

ADULT ATTACHMENT AS A MEDIATOR/MODERATOR TO EARLY  
EXPERIENCES OF FAMILY VIOLENCE VICTIMIZATION ON ADULT  
PHYSICALLY VIOLENT BEHAVIOR

By Alison J. Marganski

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Written under the direction of  
Professor Bonita M. Veysey  
and approved by

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## **ABSTRACT**

Adult Attachment as a Mediator/Moderator to Early Experiences of Family Violence

Victimization on Adult Physically Violent Behavior

By Alison J. Marganski

Dissertation Advisor: Professor Bonita M. Veysey

The detrimental effects of family violence victimization are well documented in research. Of particular note is its relationship to violent offending. Much evidence exists that link early experiences of family violence victimization to later violent behavior. Most often, researchers attribute this “cycle of violence” to social learning, whereby youth view and learn specific behaviors in response to conflict and then use them as adults. Yet this theory alone fails to explain why some individuals who experience family violence do not go on to offend later in life while others do.

Attachment theory suggests that attachment forms early in life and is relatively stable over time and relationships. Individuals who experience family violence are more likely to have disrupted attachments that relate to later relationship problems. However, there is limited research investigating the role of attachment in influencing adult violence.

This study takes a multidimensional approach by investigating whether several types of childhood experiences of family violence relate to adult violence via adult attachment, including attachment to a best friend, an intimate, a parent, and a sibling. Using a convenience sample of undergraduate university students, data was collected from 372 respondents through self-administered questionnaires during the fall semester of 2009.

Two different sets of multivariate analyses were used to estimate whether adult attachment types play a role in explaining adult violence: (1) nested models to analyze the independent effect of each adult attachment type on the relationship between family violence and adult violent behavior, and (2) models using main effects and interactions between family violence-adult attachment types on adult violent behavior.

Consistent with past research, the results of the analyses revealed significant associations between direct experiences of family violence victimization and adult violent behavior that provided support for social learning theory. Multivariate analyses using interaction terms also found significant interactions, indicating moderation effects, which were further investigated. Given the current study's findings on the role of adult attachment in interacting with experiences of family violence and its relation to adult violent behavior, further research to examine the means by which family violence victimization experiences develop into violent behavioral patterns is recommended.

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# Adult Attachment as a Mediator/Moderator to Early Experiences of Family Violence

## Victimization on Adult Physically Violent Behavior

### CHAPTER 1: INTRODUCTION

#### Nature & Extent of Family Violence

There is no single definition of family violence. Family violence is a very common yet sometimes misunderstood phenomenon that may include a wide range of behaviors like physically and/or sexually violent acts. Other types of family violence have also been noted. In research, the word “family” comprises various relationships, including but not limited to: intimates or dating partners (regardless of sex) with or without children who may or may not reside in the same home, individuals related by blood, law, and/or religion, individuals residing in the same household who identify themselves as a family, and those who have at one point had a prior intimate relationship (American Psychological Association, 1996). The term “violence” refers to an intentional act or acts that have the potential to cause injury (Center for Disease Control and Prevention, 2007). The phrase “family violence” incorporates various forms of violence that are defined by the nature of the relationship between the victim and the offender including intimate partner violence (often referred to as domestic violence or spousal abuse), parent-to-child violence (sometimes referred to as child abuse), and/or sibling violence.

#### *Intimate Partner Violence*

Intimate partner violence is, by far, one of the most researched forms of family violence. Still, it is difficult to study due to various conceptualizations and operationalizations by researchers. Most research defines intimate partner relationships as those relationships which are comprised of current or former spouses, boyfriends,

girlfriends, or former partners, regardless of gender or sexuality (American Psychological Association, 1996; Gerberding, Binder, Hammond, & Arias, 2003; Rennison & Welchans, 2000). Violence is typically defined by researchers as physical acts that are intended to injure or inflict pain or physical harm (Center for Disease Control and Prevention, 2007; Gelles, 1990; Tjaden & Thoennes, 2000b) including but not limited to behaviors like slapping, pushing, hitting, kicking, and choking as found in the Conflict Tactics Scale (see Straus, 1979; Straus, 2006). Sometimes, sexual assault and stalking are included (see Gerberding et al., 2003; Tjaden & Thoennes, 2000a; Tjaden & Thoennes, 2000b) among other behaviors (see Family Violence Prevention Fund, 2008; Greenfeld, Rand, Craven, Klaus, Perkins, Ringel, Warchol, Matson, & Fox, 1998; Rennison & Welchans, 2000).

