of race and gender in the context of IPV, not only within the African American community, but within other marginalized populations as well.

Several key methodological issues present in the current study can also be addressed in future studies. For example, studies regarding IPV that utilize both past and current offending would be better assessed by utilizing a longitudinal data set. Use of longitudinal data is beneficial as it can better address correct temporal ordering of indicators when conducting statistical data analyses such as structural equation modeling (Kline, 2004). Utilizing longitudinal data also limits issues related to memory recall and memory decay as respondents can be questioned about current behaviors and experiences over multiple time points.

Moreover, the current analysis used only physical aggression as its measure of current offending. A more complete picture of IPV would include not only physical aggression indicators, but psychological and sexual abuse indicators as well. Relatedly, the current study used measures of physical aggression as measured by the original Conflict Tactics Scale. Future studies would benefit from utilizing the Revised Conflict Tactics Scale (CTS-2, Straus, 1996) as it includes more types of behaviors, as well as injury and physical outcome measures. In addition to the CTS-2, numerous other instruments and scales have been created that focus on different

types of IPV perpetration. For example, some scales assess only physical perpetration such as the Physical Abuse of Partner Scale (Hudson, 1997), while others examine only psychological and emotional perpetration such as the Multidimensional Measurer of Emotional Abuse (Murphy & Hoover, 1999; Murphy, Hoover, & Taft, 1999) and the Non-Physical Abuse of Partner Scale (Hudson, 1997). Still others assess strictly sexual perpetration such as the Sexual Experiences Survey (Koss & Oros, 1982). Various scales that attempt to get a richer picture of IPV do so by assessing more than one type of IPV perpetration. For example scales that examine both psychological and physical perpetration include the Abuse Within Intimate Relationships Scale (Borjesson, Aarons, & Dunn, 2003), the Abusive Behavior Inventory (Shepard & Campbell, 1992), and the Safe Dates- Physical Violence Perpetration (Foshee et al., 1996).

In addition to addressing different types of perpetration, these scales also target different populations including young adults (Borjesson et al., 2003), male batterers (Shepard & Campbell, 1992), college students reporting on current or past dating relationships (Murphy & Hoover, 1999; Murphy, et al., 1999), partners in dating, cohabiting, and marital relationships (Hudson, 1997; Straus et al., 1996), male and female students in grades 8-9 (Foshee et al., 1996), and male college students (Koss & Oros, 1982). Researchers and practitioners now have numerous choices in terms of instruments when examining IPV, and choosing the most appropriate one is critical. The current study utilized a college sample, but future research should expand on this and examine the relationships between gender, self-control, and IPV across multiple populations. Indeed, the ability to correctly measure and assess IPV is important for not only research purposes, but for intervention and treatment services as well (Saltzman, 2004).

In addition to utilizing the most appropriate instrument when assessing IPV, it is also important to study different *types* of dating relationships within the context of IPV as well, such

as same-sex IPV (SSIPV). Although there have been studies using criminological theories to predict both IPV and perpetration among heterosexual partners, the literature examining these theories on non-heterosexual partners is limited (Murray and Mobley, 2009). Studies have revealed that rates of SSIPV are similar or slightly higher than rates of IPV among heterosexuals (Walters, Chen, & Breiding, 2013). Annual rates vary between 25 – 50% of individuals in gay, lesbian, and bisexual relationships who report being the victim of IPV (Dank, Lachman, Zweig, & Yahner, 2014; Jones & Raghaven, 2012). Moreover, many of the studies on SSPIV are not based in any theoretical framework (Belknap, Holsinger, & Little, 2012; Dank et al., 2014; Messinger, 2011). Researchers have recently started to address this limitation in the literature by studying the predictability of self-control theory, social learning theory, and general strain theory to SSIPV perpetration and victimization (Zavala, 2016), but this is an area where more theoretically-based research is warranted.

Additionally, a key area that needs to be addressed in studies investigating IPV involves the contextual differences in which IPV occurs. A limitation of both the current study and other studies of IPV often involves the failure to account for the context of violence among intimates. Although the current study used a measure of retaliation as a proxy for mutual combatants, future studies should examine context more fully to address issues related to perpetration, victimization, as well as violence that occurs when one is acting in self-defense. The dynamic between partners can be very complex in the context of IPV as individuals with low self-control may initiate violence against their partner, prompting the victim to fight back in self-defense. This in turn may cause injury to the original perpetrator (Zavala, 2016). In this example, the original perpetrator of the violence may be incorrectly viewed as a victim in survey instruments that do not take into account the context in which IPV occurs. Future research may consider utilizing

informant reports of IPV, such couple surveys, which would also be useful in understanding these dynamics and other contextual differences, as well as the true prevalence of IPV (Jones & Miller, 2012).

Although results of the current study found that self-control operated similarly on IPV for both males and females, further analyses of the theoretical role that gender plays within these relationships is still warranted. Indeed, the current study found that females had higher levels of self-control, yet were more likely than males to commit more types of IPV. The question remains, if low self-control predicts IPV and males have lower self-control than females, why then are females committing more types of IPV than males? This finding could be due to a number of different reasons such as omitted variable bias, differences in IPV reporting across gender, or simply because there were more females than males in the current sample (65% vs. 35%, respectively). There is also the possibility that males who had the lowest levels of self-control were absent from class on the day of survey distribution.

Another suggestion as to why more females than males are committing more types of IPV may be related to gender differences in control tactics. For instance, perhaps non-violent coercive control tactics are being used by males in this sample that do not involve IPV as measured in the current study. As discussed in Chapter Two, Johnson (1995) defined and conceptualized two distinct categories of IPV: intimate terrorism and situational couple violence. In intimate terrorism, one's use of violence is grounded within an overall motivation to control their partner, whereas situational couple violence does not involve attempts to control the relationship, but rather, involves situational conflict that escalates into physical violence. Therefore, to better examine IPV, it important to address not only the nature of violent encounters themselves, but also non-violent controlling behaviors in intimate relationship as

well. Moreover, as it relates to self-control, studies should also examine the gender differences within these non-violence coercive control tactics by incorporating measures of non-violent control tactics in studies of IPV.

This finding may also be related to gender differences in the actual measurement of self-control. Future research should pay more attention to the role of gender in the construction and composition of self-control variables and scales. Additionally, studies can also disaggregate the self-control scale into six subscales (e.g., risk-seeking, impulsivity, simple tasks, physical activities, self-centeredness, and temper) and then identify which, if any, components of self-control are more salient for males versus females in the context of IPV. However, unlike previous studies that simply control for gender, future studies should utilize a multi-group gendered analysis in order to more fully explore the theoretical role of gender in the relationship between self-control and IPV. Specifically, these gendered models could assess which elements of low self-control have stronger effects on IPV for males and which have stronger effects on IPV for females. Indeed, the role of gender in self-control and measures of self-control is an understudied area of criminological research.

In sum, the current study offered a unique investigation of the role played by gender in the relationship between self-control and IPV by examining whether self-control predicts IPV differently by gender and whether or not the relationship between self-control and IPV was moderated by gender. Overall, modest support was found to support Gottfredson and Hirschi's (1990) general theory of crime, yet questions still remain unanswered. The gendered nature of both self-control and IPV are extremely complex. As such, the current findings should be seen as only one small piece of the puzzle in determining gender's full theoretical role in the operation of self-control and how self-control affects the gender gap in violent crimes, in particular, IPV.

Future research should continue to expand on these relationships in light of the considerations discussed above

REFERENCES

Agnew, R. (2011). *Toward a unified criminology*. New York, NY: New York University Press.

Akers, R. (1989). A social behaviorist's perspective on integration of theories of crime and deviance. In S. Messner, M. Krohn & A. Liska, *Theoretical integration in the study of deviance and crime: Problems and prospects* (1st ed., pp. 23-36). Albany, NY: State University of New York Press.

Arbuckle, J., & Worthke, W. (1999). *Amos 4.0 user's guide*. Chicago, IL: Small Waters.

Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin*, *126*(5), 651-680.

Arias, I., Samios, M., & O'leary, K. (1987). Prevalence and correlates of physical aggression during courtship. *Journal of Interpersonal Violence*, *2*(1), 82-90.

Arneklev, B., Cochran, J., & Gainey, R. (1998). Testing Gottfredson and Hirschi's low self-control's stability hypothesis: An exploratory study. *American Journal of Criminal Justice*, *23*(1), 107-127.

Arneklev, B., Grasmick, H., & Bursik Jr., R. (1999). Evaluating the dimensionality and invariance of "low self-control". *Journal of Quantitative Criminology*, *15*(3), 307-331.

Arneklev, B., Grasmick, H., Tittle, C., & Bursik, R. (1993). Low self-control and imprudent behavior. *Journal of Quantitative Criminology*, *9*(3), 225-247.

Arriaga, X., & Foshee, V. (2004). Adolescent dating violence: Do adolescents follow in their friends, or their parents, footsteps? *Journal of Interpersonal Violence*, *19*(2), 162-184.

Ashworth, L., Viada, J., & Franklin, C. (2015). Campus sexual assault: Prevention, response, and aftercare. *Family & IPV Quarterly*, *7*(3), 245-252.

Avakame, E. (1998a). Intergenerational transmission of violence and psychological aggression against wives. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, *30*(3), 193-202.

Avakame, E. (1998b). Intergenerational transmission of violence, self-control, and conjugal violence: A comparative analysis of physical violence and psychological aggression. *Victims and Violence*, *13*(3), 301-316.

Barnett, O., Lee, C., & Thelen, R. (1997). Gender differences in attributions of self-defense and control in inter-partner aggression. *Violence Against Women*, *3*(5), 462-481.

Beccaria, C. (1774). *On Crime and Punishment*. Boston: Branden Publishing.

Belknap, J. (2001). *The invisible woman: Gender, crime, and justice.* Belmont, CA: Thomson Wadsworth.

Belknap, J., Holsinger, K., & Little, J. (2012). Sexual minority status, abuse, and self-harming behaviors among incarcerated girls. *Journal Child Adolescent Trauma*, *5*(2), 173-185.