Data from the National Crime Victimization Survey indicates that there are approximately one million incidents of intimate partner violence victimization in the United States each year (Rennison & Welchans, 2000). The majority (85%) of these incidents are crimes committed by men against women (Greenfeld et al., 1998; Rennison & Welchans, 2000) including lethal (i.e., homicide) and non-lethal (i.e., rape, sexual assault, robbery, aggravated assault, and simple assault) violence estimates.

Like the National Crime Victimization Survey, the National Violence Against Women Survey indicates that women are more likely to be the victims of physical intimate partner violence than are men. However, the National Violence Against Women Survey suggests that the number of incidents per year is much higher: eight million; five million incidents against women and three million against men (Gerberding et al., 2003; Tjaden & Thoennes, 2000a). The acts included in this survey consist of lethal (i.e.,

homicide) and non-lethal (i.e., rape, physical assault, and stalking) violence, but the majority of acts encompass physical violence, many of which are repeat episodes of violence against victims (Tjaden & Thoennes, 2000a; Tjaden & Thoennes, 2000b).

The British Crime Survey also suggests that women are more likely to be victims of intimate partner violence. Out of 15 million intimate partner violence incidents each year, 13 million are against women (Walby & Allen, 2004). Women also represent the more heavily abused groups, are more likely to sustain injury, and more likely to experience other forms of violence like sexual assault and stalking when compared to men. The survey also estimates that over 70% of these incidents are repeat events, with an average of 20 incidents for women and seven for men each year.

Other general population surveys like the National Family Violence Surveys (the original survey and the resurvey) estimate that there are close to nine million people in assaulted by their partners each year (Straus & Gelles, 1990; Straus et al., 2006) or about one in six couples. Most of these acts are thought of as minor, but over three million are severe (Straus & Gelles, 1990). Unlike the National Crime Victimization Survey, the National Violence Against Women Survey, or the British Crime Survey, the National Family Violence Surveys show that women are as likely to be as violent as men, possibly due to the definitional differences where the National Family Violence Surveys examined physical assaults on partners whereas the other surveys included rape and sexual assault, which are crimes that predominantly affect women, in addition to physical assaults.

General population surveys have also found that many individuals will experience a violent incident by an intimate partner at least once in their lifetime. For instance, data from the National Violence Against Women Survey indicates that approximately 25% of

women and 8% of men experienced some form of physical intimate partner violence in their life (Tjaden & Thoennes, 2000a; Tjaden & Thoennes, 2000b). The British Crime Survey yields higher estimates, revealing that 45% of women and 26% of men are victims of intimate partner violence at some point in time (Walby & Allen, 2004). When these figures are turned into numbers, it reveals that many people experience intimate partner violence.

### *Exposure to Intimate Partner Violence*

Exposure to intimate partner violence refers to witnessing an act of intimate partner violence take place (Carter & Schechter, 1997; Guille, 2004; Hill & Nathan, 2008; Osofsky, 1999; Watkins, 2005). Commonly, this requires one be within visual range of the violent event, but it can also include hearing it or seeing the aftermath (Edleson, 1999). Generally, exposure to intimate partner violence is limited to observing physical harm between parents or intimates, which consist of physical and sometimes sexual violence (Fantuzzo & Mohr, 1999). This definition may even extend to emotional violence and threats (see Blumenthal, Neemann, & Murphy, 1998; Edleson, 1999).

It is difficult to estimate the number of children exposed to intimate partner violence each year. Evidence suggests that children tend to be present during such incidents (Baird & Salmon, 2006; Edleson, 1999; Fantuzzo & Mohr, 1999; Fantuzzo, Boruch, Beriama, Atkins, & Marcus, 1997) and are disproportionately represented in many of the homes where police respond to such calls; they are twice as likely to be present in homes where there are calls for intimate partner violence than in homes of the general population (Fantuzzo & Mohr, 1999; Fantuzzo et al., 1997; Rennison &



Welchans, 2000). Even if not present during the incident, children are often aware of the violence that occurred (Kennedy, Bybee, Sullivan, & Greeson, 2009).

Population-based surveys propose that there are anywhere from three million (American Psychological Association, 1996; Osofsky, 1999) to ten million (Straus, 1991) children are exposed to intimate partner violence each year. As for lifetime estimates, studies using college samples suggest that many individuals are exposed to intimate partner violence in their lifetime. For example, Blumenthal, Neemann, and Murphy (1998) found that over 30% of students witnessed physical violence between adults in their family at some point in life. Similarly, Carr and VanDeusen (2002) found that approximately 25% of the men in their sampled witnessed an episode of intimate partner violence between parents in childhood.

#### *Parent-to-Child Violence*

Parent-to-child violence consists of acts ranging from minor forms of violence like parental physical punishment to more severe forms known as child abuse. While the former is considered acceptable in society, the latter is not. The Federal Child Abuse Prevention and Treatment Act of 1974, originally defined child abuse as:

“the physical or mental injury, sexual abuse, negligent treatment, or maltreatment of a child under the age of eighteen by a person who is responsible for the child’s welfare, under circumstances which indicate that the child’s health or welfare is harmed or threatened thereby” (Federal Child Abuse Prevention & Treatment Act of 1974, 1974).

Persons responsible may include a parent, caretaker, or guardian, regardless of whether the child is biologically related. The Act was amended in 2003, now defined as any act or failure to act on the part of a caretaker, which results in the death, serious physical or emotional harm, sexual abuse or exploitation, or presents a serious risk of harm

(Federal Child Abuse Prevention & Treatment Act, 2003). Child Welfare Services also define child abuse in a similar way: the non-accidental or purposeful use of force by a parent or caregiver that results in harm to the child (Child Welfare Information Gateway, 2007). Interestingly, this also describes parent-to-child violence since parent-to-child violence consists of purposeful use of force by a parent that has the potential to injure a child. Thus, child abuse and parent-to-child violence are simply different ends of a violence continuum. Typically, child abuse is considered to consist of very severe acts of violence by a parent against a child (e.g., beating up, choking, burning) while parent-to-child violence consists of less severe violence (e.g., spanking, slapping, throwing something at). Yet there is variation in definitions used from study to study, making studying parent-to-child violence rather difficult. While some research may include very severe physical violence only, other research may include a combination of violent acts. Moreover, some researchers may require the behavior to be frequent or highly injurious before it is deemed abusive. Nevertheless, parent-to-child violence refers to violent acts committed by parents against children since this encompasses various degrees of severity and because even minor forms can be abusive if repetitive.

Looking at official data, the U.S. Department of Health and Human Services (2007) notes that there were over three million cases of child abuse and/or neglect reported and investigated in the United States in 2005, with an alleged six million victims. However, only one-third of these were substantiated. Nevertheless, the actual numbers are likely higher given that this data only captures more severe and reported cases, thereby missing less severe cases and those that do not capture the attention of authorities.

General population surveys indicate that parent-to-child violence is very common. Data from the National Family Violence Surveys indicate that approximately two-thirds of parents report engaging in at least one act of violence against their children in a given year (Straus & Gelles, 1990), which translates into several million violent parents. When looking at severe acts, it is estimated that there are seven million victims each year. Even teenagers experience relatively high rates of parent-to-child violence each year according to the National Family Violence Surveys (Straus & Gelles, 1990; Straus et al., 2006) and the National Survey of Adolescents (Kilpatrick, Acierno, Saunders, Resnick, Best, & Schnurr, 2000).

Other general population surveys estimate the lifetime prevalence of parent-to-child violence. The National Violence Against Women Survey, for example, has found that over 50% of women and over 60% of men reported experiencing physical violence as a child by a caregiver at some point in time (Tjaden & Thoennes, 2000b). This is likely an underestimate, as many respondents may not recall early experiences, and, as indicated by the National Family Violence Surveys, nearly all parents report using violence on their children at some time (Straus & Gelles, 1990).

### *Sibling Violence*

Depending on the study, the sibling relationship can involve those biologically related, adopted, or acquired into the family household (e.g., step-siblings, foster siblings). Generally, sibling violence refers to physically violent acts by one sibling against another intended to produce injury or pain (Straus et al. 2006); it may also include sexual (see Wiehe, 1990) and emotional violence (Simonelli et al. 2002). Sibling violence is somewhat different from the other forms of family violence discussed. It is

one of the most common yet overlooked forms of family violence, often not thought of as “violence” (Eriksen & Jensen, 2006; Hoffman & Edwards, 2004; Simonelli, Mullis, Elliott, & Pierce, 2002) but rather child’s play.

Research indicates that the vast majority of American children who have a sibling engage in one or more acts of violence towards a sibling each year (Straus & Gelles, 1990; Straus et al., 2006). There are over 50 million victims of sibling violence and over thirty-three million of these victims experience severe violence (Straus & Gelles, 1990). Even when looking at older children, estimates for overall sibling violence and severe sibling violence are high (seven million and four million, respectively), suggesting this act is not limited to childhood but extends to adolescence (Straus & Gelles, 1990). It should be noted that this behavior, if done by an outsider, would be considered as a form of assault. However, society tends to believe that sibling violence is a “normal” and inevitable phenomenon without any long-lasting consequences and so, it is commonly accepted and unfortunately overlooked as a form of violence.