Benda, B., Toombs, N., & Corwyn, R. (2005). Self-control, gender, and age: A survival analysis of recidivism among boot camp graduates in a 5-year follow-up. *Journal of Offender Rehabilitation*, *40*(3-4), 115-132.

Bendixen, M., Endresen, I.M., & Olweus, D. (2003). Variety and frequency scales of antisocial involvement: Which one is better? *Legal and Criminological Psychology*, *8*(2), 135-150.

Benson, M., & Moore, E. (1992). Are white-collar and common offenders the same? An empirical and theoretical critique of a recently proposed general theory of crime. *Journal of Research in Crime and Delinquency*, *29*(3), 251-272.

Bentler, P. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238-246.

Bergman, L. (1992). Dating violence among high school students. *Social Work*, *37*(1), 21-27.

Bernard, M., & Bernard, J. (1983). Violent intimacy: The family as a model for love relationships. *Family Relations*, *32*(2), 283-286.

Blackwell, B., & Piquero, A. (2005). On the relationships between gender, power control, self-control, and crime. *Journal of Criminal Justice*, *33*(1), 1-17.

Bollen, K. (1989). *Structural equations with latent variables*. New York, NY: Wiley.

Bookwala, J., Frieze, I., Smith, C., & Ryan, K. (1992). Predictors of dating violence: A multivariate analysis. *Violence and Victims*, *7*(4), 297-311.

Borjesson, W.I., Aarons, G.A., & Dunn, M.E. (2003). Development and confirmatory factor analysis of the Abuse Within Relationship Scale. *Journal of Interpersonal Violence, 18*(3), 295-309.

Browne, M., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. Bollen & S. Long (Eds.), *Structural equation models* (pp. 136-162). Newbury Park, CA: Sage.

Brownfield, D., & Sorenson, A. (1993). Self-control and juvenile delinquency: Theoretical issues and an empirical assessment of selected elements of a general theory of crime. *Deviant Behavior, 14*(3), 243-264.

Brush, L. (1990). Violent acts and injurious outcomes in married couples: Methodological issues in the National Survey of Families and Households. *Gender & Society, 4*(1), 56-67.

Burton, V., Cullen, F., Evans, T., Alarid, L., & Dunaway, R. (1998). Gender, self-control, and crime. *Journal of Research in Crime and Delinquency, 35*(2), 123-147.

Burton, V., Cullen, F., Evans, T., & Dunaway, R. (1994). Reconsidering strain theory: Operationalization, rival theories, and adult criminality. *Journal of Quantitative Criminology, 10*(3), 213-239.

Byrne, B. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming.* Mahwah, NJ: Lawrence Erlbaum Associates.

Caldwell, J., Swan, S., Allen, C., Sullivan, T., & Snow, D. (2009). Why I hit him: Women's reasons for IPV. *Journal of Aggression, Maltreatment & Trauma, 18*(7), 672-697.

Capaldi, D., & Kim, H. (2007). Typological approaches to violence in couples: A critique and alternative conceptual approach. *Clinical Psychology Review, 27*(3), 253-265.

Cascardi, M., & Vivian, D. (1995). Context for specific episodes of marital violence: Gender and severity of violence differences. *Journal of Family Violence, 10*(3), 265-293.

Catalano, S. (2012). *Intimate partner violence, 1993-2010* (NCJ 239203). Washington, DC: U.S. Department of Justice.

Cercone, J., Beach, S., & Arias, I. (2005). Gender symmetry in dating IPV: Does similar behavior imply similar constructs? *Violence and Victims, 20*(2), 207-218.

Cernkovich, S., & Giordano, P. (1979). A comparative analysis of male and female delinquency. *Sociological Quarterly, 20*(1), 131-145.

Chapple, C., & Hope, T. (2003). An analysis of the self-control and criminal versatility of gang and dating violence offenders. *Violence & Victims, 18*(6), 671-690.

Chesney-Lind, M., & Shelden, R. (2004). *Girls, delinquency, and juvenile justice* (3rd ed.). Belmont, CA: Wadsworth.

Cochran, J., Aleska, V., & Chamlin, M. (2006). Self-restraint: A study on the capacity and desire for self-control. *Western Criminology Review, 7*(3), 27-40.

Cochran, J., Jones, S., Jones, A.M., Sellers, C.S. (2016). Does criminal propensity moderate the effects of social learning theory variables on intimate partner violence? *Deviant Behavior, 37*(9), 965-975.

Cochran, J., Wood, P., Sellers, C., Wilkerson, W., & Chamlin, M. (1998). Academic dishonesty and low self-control: An empirical test of a general theory of crime. *Deviant Behavior, 19*(3), 227-255.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159.

Cohn, E., & Farrington, D. (1999). Changes in the most-cited scholars in twenty criminology and criminal justice journals between 1990 and 1995. *Journal of Criminal Justice, 27*(4), 345-359.

Collins, P.H. (2004). *Black sexual politics: African Americans, gender, and the new racism*. New York, NY: Routledge.

Cretacci, M. (2008). A general test of self-control theory: Has its importance been exaggerated? *International Journal of Offender Therapy and Comparative Criminology, 52*(5), 538-553.

Danis, F., & Anderson, K. (2008). An underserved population and untapped resource: A preliminary study of collegiate sorority response to dating violence. *Journal of Aggression, Maltreatment & Trauma, 17*(3), 336-351.

Dank, M., Lachman, P., Zweig, J., & Yahner, J. (2014). Dating violence experiences of lesbian, gay, bisexual, and transgender youth. *Journal of Youth & Adolescence, 43*(5), 846-857.

DeLisi, M. (2001). It's all in the record: Assessing self-control theory with an offender sample. *Criminal Justice Review, 26*(1), 1-16.

Delisi, M., Hochstetler, A., & Murphy, D. (2003). Self-control behind bars: A validation study of the Grasmick et al. scale. *Justice Quarterly, 20*(2), 241-263.

Dobash, R., Dobash, R., Wilson, M., & Daly, M. (1992). The myth of sexual symmetry in marital violence. *Social Problems, 39*(1), 71-91.

Elliott, D. (1994). Serious violent offenders: Onset, development course, and termination. *Criminology, 32*(1), 1-21.

Evans, T., Cullen, F., Burton, V., Dunaway, R., & Benson, M. (1997). The social consequences of self-control: Testing the general theory of crime. *Criminology, 35*(3), 475-504.

Felson, R. (2002). *Violence & gender reexamined*. Washington, DC: American Psychological Association.

Follette, V. (1992). Dating violence, current and historical correlates. *Behavior Assessment, 14*(1), 39-52.

Follingstad, D., Wright, S., Lloyd, S., & Sebastian, J. (1991). Sex differences in motivations and effects in dating violence. *Family Relations, 40*(1), 51-57.

Foo, L., & Margolin, G. (1995). A multivariate investigation of dating aggression. *Journal of Family Violence, 10*(4), 351-377.

Forde, D., & Kennedy, L. (1997). Risky lifestyles, routine activities, and the general theory of crime. *Justice Quarterly, 14*(2), 265-294.

Foshee, V. (1996). Gender differences in adolescent dating abuse prevalence, types and injuries. *Health Education Research, 11*(3), 275-286.

Foshee, V.A., Linder, G.F., Bauman, K.E., Langwick, S.A., Arriaga, X.B., Heath, J.L., & Bangdiwala, S. (1996). The Safe Dates Project: Theoretical basis, evaluation design, and selection baseline findings. *American Journal of Preventive Medicine, 12*(5, Suppl), 39-47.

Frye, N. & Karney, B. (2006). The context of aggressive behavior in marriage: A longitudinal study of newlyweds. *Journal of Family Psychology, 20*(1), 12-20.

Frye, V., Manganello, J., Campbell, J., Walton-Moss, B., & Wilt, S. (2006). The distribution of and factors associated with intimate terrorism and situational couple violence among a population-based sample of urban women in the United States. *Journal of Interpersonal Violence, 21*(10), 1286-1313.

Gibbs, J., & Giever, D. (1995). Self-control and its manifestations among university students: An empirical test of Gottfredson and Hirschi's general theory. *Justice Quarterly, 12*(2), 231-255.

Gibbs, J., Giever, D., & Martin, J. (1998). Parental management and self-control: An empirical test of Gottfredson and Hirschi's general theory. *Journal of Research in Crime and Delinquency, 35*(1), 40-70.

Gibson, C. L. (2005). *A psychometric investigation of a self -control scale: The reliability and validity of Grasmick et al.'s scale for a sample of incarcerated male offenders* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (305355722)

Gibson, C., Ward, J., Wright, J., Beaver, K., & Delisi, M. (2010). Where does gender fit in the measurement of self-control? *Criminal Justice and Behavior, 37*(8), 883-903.

Gibson, C., & Wright, J. (2001). Low self-control and coworker delinquency. *Journal of Criminal Justice, 29*(6), 483-492.

Gottfredson, M.R., & Hirschi, T. (1990). *A general theory of crime.* Stanford, CA: Stanford University Press.

Gover, A.R., Jennings, W.G., Tomsich, E.A., Park, M., Rennison, C.M. (2011). The influence of childhood maltreatment and self-control on dating violence: A comparison of college students in the United States and South Korea. *Violence and Victims*, *26*(3), 296-318.

Gover, A.R., Kaukinen, C., & Fox, K.A. (2008). The relationship between violence in the family of origin and dating violence among college students. *Journal of Interpersonal Violence*, *23*(12), 1667-1693.

Graham-Kevan, N., & Archer, J. (2003). Intimate terrorism and common couple violence: A test of Johnson's predictions in four British samples. *Journal of Interpersonal Violence*, *18*(11), 1247-1270.

Grasmick, H., Tittle, C., Bursik, R., & Arneklev, B. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of Research in Crime and Delinquency*, *30*(1), 5-29.

Hamberger, L. (1997). Female offenders in domestic violence. *Journal of Aggression, Maltreatment & Trauma*, *1*(1), 117-129.

Hamberger, L., & Guse, C. (2002). Men's and women's use of IPV in clinical samples. *Violence Against Women*, *8*(11), 1301-1331.