#### *Summary of the Nature & Extent of Family Violence*

Physical assault is, by far, the most common offense between family members (Durose, Harlow, Langan, Motivans, Rantala, & Smith, 2005; Hines & Malley-Morrison, 2005), and the family unit is the setting where most people first experience a violent episode, yielding an act of family violence (Straus et al., 2006). In short, estimates suggest that there are one to 13 million intimate partner violence incidents, three to ten million exposure to intimate partner violence incidents, one to 50 million parent-to-child violence incidents, and 50 million sibling violence incidents each year. As seen, estimates of family violence are very difficult. They vary by what forms of family

violence and what types of behaviors or acts are included in measurement as well as what measures are being used, which can shape rates, interpretations, and even implications about family violence (Tolan, Gorman-Smith, & Henry 2006). Differences in methodology also complicate matters [see Rand & Rennison (2005) for an example of how methodology causes confusion]. Nonetheless, one point is clear: family violence is widespread and among the most prevalent forms of violence in the United States. It is also among the most dangerous considering that rarely is any act of family violence a single event but more likely to be serious and repetitive in nature (Straus, 1990b).

### The Cycle of Violence

Interestingly, family violence victimization that occurs in childhood and/or adolescence has been linked to later violence perpetration against intimates and family members (see Correlates of Family Violence Victimization). This phenomenon known as the “cycle of violence” (e.g., Widom & Maxfield, 2001) or the intergenerational transmission of violence (e.g., Kwong, Bartholomew, Henderson, & Trinke, 2003; Pears & Capaldi, 2001) states that today’s victimized children will go on to become tomorrow’s perpetrators. Looking back in time, this holds true; the vast majority of familial violence perpetrators have experienced some form of family violence early in life. However, looking forward in time, not all those individuals who experience early forms of family violence go on to offend (see Stith, Rosen, Middleton, Busch, Lundeberg, & Carlson, 2000). The reasons for this are not yet understood in research, and much still is needed to better understand why some victimized people do not go on to offend while others do.

### What about Attachment?

While research on the cycle of violence has demonstrated a link between early experiences of family violence and later violent offending, the role of attachment as it pertains to this relationship has received much less empirical attention. Recent research on attachment has been emerging in family violence research, which proposes that attachment may play beneficial in explaining why some individuals who experience family violence victimization do not go on to exhibit the negative outcomes related to such violence (see *The Role of Attachment in Family Violence Research*); attachment may act as a buffer. Attachment is important to explore because it may help explain why some individuals who experience early forms of family violence do *not* continue the cycle but rather break away from it. Yet attachment has not been studied in conjunction with all forms of family violence and there is limited research on the role attachment serves in the victimization-offending link, especially among adults.

The present study investigates the role of adult attachment in the relationship between self-reported early experiences of family violence and self-reported adult violent offending in order to determine whether social learning theory or attachment and social control theories provide a more robust explanation for the victimization-offending link. Attachment in several relationships will be explored including attachment to a best friend, an intimate partner, a parent, and a sibling. The study uses self-administered questionnaires to (1) identify experiences of early physical family violence, (2) identify weak or strong adult attachments to various others, (3) ask about recent adult violent offending, and (4) find specific patterns in the data collected in order to see whether specific forms of victimization relate to broken attachments with the perpetrators which

relate to higher offending (e.g., sibling violence victimization → weak sibling attachment → offending, parent-to-child victimization → weak parent attachment → offending), whether specific relationships (e.g., best friend, intimate) are able to provide positive attachments which relate to lower offending especially for those at-risk, and whether direct (e.g., parent-to-child violence, sibling violence) and indirect (e.g., exposure to intimate partner violence) victimization experiences relate to violence in the same way. All of this can offer a more complete understanding of the cycle of violence and also provide an answer as to whether relationship between early victimization and later violence is direct as posited by social learning theory or indirect as posited by attachment and social control theories.