Hamberger, L., Lohr, J., Bonge, D., & Tolin, D. (1997). An empirical classification of motivations for domestic violence. *Violence Against Women*, *3*(4), 401-423.

Harned, M. (2001). Abused women or abused men? An examination of the context and outcomes of dating violence. *Violence and Victims*, *16*(3), 269-285.

Hattery, A. (2009). *IPV*. Lanham, MD: Rowman & Littlefield Publishers.

Hayslett-Mccall, K., & Bernard, T. (2002). Attachment, masculinity, and self-control: A theory of male crime rates. *Theoretical Criminology*, *6*(1), 5-33.

Henry, B., Moffitt, T., Caspi, A., Langley, J., & Silva, P.A. (1994). On the "remembrance of things past": A longitudinal evaluation of the retrospective method. *Psychological Assessment*, *6*(2), 92-101.

Higgins, G. (2005). Can low self-control help with the understanding of the software piracy problem? *Deviant Behavior*, *26*(1), 1-24.

Higgins, G. (2007). Examining the original Grasmick Scale: A Rasch Model Approach. *Criminal Justice and Behavior*, *34*(2), 157-178.

Higgins, G., & Tewksbury, R. (2006). Sex and self-control theory: The measures and causal model may be different. *Youth & Society*, *37*(4), 479-503.

Hines, D., & Douglas, E. (2010). Intimate terrorism by women towards men: Does it exist? *Journal of Aggression, Conflict and Peace Research*, *2*(3), 36-56.

Hines, D., & Saudino, K. (2003). Gender differences in psychological, physical, and sexual aggression among college students using the Revised Conflict Tactics Scales. *Violence and Victims*, *18*(2), 197-217.

Hirschi, T. (1969). *Causes of delinquency*. New Brunswick, NJ: Transaction Publications.

Hirschi, T., & Gottfredson, M. (1995). Control theory and the life course perspective. *Studies on Crime and Crime Prevention*, *4*(2), 131-142.

Hirschi, T., & Gottfredson, M. (2001). Self-control theory. In R. Paternoster & R. Bachman (Eds.), *Explaining Criminals and Crime*. Los Angeles, CA: Roxbury.

Holtfreter, K., Reisig, M., Piquero, N.L., & Piquero, A. (2010). Low self-control and fraud: Offending, victimization, and their overlap. *Criminal Justice and Behavior*, *37*(2), 188-203.

Hope, T., & Chapple, C. (2005). Maternal characteristics, parenting, and adolescent sexual behavior: The role of self-control. *Deviant Behavior*, *26*(1), 25-45.

Hudson, W.W. (1997). *The WALMYR assessment scales scoring manual*. Tallahassee, FL: WALMYR Publishing Company.

Jain, S., Buka, S., Subramanian, S., & Molnar, B. (2010). Neighborhood predictors of dating violence victimization and perpetration in young adulthood: A multilevel study. *American Journal of Public Health*, *100*(9), 1737-1744.

Jennings, W.G., Park, M., Tomsich, E.A., Gover, A.R., Akers, R.L. (2011). Assessing the overlap in dating violence perpetration and victimization among South Korean college students: The influence of social learning and self-control. *American Journal of Criminal Justice, 36*(2), 188-206.

Jensen, G., & Eve, R. (1976). Sex differences in delinquency: An examination of popular sociological explanations. *Criminology*, *13*(4), 427-448.

Johnson, M. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family*, *57*(2), 283-294.

Johnson, M. (2006). Conflict and control: Gender symmetry and asymmetry in domestic violence. *Violence Against Women*, *12*(11), 1003-1018.

Johnson, M., & Leone, J. (2005). The differential effects of intimate terrorism and situational couple violence: Findings from the national violence against women survey. *Journal of Family Issues*, *26*(3), 322-349.

Jones, C., & Raghavan, C. (2012). Sexual orientation, social support networks, and dating violence in an ethnically diverse group of college students. *Journal of Gay & Lesbian Social Services*, *24*(1), 1-22.

Jones, S., & Miller, J.D. (2012). Psychopathic traits and externalizing behaviors: A comparison of self- and informant reports in the Statistical Prediction of Externalizing Behaviors. *Psychological Assessment, 24*(1), 255-260.

Junger, M., West, R., & Timman, R. (2001). Crime and risky behavior in traffic: An example of cross-situational consistency. *Journal of Research in Crime and Delinquency, 38*(4), 439-459.

Kaukinen, C., Gover, A., & Hartman, J. (2012). College women's experiences of dating violence in casual and exclusive relationships. *American Journal of Criminal Justice, 37*(2), 146-162.

Keane, C., Maxim, P., & Teevan, J. (1993). Drinking and driving, self-control, and gender: Testing a general theory of crime. *Journal of Research in Crime and Delinquency, 30*(1), 30-46.

Kerley, K., Hochstetler, A., & Copes, H. (2009). Self-control, prison victimization, and prison infractions. *Criminal Justice Review*, *34*(4), 553-568.

Kerley, K., Xu, X., & Sirisunyaluck, B. (2008). Self-control, intimate partner abuse, and intimate partner victimization: Testing the general theory of crime in Thailand. *Deviant Behavior, 29*(6), 503-532.

Kernsmith, P. (2005). Exerting power or striking back: A gendered comparison of motivations for domestic violence perpetration. *Violence and Victims, 20*(2), 173-185.

Kline, R. (2004). *Principles and practice of structural equation modeling*. New York: The Guilford Press.

Kornhauser, R. (1978). *Social sources of delinquency: An appraisal of analytic models*. Chicago, Ill: University of Chicago Press.

Koss, M.P., & Oros, C.J. (1982). Sexual Experience Survey: A research instrument investigating sexual aggression and victimization. *Journal of Consulting and Clinical Psychology, 50*(3), 455-457.

Kuijpers, K.F., van der Knaap, L., Winkel, F.W. (2012). Risk of revictimization of intimate partner violence: The role of attachment, anger and violent behavior of the victim. *Journal of Family Violence, 27*(1), 33-44.

Kuijpers, K.F., van der Knaap, L., Winkel, F.W., Pemberton, A., Baldry, A.C. (2011). Borderline traits and symptoms of post-traumatic stress in a sample of female victims of intimate partner violence. *Stress and Health, 27*(3), 206-215.

LaGrange, T., & Silverman, R. (1999). Low self-control and opportunity: Testing the general theory of crime as an explanation for gender differences in delinquency. *Criminology*, *37*(1), 41-72.

Lane, K., & Gwartney-Gibbs, P. (1985). Violence in the context of dating and sex. *Journal of Family Issues*, *6*(1), 45-59.

LaRoche, D. (2005). Aspects of the context and consequences of domestic violence - Situational couple violence and intimate terrorism in Canada in 1999. *Government of Quebec: Institut De La Statistique Du Quebec, Quebec*.

Longshore, D. (1998). Self-control and criminal opportunity: A prospective test of the general theory of crime. *Social Problems*, *45*(1), 102-113.

Longshore, D., Rand, S., & Stein, J. (1996). Self-control in a criminal sample: An examination of construct validity. *Criminology*, *34*(2), 209-228.

Longshore, D., Stein, J., & Turner, S. (1998). Reliability and validity of a self-control measure: Rejoinder. *Criminology*, *36*(1), 175-182.

Longshore, D., & Turner, S. (1998). Self-control and criminal opportunity: Cross-sectional test of the general theory of crime. *Criminal Justice and Behavior*, *25*(1), 81-98.

Longshore, D., Turner, S., & Stein, J. (1996). Self-control in a criminal sample: An examination of construct validity. *Criminology*, *34*(2), 209-228.

Luk, J., Wang, J., & Simons-Morton, B. (2010). Bullying victimization and substance use among U.S. adolescents: Mediation by depression. *Prevention Science, 11*(4), 355-359.

Magdol, L., Moffitt, T., Caspi, A., Newman, D., Fagan, J., & Silva, P. (1997). Gender differences in partner violence in a birth cohort of 21-year-olds: Bridging the gap between clinical and epidemiological approaches. *Journal of Consulting and Clinical Psychology*, *65*(1), 68-78.

Makepeace, J. (1981). Courtship violence among college students. *Family Relations*, *30*(1), 97-102.

Makepeace, J. (1983). Life events stress and courtship violence. *Family Relations, 32*(1), 101-109.

Makepeace, J. (1986). Gender differences in courtship violence victimization. *Family Relations*, *35*(3), 383-388.

Marcus, B. (2003). An empirical examination of the construct validity of two alternative self-control measures. *Educational and Psychological Measurement*, *63*(4), 674-706.

Marcus, B. (2004). Self-control in the general theory of crime: Theoretical implications of a measurement problem. *Theoretical Criminology, 8*(1), 33-55.

Marshall, L., & Rose, P. (1988). Family of origin violence and courtship abuse. *Journal of Counseling & Development, 66*(9), 414-418.

Messinger, A. (2011). Invisible victims: Same-sex IPV in the National Violence Against Women Survey. *Journal of Interpersonal Violence, 26*(11), 2228-2243.

Miller, S., & Burack, C. (1993). A critique of Gottfredson and Hirschi's general theory of crime. *Women & Criminal Justice, 4*(2), 115-134.

Moffitt, T., Caspi, A., Rutter, M., & Silva, P. (2001). *Sex differences in antisocial behavior: Conduct disorder, delinquency, and violence in the Dunedin longitudinal study*. Cambridge, UK: Cambridge University Press.

Moffitt, T.E., Robins, R.W., & Caspi, A. (2001). A couples analysis of partner abuse with implications for abuse-prevention policy. *Criminology and Public Policy, 1*(1), 5-37.

Morse, B. (1995). Beyond the Conflict Tactics Scale: Assessing gender differences in partner violence. *Violence and Victims, 10*(4), 251-272.

Murphy, C.M., & Hoover, S.A. (1999). Measuring emotional abuse in dating relationships as a multifactorial construct. *Violence and Victims, 14*(1), 39-53.

Murphy, C.M., Hoover, S.A., & Taft, C. (1999). *The multidimensional measure of emotional abuse: Factor structure and subscale validity*. Paper presented at the annual meeting of the Association for the Advancement of Behavior Therapy, Toronto, ON.

Murray, C., & Mobley, A. (2009). Empirical research about same-sex IPV: A methodological review. *Journal of Homosexuality, 56*(3), 361-386.

Muthén, B., & Kaplan, D. (1985). A comparison of some methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology, 38*(2), 171-189.

Muthén, L., & Muthén, B. (2007). *Mplus user's guide* (5th ed.). Los Angeles, CA: Muthén & Muthén.

Nagin, D., & Paternoster, R. (1993). Enduring individual differences and rational choice theories of crime. *Law & Society Review, 27*(3), 467-496.

O'Brien, K., Davis, A., Gardner, S., Bayoumi, A., Rueda, S., Hart, T.,…OHTN Cohort Study Team (2012). Relationships between dimensions of disability experienced by adults living with HIV: A structural equation model analysis. *AIDS and Behavior, 18*(2), 357-367.

O'Keefe, M. (1997). Predictors of dating violence among high school students. *Journal of Interpersonal Violence*, *12*(4), 546-568.

O'Keefe, M., & Treister, L. (1998). Victims of dating violence among high school students: Are the predictors different for males and females? *Violence Against Women*, *4*(2), 195-223.

Paternoster, R. & Brame, R. (1997). Multiple routes to delinquency? A test of developmental and general theories of crime. *Criminology, 34*, 49-85.

Payne, B., Higgins, G., & Blackwell, B. (2010). Exploring the link between self-control and partner violence: Bad parenting or general criminals. *Journal of Criminal Justice*, *38*(5), 1015-1021.

Piquero, A., MacDonald, J., Dobrin, A., Daigle, L., & Cullen, F. (2005). Self-control, violent offending, and homicide victimization: Assessing the general theory of crime. *Journal of Quantitative Criminology*, *21*(1), 55-71.

Piquero, A., Macintosh, R., & Hickman, M. (2000). Does self-control affect survey response? Applying exploratory, confirmatory, and item response theory analysis to Grasmick et al.'s self-control scale. *Criminology*, *38*(3), 897-930.

Piquero, A., & Rosay, A. (1998). The reliability and validity of Grasmick et al.'s self-control scale: A comment on Longshore et al. *Criminology, 36*(1), 157-174.

Piquero, A., & Tibbetts, S. (1996). Specifying the direct and indirect effects of low self-control and situational factors in offenders' decision making: Toward a more complete model of rational offending. *Justice Quarterly*, *13*(3), 481-510.

Polakowski, M. (1994). Linking self- and social control with deviance: Illuminating the structure underlying a general theory of crime and its relation to deviant activity. *Journal of Quantitative Criminology*, *10*(1), 41-78.

Pratt, T., & Cullen, F. (2000). The empirical status of Gottfredson and Hirschi's general theory of crime: A meta-analysis. *Criminology, 38*(3), 931-964.

Proitsi, P., Hamilton, G., Tsolaki, M., Lupton, M., Daniilidou, M., Hollingworth, P., & Powell, J.F. (2011). A Multiple Indicators Multiple Causes (MIMIC) model of Behavioural and Psychological Symptoms in Dementia (BPSD). *Neurobiology of Aging*, *32*(3), 434-442.

Rand, D., Stein, J., & Rand, S. (1998). Reliability and validity of a self-control measure: Rejoinder. *Criminology*, *36*(1), 175-182.

Riggs, D., & O'Leary, K. (1989). A theoretical model of courtship aggression. In M. Pirog-Good & J. Stets, *Violence in dating relationships: Emerging social issues* (1st ed., pp. 53-71). New York, NY: Praeger.

Robinson, R. (1993). [Review of the book *Girls, delinquency, and juvenile justice*, by M. Chesney-Lind & R.G. Shelden]. *Affilia, 8*(1), 112-113.

Rosenbaum, J. (1987). Social control, gender, and delinquency: An analysis of drug, property, and violent offenders. *Justice Quarterly, 4*(1), 117-132.

Rowe, D., Vazsonyi, A., & Flannery, D. (1995). Sex differences in crime: Do means and within-sex variation have similar causes? *Journal of Research in Crime and Delinquency*, *32*(1), 84-100.

Sampson, R. (1992). [Review of the book *A general theory of crime*, by M.R. Gottfredson & T. Hirschi]. *Social Forces, 71*(2), 545-546.

Sampson, R., & Laub, J. (1993). *Crime in the making*. Cambridge, MA: Harvard University Press.

Saunders, D. (1990). Wife abuse, husband abuse, or mutual battering? A feminist perspective on the empirical findings. In K. Yllö & M. Bograd (Eds.), *Feminist perspectives on wife abuse* (pp. 90-113). Newbury Park, CA: Sage Publications, Inc.
Saunders, D. (2002). Are physical assaults by wives and girlfriends a major social problem?: A review of the literature. *Violence Against Women*, *8*(12), 1424-1448.

Sellers, C. (1999). Self-control and intimate violence: An examination of the scope and specification of the general theory of crime. *Criminology*, *37*(2), 375-404.

Sellers, C., Cochran, J., & Branch, K. (2005). Social learning theory and partner violence: A research note. *Deviant Behavior*, *26*(4), 379-395.

Shepard, M.D., & Campbell, J.A. (1992). The Abusive Behavior Inventory: A measure of psychological and physical abuse. *Journal of Interpersonal Violence, 7*(3), 291-305.

Smith, D. (1979). Sex and deviance: An assessment of major sociological variables. *Sociological Quarterly*, *20*(2), 183-195.

Smith, D., & Paternoster, R. (1987). The gender gap in theories of deviance: Issues and evidence. *Journal of Research in Crime and Delinquency*, *24*(2), 140-172.

Smith, D., & Visher, C. (1980). Sex and involvement in deviance/crime: A quantitative review of the empirical literature. *American Sociological Review*, *45*(4), 691-701.

Steffensmeier, D., & Allan, E. (1991). Gender, age, and crime. In J.F. Sheley (Ed.), *Criminology: A Contemporary Handbook* (pp. 67-93). Belmont, CA: Wadsworth.

Steffensmeier, D., & Allan, E. (1996). Gender and crime: Toward a gendered theory of female offending. *Annual Review of Sociology, 22*(1), 459-487.

Steffensmeier, D., Allan, E., & Streifel, C. (1989). Development and female crime: A cross-national test of alternative explanations. *Social Forces*, *68*(1), 262-283.

Steinmetz, S. (1977). The battered husband syndrome. *Victimology*, *2*(3-4), 499-509.

Stets, J., & Pirog-Good, M. (1987). Violence in dating relationships. *Social Psychology Quarterly*, *50*(3), 237-246.

Stets, J., & Straus, M. (1989). The marriage license as a hitting license: A comparison of assaults in dating, cohabiting, and married couples. *Journal of Family Violence*, *4*(2), 161-180.

Straus, M. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family*, *41*(1), 75-88.

Straus, M. (1993). Physical assaults by wives: A major social problem. In R. Gelles & D. Loseke (Eds.), *Current controversies on family violence* (pp. 67-87). Newbury Park, CA: Sage.

Straus, M. (1999). The controversy of domestic violence by women: A methodological, theoretical, and sociology of science analysis. In X. Arriaga & S. Oskamp, *Violence in intimate relationships* (pp. 17-44). Thousand Oaks, CA: Sage.

Straus, M. (2004). Prevalence of violence against dating partners by male and female university students worldwide. *Violence Against Women*, *10*(7), 790-811.

Straus, M., & Gelles, R. (1986). Societal change and change in family violence from 1975 to 1985 as revealed by two national surveys. *Journal of Marriage and the Family*, *48*(3), 465-479.

Straus, M., Gelles, R., & Steinmetz, S. (1980). *Behind closed doors*. Garden City, NY: Anchor Press/Doubleday.

Straus, M., Hamby, S., Boney-Mccoy, S., & Sugarman, D. (1996). The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*, *17*(3), 283-316.

Sugarman, D., & Hotaling, G. (1989). Dating violence: Prevalence, context, and risk markers. In M. Pirog-Good & J. Stets (Eds.), *Violence in dating relationships: Emerging social issues* (pp. 3-32). New York, NY: Praeger.

Sutherland, E. & Cressey, D. (1992). *Principles of criminology* (11th ed.). Dix Hills, NY: General Hall.

Sweeten, G. (2012). Scaling criminal offending. *Journal of Quantitative Criminology*, *28*(3), 533-557.

Tibbetts, S.G., & Myers, D.L. (1999) Low self-control, rational choice, and student test cheating. *American Journal of Criminal Justice, 23*, 179-200.

Tittle, C., Ward, D., & Grasmick, H. (2003). Gender, age, and crime/deviance: A challenge of self-control theory. *Journal of Research in Crime and Delinquency*, *40*(4), 426-453.

Tjaden, P., & Thoennes, N. (2000). Prevalence and consequences of male-to-female and female-to-male IPV as measured by the National Violence Against Women Survey. *Violence Against Women*, *6*(2), 142-161.

Trenz, R., Harrell, P., Scherer, M., Mancha, B., & Latimer, W. (2012). A model of school problems, academic failure, alcohol initiation, and the relationship to adult heroin injection. *Substance Use & Misuse*, *47*(10), 1159-1171.

Tucker, L., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*(1), 1-10.

Turner, M., & Piquero, A. (2002). The stability of self-control. *Journal of Criminal Justice*, *30*(6), 457-471.

Vazsonyi, A., & Crosswhite, J. (2004). A test of Gottfredson and Hirschi's general theory of crime in African American adolescents. *Journal of Research in Crime and Delinquency*, *41*(4), 407-432.

Vazsonyi, A., Pickering, L., Junger, M., & Hessing, D. (2001). An empirical test of a general theory of crime: A four-nation comparative study of self-control and the prediction of deviance. *Journal of Research in Crime and Delinquency*, *38*(2), 91-131.

Vivian, D., & Langhinrichsen-Rohling, J. (1994). Are bi-directionally violent couples mutually victimized? A gender-sensitive comparison. *Violence and Victims*, *9*(2), 107-124.

Walters, G.D. (2016). Are behavioral measures of self-control and the Grasmick self-control scale measure the same construct? A meta-analysis. *American Journal of Criminal Justice, 41*(2), 151-167.