## CHAPTER 2: THEORETICAL FRAMEWORK

### Understanding Family Violence Victimization

Family violence is a complex phenomenon. In order to understand why family violence occurs, each form of family violence should be explored uniquely given the vast research that exists on each form, and then what is known for each should be taken together to better recognize and comprehend risk factors and correlates or outcomes important in studying the cycle of violence. The present study is driven by previous research on risk factors for family violence, correlates and outcomes of family violence, and the recently studied role of attachment in family violence in order to explore why early experiences of family violence relate to later offending and to determine which theoretical explanation provides a more promising framework for future research: social learning or attachment and social control.

#### *Risk Factors for Family Violence*

##### *Intimate partner violence*

Intimate partner violence varies among demographic characteristics, including gender, age, marital status, and the presence of children. Males are more likely to perpetrate intimate partner violence while females are more likely to be victims, as previously indicated. The majority of literature focuses on the female being the victim rather than the male since a greater proportion of females report experiencing severe violence and injury (Durose et al., 2005; Greenfeld et al., 1998; Tjaden & Thoennes, 2000a; Tjaden & Thoennes, 2000b; *Violence between intimates: Domestic violence*, 1994; Walby & Allen, 2004). Additionally, individuals 16 to 24 years of age (Greenfeld et al., 1998), and particularly those between the ages of 20 and 24, experience the highest



rates of intimate partner violence (Rennison & Welchans, 2000), along with those not married and those who have children in the home (Hines & Malley-Morrison, 2005; Mirrlees-Black, 1999; Morash, 2006; Straus & Gelles, 1990; Tjaden & Thoennes, 2000a; Tjaden & Thoennes, 2000b); those between the ages of 18-24 also represent a high rate of repeat offenders (Melton & Belknap, 2003). Research also indicates that individuals who are non-white have the highest rates of repeat violence (Melton & Belknap, 2003).

Social relationships also contain risk factors that may be important in explaining intimate partner violence. For instance, research has found that weak parent-to-child attachment predicts later intimate partner violence perpetration for both males and females (Moffitt & Caspi, 1999). Additionally, relationships with stress and conflict are more likely to contain intimate partner violence than relationships without such characteristics (Riggs, Caulfield, & Street, 2000; Tolan et al., 2006). Moreover, emotionally violent and controlling behaviors are often precursors to such violence (Hines & Malley-Morrison, 2005; Hoffman & Edwards, 2004; Riggs et al., 2000; Shook, Gerrity, Jurich, & Segrist, 2000; Straus et al., 2006). This may be linked to problematic attachment on behalf of the perpetrator given that research has characterized violent individuals as lack of trust and exhibiting jealousy (Riggs, 1993).

Childhood aggressive behavior has also been linked to later intimate partner violence suggesting that there may be continuity in violent tendencies. For instance, research has found that perpetrating sibling violence in childhood is related to later intimate partner violence (Noland et al., 2004). Additionally, a study by Moffitt and Caspi (1999) found that the strongest risk factor for intimate partner violence perpetration is a history of physically aggressive behavior prior to age fifteen. Along these lines, research has found

that those who perpetrate violence in relationships tend to be more aggressive throughout life than those who do not (Riggs et al., 2000; Shook et al., 2000) and prior relationship aggression itself is a risk factor for intimate partner violence perpetration (Riggs et al., 2000; Tolan et al., 2006), suggesting that violent individuals may be intertwined in a system of aggressive behaviors.

Additionally, research has found that previous violent victimization in the family of origin increases the risk for later intimate partner violence (Heyman & Smith Slep, 2002; Kwong et al., 2003; Wekerle & Wolfe, 1998). For example, experiencing parent-to-child violence while growing up increases the risk for male and female intimate partner violence perpetration in adulthood including verbal (Shook et al., 2000) and physical violence (Shook et al., 2000; Straus, 1990a; Straus et al., 2006); this been found to hold for both minor and severe forms of parent-to-child violence victimization (Straus, 1990a), indicating that ordinary physical punishment may be detrimental.

#### *Parent-to-child violence*

Demographic characteristics that are associated with the perpetration of physical parent-to-child violence are similar to those identified for intimate partner violence. They include gender, age, marital status, and the number of children residing in a home. Research indicates that males are more likely to perpetrate violence against children than females (Finkelhor & Ormrod, 2001), especially when examining and equating the amount of time each parent spends with a child. Additionally, younger parents, unmarried parents, and those with more than one child have a higher risk of using violence against a child (Hines & Malley-Morrison, 2005; Screening for family and intimate partner violence, 2004; Temcheff, Serbin, Martin-Storey, Stack, Hodgins,

Ledingham, & Schwartzman, 2008). The child's age has also been related, although there have been mixed findings. Some suggest that younger children are at risk of such violence (Hines & Malley-Morrison, 2005), while others believe that adolescents are at particular risk (Tajima, 2002). One study notes that very young children and adolescents are most likely to experience parent-to-child violence (Straus et al., 2006).

Additionally, parent-to-child violence is influenced by family interactions, as families with high levels of stress, conflict, and aggression have a greater risk of parent-to-child violence (Guille, 2003; Hines & Malley-Morrison, 2005). This could be due to strain on the caretaker that results in violent behavior as a means of relieving or dealing with the stress. It could also be due to increased opportunity for conflict and violence, especially when there is more than one child in the home.

Marital violence itself is a statistically significant predictor of parent-to-child violence. Research has shown that a child who resides in a family where one parent is violent toward the other is at greater risk for experiencing violence at the hands of a parent than a child with no violent parents (Gjelsvik et al., 2003; McGuigan & Pratt, 2001; Ross, 1996; Straus et al., 2006). The frequency and severity of intimate partner violence are also related to the frequency and severity of parent-to-child violence; for every violent act committed against a partner, there are increased odds of a parent physically abusing a child, and the severity of the intimate partner violence often predicts the severity of parent-to-child violence (Hartley, 2004; Ross, 1996).

Furthermore, individuals who are violent against their children and/or partners are likely to have witnessed violence between their parents or were victims of parent-to-child violence themselves (Coid et al., 2001; Guille, 2004; Heyman & Smith Slep, 2002;

MacMillan & Wathen, 2005). Thus, witnessing or experiencing violence in childhood is associated with later violent offending; in this case, perpetrating violence against one's children. Receiving physical punishment as a teenager has also been linked to violence against one's children in adulthood (Ross, 1996; Straus, 1990a).

### *Sibling violence*

Sibling violence varies across some demographics like gender, age, and number of children present in the family. Males experience more sibling violence than females (Eriksen & Jensen, 2006; Straus et al., 2006). Research has found that male sibling dyads have the highest rates of violence, followed by mixed pair sibling dyads, then female sibling dyads (Hoffman, Kiecolt, & Edwards, 2005) although research has expressed that the sibling dyad of older brother and younger sister may be at greatest risk for serious sibling violence (Graham-Bermann, Cutler, Litzenberger, & Schwartz, 1994). Research has also found that age is inversely related to sibling violence; the older children are, the less likely they are to engage in it (Eriksen & Jensen, 2006; Straus et al., 2006). Yet, the majority of teenagers still do so. Additionally, an increased number of children in the family pose a risk for sibling violence (Straus et al., 2006). Again, this could be due to increased conflict as well as opportunities for violence.

Negative family interactions are risk factors for sibling violence. Research suggests that sibling violence often takes place in families where stress, aggression, and violent behavior occur (Eriksen & Jensen, 2006; Hoffman & Edwards, 2004; Hoffman et al., 2005; Straus et al., 2006; Wiehe, 1990). For instance, greater sibling violence exists in homes where parents contemplated separation or divorce (Eriksen & Jensen, 2006) and where there is violence (Graham-Bermann et al., 1994; Hotelling et al., 1990) than in

homes without these characteristics. Children living in households where there are negative interactions are also more likely to observe and experience violence, possibly seeing violence as an appropriate response to dealing with others.

Additionally, recent research has found that exposure to intimate partner violence (Graham-Bermann et al., 1994) and parent-to-child violence (Eriksen & Jensen, 2006) are risk factors for sibling violence, especially when they co-occur (Hotelling et al., 1990). Rates of sibling violence are higher among families with intimate partner violence than in families without it (Hotelling et al., 1990). Rates also increase with the amount of parent-to-child violence, especially when the mother is the perpetrator (Eriksen & Jensen, 2005). Thus, violence by parents can serve as a blueprint for children to model behaviors with others around them.

#### Correlates & Outcomes of Family Violence Victimization

Each form of family violence has been linked to many problems; physical as well as psychological. In the physical aspect, there may be injury to the victims. In the psychological aspect, there may be problems that threaten one's mental health and well being. For instance, intimate partner violence, exposure to intimate partner violence, parent-to-child violence, and sibling violence have all been linked to these internalizing and externalizing problems ( e.g., for intimate partner violence: Herman, 1992; Hines & Malley-Morrison, 2005; for exposure to intimate partner violence: Blumenthal, Neeman, & Murphy, 1998; Cummings & Davies, 2002; Edleson, 1999; El-Sheikh & Elmore-Staton, 2004; Fantuzzo, Depaola, Lambert, Martino, Anderson, & Sutton, 1991; Kennedy et al., 2009; Litrownik, Newton, Hunter, English, & Everson, 2003; for parent-to-child violence: Benda & Corwyn, 2002; Felitti, Anda, Nordenberg, Williamson, Spitz,