Walters, M.L., Chen J., & Breiding, M.J. (2013). The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 findings on victimization by sexual orientation. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Weiner, M., Pentz, M., Skara, S., Li, C., Chou, C., & Dwyer, J. (2003). Relationship of substance use and associated predictors of violence in early, middle, and late adolescence. *Journal of Child & Adolescent Substance Abuse*, *13*(2), 61-81.

Windle, M., & Mrug, S. (2008). Cross-gender violence perpetration and victimization among early adolescents and associations with attitudes toward dating conflict. *Journal of Youth and Adolescence*, *38*(3), 429-439.

Winfree, L.T., & Bernat, F.P. (1998). Social learning, self-control, and substance abuse by eighth grade students: A tale of two cities. *Journal of Drug Issues, 28*, 539-558.

Winfree, L., Taylor, T., He, N., & Esbensen, F. (2006). Self-control and variability over time: Multivariate results using a 5-year, multisite panel of youths. *Crime & Delinquency, 52*(2), 253-286.

Wood, P., Pfefferbaum, B., & Arneklev, B. (1993). Risk-taking and self-control: Social psychological correlates of delinquency. *Journal of Crime and Justice*, *16*(1), 111-130.

Wright, B., Caspi, A., Moffitt, T., & Silva, P. (1999). Low self-control, social bonds, and crime: Social causation, social selection, or both? *Criminology, 37*(3), 479-514.

Zavala, E. (2016). A multi-theoretical framework to explain same-sex IPV perpetration and victimization: A test of social learning, strain, and self-control. *Journal of Crime and Justice*, 1-19. doi: 10.1080/0735648X.2016.1165135

Zweig, J., Barber, B., & Eccles, J. (1997). Sexual coercion and well-being in young adulthood: Comparisons by gender and college status. *Journal of Interpersonal Violence, 12*(2), 291-308.

APPENDICES

Appendix A: Descriptives

Descriptives of self-control items and binary outcome offending indicators.

Variables	N	Min	Max	Mean	Std. Deviation
Risk taking					
Risk	848	1.00	4.00	1.9917	1.13282
Trouble	921	1.00	4.00	2.6037	1.13843
Test	897	1.00	4.00	2.1616	1.17144
Excite	927	1.00	4.00	2.3398	.99673
Impulsivity					
Spur	902	1.00	4.00	2.5344	1.07975
Devote	950	1.00	4.00	2.9632	1.0691
Pleasure	943	1.00	4.00	2.4072	1.05759
Shortrun	952	1.00	4.00	2.5263	1.05742
Simple tasks					
Avoid	943	1.00	4.00	2.6988	1.01186
Quit	953	1.00	4.00	2.6055	1.01027
Easy	938	1.00	4.00	2.8230	.90688
Tasks	953	1.00	4.00	2.3757	.97851
Physical Activities					
Physical	914	1.00	4.00	2.6805	1.02366
Move	831	1.00	4.00	1.9856	1.05043
Do things	836	1.00	4.00	1.8589	1.04242
Energy	895	1.00	4.00	2.3300	1.00934
Self-centered					
Myself	946	1.00	4.00	2.1882	.94085
Sympathy	945	1.00	4.00	2.9587	1.06832
Upset	951	1.00	4.00	2.6751	1.08705
Want	957	1.00	4.00	2.6510	1.05964
Temper					
Angry	943	1.00	4.00	2.8378	1.12687
Temper	929	1.00	4.00	2.4381	1.14691
Stay away	921	1.00	4.00	2.4408	1.13206
Talk calm	901	1.00	4.00	2.4817	1.15034
Dichotomized outcome indicators					
Threw things	960	.00	1.00	.1042	.30564
Push	960	.00	1.00	.2031	.40253
Slap	960	.00	1.00	.0750	.26353
Kick	960	.00	1.00	.0052	.22851
Hit	960	.00	1.00	.0542	.22646
Beat	960	.00	1.00	.0031	.00584
Threatened with gun	960	.00	1.00	.0042	.06445
Gun	960	.00	1.00	.0010	.03227
Valid N (list-wise)	560				

Appendix B: Frequencies Of IPV Offending By Gender

Crosstabs of current offending and gender – Part A

Outcome	Gender	Variety scale categories/Number of crime types					
		None	One	Two	Three	Four or more	Total
Current offending	Female	437	80	44	26	34	621
	Male	283	40	10	4	2	339
	Total	720	120	54	30	36	960

Crosstabs of current offending and gender – Part B

IPV indicators	Gender	Frequencies of offending categories							
		None	One	Twice	3-5 times	6-10 times	11-20 times	21+ times	Total
Threw things (IPV)	Female	534	42	18	21	5	1	0	621
	Male	326	7	1	3	0	0	2	339
	Total	860	49	19	24	5	1	2	960
Push (IPV)	Female	476	70	29	30	11	4	1	621
	Male	289	29	14	4	1	1	1	339
	Total	765	99	43	34	12	5	2	960
Slap (IPV)	Female	554	37	18	9	2	0	1	621
	Male	334	3	1	0	0	1	0	339
	Total	888	40	19	9	2	1	1	960
Kick (IPV)	Female	574	20	9	10	7	1	0	621

IPV indicators	Gender	Frequencies of offending categories							
		None	One	Twice	3-5 times	6-10 times	11-20 times	21+ times	Total
	Male	333	1	4	0	0	1	0	339
	Total	907	21	13	10	7	2	0	960
	Female	576	18	6	12	6	2	1	621
Hit (IPV)	Male	332	3	2	1	1	0	0	339
	Total	908	21	8	13	7	2	1	960
	Female	620	0	1	0	0	0	0	621
Beat (IPV)	Male	337	1	1	0	0	0	0	339
	Total	957	1	2	0	0	0	0	960
	Female	618	2	1	0	0	0	0	621
Threatened with gun (IPV)	Male	338	1	0	0	0	0	0	339
	Total	956	3	1	0	0	0	0	960
	Female	620	1	0	0	0	0	0	621
Gun (IPV)	Male	339	0	0	0	0	0	0	339
	Total	959	1	0	0	0	0	0	960

Appendix C: Correlations

Correlations of relevant indicators - Part A

	Current offending	Threw things (IPV)	Push (IPV)	Slap (IPV)	Kick (IPV)	Hit (IPV)	Beat (IPV)	Threatened with gun (IPV)	Gun (IPV)
Current offending									
Threw things (IPV)	.726**								
Push (IPV)	.812**	.608**							
Slap (IPV)	.605**	.458**	.512**						
Kick (IPV)	.623**	.543**	.560**	.500**					
Hit (IPV)	.629**	.554**	.584**	.519**	.657**				
Beat (IPV)	.179**	.229**	.129**	.229**	.178**	.273**			
Threatened with gun (IPV)	.215**	.225**	.199**	.283**	.288**	.270**	-.003		
Gun (IPV)	.114**	.082*	.056	-.008	-.007	-.007	-.002	.377**	
Gender	-.181**	-.121**	-.112**	-.138**	-.102**	-.102**	.028	-.020	-.024
Race	.045	.046	.072*	.001	.053	.017	-.013	.078*	.056
Retaliation	.147**	.116**	.130**	.028	.081*	.082*	.010	-.024	-.013
Opportunity	.121**	.116**	.097**	.026	.013	.049	.029	.007	-.013
Cohabitation	.109**	.113**	.070*	.019	-.008	.049	.047	-.005	-.018
See Partner	.098**	.077*	.098**	.025	.038	.038	-.013	.020	-.002
Prior Offending (ln)	.406**	.327**	.384**	.268**	.280**	.326**	.110**	.116**	-.019
Threw things (PIPV)	.363**	.413**	.291**	.291**	.272**	.331**	.120**	.137**	-.010
Push (PIPV)	.330**	.256**	.382**	.226**	.210**	.266**	.093**	.094**	-.014
Slap (PIPV)	.275**	.239**	.240**	.283**	.191**	.254**	.102**	.065*	-.011
Kick (PIPV)	.249**	.247**	.226**	.203**	.301**	.330**	.079*	.160**	-.009
Hit (PIPV)	.270**	.232**	.232**	.156**	.268**	.376**	.094**	.089**	-.008
Beat (PIPV)	.051	.118**	.052	.034	.007	.104**	.119**	-.006	-.003
Threatened with gun (PIPV)	.047	.082*	.059	.054	.115**	.107**	-.005	.153**	-.003
Gun (PIPV)	-.018	-.011	-.016	-.009	-.008	-.008	-.002	-.002	-.001
Prior Victimization (ln)	.182**	.150**	.184**	.112**	.137**	.174**	.042	.056	-.020
Threw things (PVIC)	.081*	.104**	.083**	.035	.033	.111**	.028	-.003	-.011

	Current offending	Threw things (IPV)	Push (IPV)	Slap (IPV)	Kick (IPV)	Hit (IPV)	Beat (IPV)	Threatened with gun (IPV)	Gun (IPV)
Push (PVIC)	.202**	.172**	.238**	.124**	.158**	.199**	.018	-.005	-.016
Slap (PVIC)	.032	.037	.041	.012	.024	.077*	.009	.026	-.011
Kick (PVIC)	.070*	.081*	.080*	.004	.066*	.111**	.046	-.017	-.009
Hit (PVIC)	.083*	.083*	.081*	.053	.067*	.110**	.027	.047	-.010
Beat (PVIC)	.042	.058	.029	.017	.031	.093*	-.009	.121**	-.006
Threatened with gun (PVIC)	.054	.040	.038	.037	.050	.080*	.027	.154**	-.006
Gun (PVIC)	.062	.049	.018	.065*	.063	.058	-.005	.208**	-.003
Self-Control (t-scores)	-.152**	-.137**	-.125**	-.095*	-.059	-.097*	a	-.009	-.028
Self-control (unstandardized)	-.111*	-.107*	-.096*	-.065	-.034	-.075	a	.000	-.022
Risk taking	-.075	-.055	-.078*	-.079*	-.054	-.031	.009	.040	.068
Risk	-.037	-.020	-.040	-.069*	-.051	-.037	-.013	.000	.061
Trouble	-.065	-.037	-.083*	-.070*	-.025	-.009	.028	.055	.040
Test	-.071*	-.048	-.072*	-.059	-.042	-.039	.032	.013	.052
Excite	.007	-.016	-.007	.003	.004	.036	-.015	.036	.055
Impulsivity	-.072*	-.093**	-.066*	-.026	-.056	-.022	-.028	-.008	.005
Spur	-.081*	-.088**	-.073*	-.046	-.058	-.005	-.036	-.043	.014
Devote	-.037	-.051	-.053	-.020	-.050	-.005	.031	-.009	.031
Pleasure	-.046	-.066*	-.056	.001	-.023	-.035	-.058	.023	-.013
Shortrun	-.059	-.042	-.062	-.001	-.056	-.032	.004	.016	-.016
Simple tasks	-.117**	-.088**	-.098**	-.062	-.096**	-.068*	-.080*	.006	-.006
Avoid	-.104**	-.089**	1.00**	-.049	-.087**	-.052	-.073*	.031	.010
Quit	-.088**	-.068*	-.080*	.006	-.063	-.055	-.040	-.012	-.019
Easy	-.063	-.030	-.009	-.046	-.073*	-.048	-.056	-.002	.006
Tasks	-.101**	-.076*	-.104*	-.096**	-.067*	-.052	-.061	.002	-.012
Physical Activities	.019	-.025	.015	-.026	.037	.055	.051	-.018	-.041
Physical	.021	-.020	-.017	.024	.005	.022	-.044	.020	-.054
Move	-.032	.-.024	-.012	-.042	.003	.001	.034	.013	.034
Do things	.001	-.037	-.010	-.053	.015	.034	.038	-.054	-.029
Energy	.075*	.065	.073*	.022	.058	.089**	-.015	-.008	-.044
Self-centered	-.031	-.026	-.038	.012	.031	-.010	-.025	.017	-.025
Myself	-.046	-.045	-.051	-.048	.014	.011	.022	.001	-.007
Sympathy	-.022	-.019	-.030	.027	.026	-.014	-.039	.014	-.029

	Current offending	Threw things (IPV)	Push (IPV)	Slap (IPV)	Kick (IPV)	Hit (IPV)	Beat (IPV)	Threatened with gun (IPV)	Gun (IPV)
Upset	-.011	.004	-.010	.020	.032	.006	.000	.018	-.020
Want	-.035	-.026	-.036	.028	.006	-.005	-.054	.020	-.020
Temper	-.198**	-.166**	-.161**	-.111**	-.109**	-.111**	a	-.018	-.063
Angry	-.143**	-.153**	-.128**	-.030	-.097**	-.094**	-.055	-.013	-.053
Temper	-.185**	-.123**	-.152**	-.124**	-.081*	-.085**	-.002	.020	-.041
Stay away	-.156**	-.122**	-.142**	-.092**	-.095**	-.091**	-.043	-.035	-.042
Talk calm	-.182**	-.157**	-.137**	-.132**	-.074*	-.101**	-.032	-.015	-.043

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators - Part B

	Gender	Race	Retaliation	Opportunity	Cohabitation	See Partner	Prior Offending (ln)	Threw things (PIPV)	Push (PIPV)
Race	-.010								
Retaliation	-.080*	.009							
Opportunity	.012	-.129**	.022						
Cohabitation	-.013	-.094**	.051	.873**					
See Partner	.060	-.111**	-.008	.772**	.387**				
Prior Offending (ln)	-.211**	-.004	.467**	.031	.050	.014			
Threw things (PIPV)	-.149**	.033	.259	.023	.042	.000	.713**		
Push (PIPV)	-.136**	-.011	.301**	.069*	.064*	.047	.818**	.558**	
Slap (PIPV)	-.166**	-.049	.328**	-.016	-.007	-.011	.727**	.518**	.632**
Kick (PIPV)	-.110**	.000	.317**	-.021	.002	-.015	.688**	.605**	.559**
Hit (PIPV)	-.086**	-.007	.275**	-.002	.020	-.003	.654**	.568**	.506**
Beat (PIPV)	-.018	-.019	.085**	.031	.041	.032	.311**	.273**	.266**
Threatened with gun (PIPV)	-.057	.073*	.069*	-.004	.067*	-.042	.252**	.350**	.085**
Gun (PIPV)	-.027	.052	.001	-.018	.067*	-.056	.149**	.252**	.000
Prior Victimization (ln)	-.071*	-.050	.523**	.060	.091**	.015	.539**	.344**	.415**
Threw things (PVIC)	-.021	-.038	.379**	.080*	.091**	.043	.353**	.260**	.296**
Push (PVIC)	-.116**	-.028	.357**	.022	.045	.006	.468**	.290**	.396**

	Gender	Race	Retaliation	Opportunity	Cohabitation	See Partner	Prior Offending (ln)	Threw things (PIPV)	Push (PIPV)
Slap (PVIC)	.035	-.026	.396**	.018	.048	-.009	.353**	.254**	.283**
Kick (PVIC)	-.015	-.027	.357	.046	.045	.036	.334**	.225**	.316**
Hit (PVIC)	-.035	-.024	.349**	.038	.072*	-.001	.358**	.279**	.286**
Beat (PVIC)	-.094**	-.057	.210**	.043	.058	.006	.309**	.208**	.249**
Threatened with gun (PVIC)	-.024	-.050	.258**	.085**	.113**	.035	.191**	.093**	.095**
Gun (PVIC)	.011	-.048	.151**	.039	.049	.012	.169**	.090**	.072*
Self-Control (t-scores)	-.365**	-.054	-.036	.019	.037	-.028	-.081	-.113**	-.042
Self-control (unstandardized)	-.192**	-.053	-.010	.012	.039	-.045	-.040	-.080	-.013
Risk taking	-.149**	.092**	-.032	.050	.075*	.012	-.117**	-.079*	-.125**
Risk	-.110**	.127**	.003	.049	.063	.032	-.075*	-.032	-.096**
Trouble	-.124**	.052	-.056	.050	.083*	.000	-.136**	-.094**	-.128**
Test	-.095**	.069*	-.024	.061	.058	.036	-.086**	-.065	-.097**
Excite	-.255**	.056	.007	.009	.048	-.029	-.031	-.020	-.055
Impulsivity	-.174**	-.012	-.012	.031	.037	.028	-.065	-.078*	-.037
Spur	-.024	.021	-.035	.032	.031	.021	-.137**	-.109**	-.101**
Devote	-.204**	-.012	-.009	.044	.059	.024	-.011	-.049	-.017
Pleasure	-.126**	.039	-.016	-.014	.000	-.007	-.024	-.036	-.002
Shortrun	-.141**	-.041	.007	.035	.039	.018	-.029	-.024	-.019
Simple tasks	.055	.005	.016	-.018	.007	-.045	-.049	-.063	-.045
Avoid	.084**	.007	-.015	-.025	-.005	-.044	-.064*	-.044	-.042
Quit	-.008	.022	.014	-.023	-.002	-.047	-.020	-.065*	-.025
Easy	.022	-.008	.015	.010	.013	.014	-.034	-.047	-.051
Tasks	.058	-.004	.012	-.007	.012	-.031	-.037	-.023	-.047
Physical Activities	-.126**	-.045	.031	.108**	.104**	.032	.013	.008	.001
Physical	-.122**	-.033	.003	.103**	.079*	.068*	-.007	-.005	-.030
Move	.017	-.018	-.004	.052	.056	.005	-.051	-.012	-.046
Do things	-.106**	-.021	.019	.093**	.105**	.019	.001	.006	-.010
Energy	-.188**	-.057	.048	.074*	.076*	.027	.044	.037	.005
Self-centered	-.229**	-.048	.006	-.011	.021	-.044	-.010	-.050	.002
Myself	-.076*	-.039	.019	.025	.060	-.018	-.081*	-.070*	-.055
Sympathy	-.224**	-.017	.030	-.044	-.012	-.069*	.035	-.013	.017
Upset	-.200**	-.059	.002	-.020	-.019	-.017	.011	-.032	.035

	Gender	Race	Retaliation	Opportunity	Cohabitation	See Partner	Prior Offending (ln)	Threw things (PIPV)	Push (PIPV)
Want	-.211**	-.037	-.020	.003	.036	-.037	.008	-.025	.026
Temper	-.015	-.037	-.005	-.005	.012	-.033	-.069	-.097	-.054
Angry	-.151**	-.011	-.019	-.030	-.002	-.051	-.079*	-.114**	-.060
Temper	.006	-.022	-.006	-.016	-.006	-.027	-.068*	-.067*	-.052
Stay away	-.029	-.092**	-.005	.025	.041	-.017	-.075*	-.095**	-.049
Talk calm	.137**	-.021	-.064	-.023	-.025	-.023	-.099**	-.112**	-.077*

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators - Part C

	Slap (PIPV)	Kick (PIPV)	Hit (PIPV)	Beat (PIPV)	Threatened with gun (PIPV)	Gun (PIPV)	Prior Victimization (ln)	Threw things (PVIC)	Push (PVIC)
Slap (PIPV)									
Kick (PIPV)	.684**								
Hit (PIPV)	.628**	.795**							
Beat (PIPV)	.379**	.512**	.468**						
Threatened with gun (PIPV)	.063*	.372**	.297**	.279**					
Gun (PIPV)	.010	.290**	.286**	.271**	.844**				
Prior Victimization (ln)	.388**	.432**	.416**	.264**	.173**	.120**			
Threw things (PVIC)	.342**	.372**	.335**	.413**	.059	.010	.745**		
Push (PVIC)	.377**	.402**	.398**	.341**	.223**	.193**	.836**	.672**	
Slap (PVIC)	.340**	.412**	.393**	.457**	.256**	.251**	.750**	.725**	.693**
Kick (PVIC)	.314**	.372**	.335**	.429**	.058	.012	.690**	.817**	.661**
Hit (PVIC)	.318**	.439**	.406**	.460**	.267**	.265**	.730**	.795**	.720**
Beat (PVIC)	.307**	.432**	.377**	.620**	.225**	.153**	.472**	.478**	.439**
Threatened with gun (PVIC)	.049	.223**	.142**	.156**	.181**	.012	.398**	.364**	.236**
Gun (PVIC)	.058	.264**	.152**	.201**	.196**	.015	.248**	.291**	.168**
Self-Control (t-scores)	-.002	-.019	-.009	.020	-.015	a	-.055	.013	-.045
Self-control (unstandardized)	.034	.005	.007	.027	-.037	a	-.034	.022	-.023
Risk taking	-.091**	-.024	-.057	.089*	.052	.068	-.072*	-.007	-.045