Edwards, Koss, & Marks, 1998; Hetzel & McCanne, 2005; Hines & Malley-Morrison, 2005; MacMillan, Boyle, Wong, Duku, Fleming, & Walsh, 1999; Malinosky-Rummell & Hansen, 1993; Springer, Sheridan, Kuo, & Carnes, 2007; for sibling violence: Duncan, 1999; Howells & Rosenbaum, 2008; Wiehe, 1990; Yu & Gamble, 2007). Of particular interest here are the correlates of problematic attachment and offending. While there is an abundance of research on the link between early experiences of family violence and later offending, less research exists on how these early experiences relate to attachment. This is important to review as emerging evidence hints that attachment may play a crucial role in the victimization-offending link.

### *Problematic Attachment*

#### *Intimate partner violence*

Although the causal nature of the relationship has been questioned, intimate partner violence has been linked to difficulty with trust and closeness in relationships (American Psychological Association, 1996; Herman, 1992). In regard to victims, they may feel that they let their partners down in some way or cannot live up to their partners' expectations. They may also be disappointed in themselves, which makes it difficult for them to establish a healthy relationship with their partners in addition to other individuals. However, victims of intimate partner violence have been able to develop some form of attachment to their perpetrators, although it is typically problematic (Herman, 1992). The victim, although he/she may recognize that the acts being committed against him/her are harmful and wrong, may be comforted by the interest of the abuser and interpret the abuser's actions as a sign of love, permitting the victim to maintain his/her attachment.

### *Exposure to intimate partner violence*

Interestingly, exposure to intimate partner violence has also been linked to problematic attachment, particularly with parents (Chapple, 2003) and also peers (Wolfe, Wekerle, Reitzel-Jaffe, & Lefebvre, 1998). There is evidence that children who grow up in violent homes have more trouble than their counterparts in forming positive attachments with their parents (Zeanah, Danis, Hirschberg, Benoit, Miller, & Heller, 1999) as well as peers and other individuals (Carpenter & Stacks, 2009; Osofsky, 1999; Wolfe et al., 1998). For example, research has found that such experiences can lead issues with closeness and trust in intimate relationships (Wolfe et al., 1998). An underlying assumption that helps explain all of this is that children who reside in violent homes are less able to rely on their parents for emotional support when their parents have problems of their own. The violence that parents face can hinder parenting ability (Chapple, 2003) and contribute to negative parent-to-child interactions (Carter & Schechter, 1997; Guille, 2004; Osofsky, 2004; Straus et al., 2006), which has been known to disrupt the formation of secure attachments for these children (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Hazan & Shaver, 1987). This negatively impact subsequent relationships since early relationships serve as a foundation for later relationship experiences (Ainsworth et al., 1978; Bowlby, 1969). Research has found that this holds regardless of the victim's gender, and such maltreatment can lead to problems with closeness and trust in intimate relationships.

### *Parent-to-child violence*

Like victims of other forms of family violence, victims of parent-to-child violence can develop attachment, although flawed, to those who abuse and neglect them and those

who do not protect them; they are dependent on their parents for basic necessities and care (Herman, 1992). However, this attachment is less secure and often problematic. Research shows that females who had been hit by an adult and/or mother and males who had been hit by an adult while growing up report feeling less attached to their mothers than non-victimized peers (Foshee, Bauman, & Fletcher Linder, 1999). Additionally, research has found that males and females who have experienced violence at the hands of a parent have trouble with closeness and trust in later intimate relationships (Wolfe et al., 1998). Generally, research shows that those victimized by parent-to-child violence have less positive attachments to their parents (Benda & Corwyn, 2002; McNeal & Amato, 1998), are less liked by their peers and have trouble creating and maintaining friendships (Dodge, Pettit, & Bates, 1994; Hines & Malley-Morrison, 2005), and have much greater trouble in later adult intimate relationships (McCarthy & Taylor, 1999; Wolfe et al., 1998) when compared to non-victimized youth.