	Slap (PIPV)	Kick (PIPV)	Hit (PIPV)	Beat (PIPV)	Threatened with gun (PIPV)	Gun (PIPV)	Prior Victimization (ln)	Threw things (PVIC)	Push (PVIC)
Risk	-.051	.021	-.014	.112**	.044	.061	-.047	.033	-.039
Trouble	-.096**	-.034	-.051	.064	.031	.032	-.105	-.059	-.085*
Test	-.075*	-.044	-.059	.059	.029	.052	-.067*	-.044	-.040
Excite	-.004	.012	-.016	.035	.042	.052	-.044	.007	-.007
Impulsivity	-.036	-.021	-.024	.046	.011	a	-.008	.056	.026
Spur	-.068*	-.070*	-.034	.031	-.047	-.047	-.083*	.029	-.045
Devote	-.027	-.031	-.025	-.011	.012	.026	.038	.039	.038
Pleasure	-.023	.035	-.006	.050	.042	.057	-.025	.019	.006
Shortrun	-.010	-.002	-.032	.036	.017	-.016	.011	.042	.022
Simple tasks	-.038	-.029	-.031	-.023	-.028	.051	.021	.035	-.004
Avoid	-.043	-.045	-.017	-.051	-.031	.042	.015	.013	-.002
Quit	.007	-.007	-.024	-.005	-.018	-.012	.016	.033	.011
Easy	-.068*	-.034	-.044	.006	.018	.043	.025	.015	-.006
Tasks	-.031	.002	-.013	.020	.039	.062	.030	.080*	.012
Physical Activities	.052	.054	.069	.039	.020	a	.000	.027	-.026
Physical	-.004	.010	-.036	.033	-.012	-.052	.002	.031	-.013
Move	-.021	-.033	-.022	.001	.029	.034	-.043	-.014	-.054
Do things	.046	.032	.045	.039	.007	a	.013	.036	-.003
Energy	.062	.044	.065	.033	.025	.015	.039	.041	.022
Self-centered	.054	-.021	-.051	.002	-.056	-.042	-.011	.024	-.009
Myself	-.059	-.054	-.074*	-.023	-.042	-.042	-.007	.005	-.028
Sympathy	.073*	.012	-.010	.006	-.030	-.024	.025	.035	.022
Upset	.097**	.016	-.002	.010	-.069*	-.043	-.012	.016	.010
Want	.059	-.017	-.039	.015	-.043	-.023	-.018	.011	-.018
Temper	-.046	-.028	-.049	.048	-.050	-.003	-.037	.018	-.045
Angry	-.042	-.059	-.078*	-.010	-.052	.034	-.028	.007	-.023
Temper	-.073*	-.005	-.013	.052	.010	.045	-.020	.042	-.044
Stay away	-.036	-.041	-.074*	.056	-.043	-.042	-.036	.011	-.033
Talk calm	-.071*	-.035	-.030	.041	-.047	-.043	-.059	.002	-.051

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators - Part D

	Slap (PVIC)	Kick (PVIC)	Hit (PVIC)	Beat (PVIC)	Threatened with gun (PVIC)	Gun (PVIC)	Self-Control (t-scores)	Self-Control (unstandardized)	Risk taking
Slap (PVIC)									
Kick (PVIC)	.751								
Hit (PVIC)	.780**	.809**							
Beat (PVIC)	.587**	.507**	.527**						
Threatened with gun (PVIC)	.313**	.341**	.352**	.437**					
Gun (PVIC)	.250**	.268**	.302**	.476**	.819**				
Self-Control (t-scores)	-.014	.025	.013	.029	.062	-.007			
Self-control (unstandardized)	-.008	.034	.022	.046	.076	-.005	.981**		
Risk taking	-.029	-.004	.015	.035	.037	.032	.595**	.611**	
Risk	.016	.037	.066	.057	.025	.022	.446**	.454**	.797**
Trouble	-.079*	-.057	-.038	.021	.023	.013	.472**	.481**	.781**
Test	-.031	-.032	-.011	-.008	.003	.003	.452**	.455**	.802**
Excite	-.058	-.020	.007	.024	-.001	-.028	.468**	.501**	.693**
Impulsivity	.009	.073*	.056	.079*	.088**	.061	.727**	.745**	.441**
Spur	-.017	.019	-.009	.018	.051	.007	.437**	.436**	.390**
Devote	.017	.060	.048	.069*	.083*	.052	.527**	.559**	.289**
Pleasure	.000	.063	.060	.052	.057	.063	.572**	.576**	.346**
Shortrun	.025	.054	.048	.085**	.051	.063	.576**	.595**	.283**
Simple tasks	.046	.039	.038	.019	.097**	.087**	.575**	.554**	.142**
Avoid	.028	.014	.025	-.026	.013	-.014	.421**	.390**	.098**
Quit	.025	.031	.015	.028	.077*	.085**	.467**	.462**	.118**
Easy	.042	.032	.041	.041	.069*	.064*	.350**	.336**	.113**
Tasks	.063	.078*	.080*	.034	.110**	.110**	.446**	.433**	.093**
Physical Activities	-.012	.034	.021	.025	.027	-.002	.475**	.494**	.202**
Physical	.007	.033	.028	.052	.032	.031	.397**	.410**	.123**
Move	-.025	-.015	-.009	-.024	-.005	-.003	.326**	.318**	.128**
Do things	-.004	.013	.028	.024	.023	-.018	.387**	.397**	.158**
Energy	.022	.080*	.049	.022	.038	-.006	.200**	.237**	.169**
Self-centered	-.015	.001	.012	.032	.005	-.013	.641**	.679**	.237**
Myself	-.008	.002	.007	.007	.030	.000	.481**	.490**	.188**

	Slap (PVIC)	Kick (PVIC)	Hit (PVIC)	Beat (PVIC)	Threatened with gun (PVIC)	Gun (PVIC)	Self-Control (t-scores)	Self-Control (unstandardized)	Risk taking
Sympathy	.003	.005	.013	.013	.010	-.013	.500**	.543**	.180**
Upset	-.026	.011	.006	.012	-.023	-.028	.477**	.510**	.125**
Want	-.016	-.022	.007	.019	-.046	-.054	.544**	.573**	.230**
Temper	.024	.030	.024	.014	.086*	.045	.646**	.644**	.235**
Angry	-.012	-.010	.029	.027	.030	-.012	.555**	.583**	.249**
Temper	.015	.034	.027	.029	.116**	.080*	.500**	.496**	.169**
Stay away	.000	.012	-.007	-.002	.056	.035	.505**	.504**	.203**
Talk calm	.039	.035	.010	.006	.050	.032	.429**	.402**	.098**

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators - Part E

	Risk	Trouble	Test	Excite	Impulsivity	Spur	Devote	Pleasure	Shortrun
Risk									
Trouble	.503**								
Test	.523**	.529**							
Excite	.416**	.387**	.403**						
Impulsivity	.321**	.301**	.309**	.426**					
Spur	.338**	.296**	.228**	.338**	.627**				
Devote	.176**	.191**	.177**	.310**	.728**	.258**			
Pleasure	.232**	.215**	.281**	.327**	.770**	.296**	.390**		
Shortrun	.192**	.185**	.231**	.288**	.781**	.260**	.451**	.544**	
Simple tasks	.075*	.092**	.100**	.094**	.379**	.102**	.300**	.329**	.359**
Avoid	.070*	.077*	.081*	.086**	.268**	.076*	.214**	.241**	.260**
Quit	.051	.046	.069*	.090**	.361**	.121**	.286**	.281**	.343**
Easy	.062	.072*	.117**	.069*	.210**	.042	.140**	.192**	.214**
Tasks	.038	.081*	.037	.056	.287**	.056	.224**	.261**	.265**
Physical Activities	.196**	.105**	.151**	.170**	.306**	.197**	.220**	.219**	.234**
Physical	.124**	.102**	.085*	.120**	.073**	.098**	.204**	.243**	.219**

	Risk	Trouble	Test	Excite	Impulsivity	Spur	Devote	Pleasure	Shortrun
Move	.097**	.054	.130**	.119**	.220**	.148**	.145**	157**	.177**
Do things	.169**	.093**	.118**	.118**	.209**	.172**	.117**	.124**	.158**
Energy	.148**	.099**	.120**	.158**	.160**	.122**	.120**	.111**	.129**
Self-centered	.143**	.166**	.136**	.276**	.358**	.161**	.252**	.281**	.269**
Myself	.117**	.161**	.114**	.201**	.301**	.150**	.170**	.237**	.246**
Sympathy	.110**	.080*	.076*	.236**	.270**	.130**	.229**	.192**	.161**
Upset	.075*	.085*	.060	.174**	.248**	.080*	.176**	.195**	.200**
Want	.122**	.199**	.150**	.258**	.295**	.159**	.199**	.251**	.223**
Temper	.112**	.191**	.166**	.201**	.319**	.206**	.219**	.251**	.229**
Angry	.115**	.189**	.174**	.258**	.324**	.187**	.237**	.253**	.208**
Temper	.072*	.121**	.128**	.146**	.243**	.172**	.172**	.211**	.161**
Stay away	.089*	.173**	.127**	.152**	.233**	.150*	.186**	.143**	.175**
Talk calm	.043	.111	.072	.038	.185	.158**	.060	.162**	.136**

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators – Part F

	Simple tasks	Avoid	Quit	Easy	Tasks	Physical Activity	Physical	Move	Do things
Simple tasks									
Avoid	.748**								
Quit	.768**	.434**							
Easy	.656**	.312**	.292**						
Tasks	.791**	.447**	.502**	.396**					
Physical Activities	.170**	.108**	.131**	.084*	.142**				

	Simple tasks	Avoid	Quit	Easy	Tasks	Physical Activity	Physical	Move	Do things
Physical	.217**	.154**	.145**	.124**	.180**	.658**			
Move	.163**	.124**	.111**	.094**	.134**	.729**	.301**		
Do things	.156**	.109**	.077*	.129**	.133**	.757**	.328**	.453*	
Energy	-.021	.009	-.006	.008	-.060	.614**	.222**	.238**	.282**
Self-centered	.246**	.147**	.226**	.164**	.211**	.183**	.177**	.070*	.128**
Myself	.216**	.148**	.172**	.134**	.190**	.157**	.125**	.084*	.122**
Sympathy	.196**	.136**	.193**	.082*	.170**	.157**	.138**	.059	.091**
Upset	.166**	.091**	.163**	.117**	.131**	.141**	.115**	.065	.094**
Want	.188**	.097**	.180**	.162**	.153**	.116**	.148**	.008	.102**
Temper	.270**	.166**	.226**	.183**	.217**	.087*	.112**	.053	.090*
Angry	.194**	.120**	.207**	.093**	.173**	.128**	.144**	.024	.110**
Temper	.228**	.172**	.159**	.147**	.197**	.050	.054	.052	.054
Stay away	.184**	.092**	.212**	.087**	.138**	.035	.069*	.048	.037
Talk calm	.221**	.147**	.118**	.223**	.151**	.046	.067*	.058	.043

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators - Part G

	Energy	Self-centered	Myself	Sympathy	Upset	Want	Temper	Angry	Temper
Energy									
Self-centered	.112**								
Myself	.087*	.688**							
Sympathy	.077*	.794**	.376**						
Upset	.100**	.819**	.373**	.578**					
Want	.092**	.821**	.469**	.507**	.585**				
Temper	-.027	.417**	.284**	.332**	.285**	.388**			
Angry	.019	.486**	.278**	.390**	.376**	.460**	.732**		
Temper	-.043	.251**	.183**	.210**	.149**	.223**	.794**	.445**	

	Energy	Self-centered	Myself	Sympathy	Upset	Want	Temper	Angry	Temper
Stay away	-.042	.322**	.188**	.268**	.259**	.281**	.777**	.462**	.504**
Talk calm	-.054	.188	.156**	.126**	.118**	.188**	.711**	.326**	.430**

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Correlations of relevant indicators - Part H

	Stay away	Talk calm
Stay away		
Talk calm	.386**	

**. Correlation significant at the .01 level (2-tailed)
*. Correlation significant at the .05 level (2-tailed)
a. Cannot be computed because at least one of the variables is constant

Appendix D: Group Statistics

	Gender	N	Mean	Std. Dev.	Std. Error Mean	Cohen's *d*	Effect size *r*
Self-control (unstandardized)	Female	398	62.4146	11.27988	0.56541	0.425	0.207
	Male	175	57.6229	11.27889	0.85260		
Current offending	Female	621	0.6151	1.13523	0.04556	0.415	0.203
	Male	339	0.2360	0.61807	0.03357		
Risk taking	Female	559	9.7299	3.42252	0.14476	0.329	0.162
	Male	256	8.6367	3.22077	0.20130		
Impulsivity	Female	573	10.9581	3.03447	0.12677	0.635	0.303
	Male	305	9.8328	3.03080	0.17354		
Simple tasks	Female	594	10.4226	2.91734	0.11970	0.116	0.058
	Male	325	10.7569	2.82176	0.15652		
Physical activities	Female	489	9.32701	2.77356	0.12542	0.268	0.133
	Male	245	806204	2.82176	0.18032		
Self-centered	Female	611	11.0442	3.19934	0.12943	0.497	0.241
	Male	322	9.4814	3.09073	0.17224		
Temper	Female	558	10.3602	3.45647	0.14632	0.031	0.015
	Male	305	10.2557	3.29775	0.18883		
Threw things (IPV)	Female	621	0.2673	0.76583	0.03073	0.266	0.132
	Male	339	0.0885	0.56355	0.03061		
Push (IPV)	Female	621	0.4638	1.01157	0.04059	0.246	0.122
	Male	339	0.2478	0.72403	0.03932		
Slap (IPV)	Female	621	0.1836	0.61836	0.02481	0.316	0.156

	Gender	N	Mean	Std. Dev.	Std. Error Mean	Cohen's *d*	Effect size *r*
Kick (IPV)	Male	339	0.0295	0.30627	0.01663	0.231	0.115
	Female	621	0.1626	0.65571	0.02631		
Hit (IPV)	Male	339	0.0413	0.35007	0.01901	0.234	0.116
	Female	621	0.1707	0.71155	0.02855		
Beat (IPV)	Male	339	0.413	0.32373	0.01758	0.054	0.027
	Female	621	0.0032	0.08026	0.00322		
Threatened with gun (IPV)	Male	339	0.0088	0.12130	0.00659	0.044	0.022
	Female	621	0.0064	0.09816	0.00394		
Gun (IPV)	Male	339	0.0029	0.05431	0.00295	0.056	0.028
	Female	621	0.0016	0.04013	0.00161		
	Male	339	0.0000	0.0000	0.0000		

Appendix E: Independent Samples T-Tests

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Self-control (unstandardized)	Equal variances assumed	.000	.983	4.684	571	.000	4.79172	1.02308	2.78226	6.80118
	Equal variances not assumed			4.684	332.509	.000	4.79172	1.02304	2.77926	6.80417
Current offending	Equal variances assumed	114.010	.000	5.704	958	.000	.37915	.06647	.24871	.50959
	Equal variances not assumed			6.700	957.997	.000	.37915	.05659	.26810	.49020
Risk taking	Equal variances assumed	3.375	.067	4.310	813	.000	1.09316	.25361	.59535	1.59096
	Equal variances not assumed			4.409	523.012	.000	1.09316	.24794	.60607	1.58024
Impulsivity	Equal variances assumed	.037	.847	5.234	876	.000	1.12533	.21499	.70337	1.54729
	Equal variances not assumed			5.236	621.000	.000	1.12533	.21491	.70329	1.54737
Simple tasks	Equal variances assumed	.188	.665	-1.680	917	.093	-.33436	.19898	-.72487	.05614
	Equal variances not assumed			-1.697	685.655	.090	-.33436	.19705	-.72125	.05252
Physical activities	Equal variances assumed	.330	.566	3.433	732	.001	.74973	.21838	.32102	1.17845
	Equal variances not assumed			3.413	480.936	.001	.74973	.21965	.31815	1.18132
Self centered	Equal variances assumed	5.192	.023	7.177	931	.000	1.56282	.21777	1.13545	1.99020
	Equal variances not assumed			7.254	672.967	.000	1.56282	.21545	1.13979	1.98586
Temper	Equal variances assumed	1.725	.189	.431	861	.666	.10448	.24220	-.37090	.57986
	Equal variances not assumed			.437	650.658	.662	.10448	.23889	-.36461	.57356
Threw things (IPV)	Equal variances assumed	53.377	.000	3.777	958	.000	.17882	.04735	.08590	.27173

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Push (IPV)	Equal variances not assumed			4.123	877.060	.000	.17882	.04337	.09369	.26394
	Equal variances assumed	39.987	.000	3.475	958	.001	.21598	.06216	.09400	.33796
	Equal variances not assumed			3.822	890.744	.000	.21598	.05652	.10506	.32690
Slap (IPV)	Equal variances assumed	75.857	.000	4.308	958	.000	.15408	.03577	.08388	.22427
	Equal variances not assumed			5.158	950.387	.000	.15408	.02987	.09545	.21270
Kick (IPV)	Equal variances assumed	40.558	.000	3.169	958	.002	.12134	.03829	.04620	.19648
	Equal variances not assumed			3.738	957.598	.000	.12134	.03246	.05764	.18505
Hit (IPV)	Equal variances assumed	40.992	.000	3.173	958	.002	.12939	.04078	.04937	.20942
	Equal variances not assumed			3.859	933.205	.000	.12939	.03353	.06359	.19520
Beat (IPV)	Equal variances assumed	2.963	.086	-.862	958	.389	-.00563	.00653	-.01845	.00719
	Equal variances not assumed			-.768	503.178	.443	-.00563	.00733	-.02004	.00878
Threatened with gun (IPV)	Equal variances assumed	1.475	.225	.606	958	.545	.00349	.00576	-.00781	.01480
	Equal variances not assumed			.709	957.824	.478	.00349	.00492	-.00617	.01315
Gun (IPV)	Equal variances assumed	2.190	.139	.739	958	.460	.00161	.00218	-.00267	.00589
	Equal variances not assumed			1.000	620.000	.318	.00161	.00161	-.00155	.00477

Appendix F: Covariances

Covariance matrix for latent variables for the baseline SEM.

	Current offending	Retaliation	Prior offending (ln)	Prior victimization (ln)
Current offending	1.165			
Retaliation	0.061	0.106		
Prior offending (ln)	0.227	0.097	0.431	
Prior victimization (ln)	0.129	0.121	0.246	0.517

Covariance matrix for latent variables for the moderating SEM.

	Current offending	Retaliation	Prior offending (ln)	Prior victimization (ln)
Current offending	1.167			
Retaliation	0.061	0.106		
Prior offending (ln)	0.227	0.097	0.431	
Prior victimization (ln)	0.129	0.121	0.247	0.514

Appendix G: Thresholds

Thresholds for the baseline SEM

	B	S.E.	Est./S.E.	P
Current offending $1	1.081	0.132	8.198	0.000
Current offending $2	1.563	0.132	11.799	0.000
Current offending $3	1.998	0.150	13.310	0.000
Current offending $4	2.296	0.159	14.479	0.000

Thresholds for the moderating SEM.

	B	S.E.	Est./S.E.	P
Current offending $1	1.085	0.132	8.206	0.000
Current offending $2	1.566	0.133	11.782	0.000
Current offending $3	2.001	0.150	13.350	0.000
Current offending $4	2.300	0.159	14.499	0.000