The troubles children face in interpersonal relationships could be attributed to the initial attachments children form with their parents (Ainsworth et al., 1978). Those who experience parent-to-child violence develop insecure or weak attachments with their caregivers, which subsequently hinder these children's ability to form supportive attachments with others. The unpredictable nature of violence in childhood or erratic care makes any trust questionable and thereby impacts how one acts in later relationships. For instance, victims of parent-to-child violence have been known to become defensive towards others and have also been noted to sacrifice their own well-being later in life to seek trust from the untrustworthy and safety from the unsafe (Herman, 1992), just as they



learned to in childhood. This has been supported in research (Whitfield, Anda, Dube, & Felitti, 2003).

Interestingly, problematic attachment resulting from parent-to-child violence has been linked to aggression (Wolfe et al., 1998) and violence (Benda & Corwyn 2002). For instance, a study by Benda and Corwyn (2002) found that the effects of parent-to-child violence on later violent behavior are mediated by several factors for older youth, including attachment to parents. Thus, parent-to-child violence is linked to weak attachment, which, in turn, is linked to violent offending. What's less known, however, is how *adult* attachment may function in the relationship between early experiences of family violence and offending in adulthood, which is important to study given that rates of violence are highest for adults (Rennison & Welchans, 2000). Less is also known about attachment in other relationships (e.g., best friend, intimate, and sibling).

#### *Sibling violence*

The sibling relationship is presumed to help children develop social skills, a sense of companionship, and trust (Duncan, 1999). In the case of sibling violence, however, the sibling relationship can hinder such development, which may lead to subsequent relationship problems (Hoffman et al., 2005). Qualitative research has validated this notion and revealed that severe sibling violence victimization relates to weak attachments and negative feelings toward perpetrators as well as difficulties in later intimate and interpersonal relationships (Wiehe, 1990). Yet there is limited empirical research investigating less serious violence among siblings and how that may relate to attachment issues in various relationships.

## *Offending*

### *Intimate partner violence*

An unintended consequence of intimate partner violence victimization is intimate partner violence perpetration, as would be the case if a victim acts violently in anger, fear, or self-defense. Victims may also become perpetrators when they feel that their needs are not being adequately met (Jacobson, Gottman, Waltz, Rushe, Babcock, & Holtzworth-Munroe, 1994), which is often attributed to a non-secure type of attachment style where trust and closeness are lacking. When an individual's security feels threatened, that individuals may try to maintain it using violence.

Intimate partner violence has also been associated with the perpetration of aggressive and violent behavior, especially against one's own children (See section titled *Parent-to-child violence* under *Risk Factors for Family Violence*). Both victims and perpetrators of intimate partner violence are at increased risk of engaging in violent acts against their children (Ross, 1996; Straus et al., 2006), but they may do so for different reasons (see Guille, 2004). Nevertheless, a child is much more likely to be assaulted in families where one or both parents are violent towards their partner compared to families without violent parents (Straus, 1990a); this holds regardless of whether the intimate partner violence is minor or severe.

### *Exposure to intimate partner violence*

Individuals exposed to intimate partner violence are more likely to act aggressive than those who are not exposed to such events (Fantuzzo & Mohr, 1999; Hines & Malley-Morrison, 2005; Osofsky, 1999; Screening for family and intimate partner violence, 2004). For instance, children residing in households with intimate partner violence are

more likely to use violence against non-familial individuals than those not exposed (Hotaling, Straus, & Lincoln, 1990; Straus, 1991). They also are more frequent in their violence.

Exposure to intimate partner violence has also been linked to violence against family members and intimates (e.g., Carr & VanDeusen, 2002; Foshee et al. 1999; Heyman & Smith Slep, 2002; Hill & Nathan, 2008; Hotaling et al., 1990; Kwong et al., 2003; Shook et al., 2000; Whitfield et al., 2003; Wolfe et al., 1998). For instance, researchers in the Adverse Childhood Experiences Study asked participants about experiences of exposure to intimate partner violence in childhood and adult intimate partner violence using CTS-like measures and found that witnessing intimate partner violence doubles the risk of intimate partner violence perpetration for men (Whitfield et al., 2003). Additionally, Hill and Nathan (2008) studied recently sentenced and incarcerated violent male offenders and found that witnessing intimate partner violence is correlated with violence in adulthood; namely, perpetrating intimate partner violence. The study also found that while exposure to intimate partner violence is associated with intimate partner violence, childhood antisocial behavior is associated with more general violence, which indicates that early childhood experiences may influence unique pathways to specific types of violence.

Other research using college students also provide evidence of the link between exposure to intimate partner violence and later intimate partner violence. For instance, Shook and colleagues (2000) found that males who had witnessed intimate partner violence while growing up are more likely to perpetrate intimate partner violence later in life. Likewise, a study by Carr and VanDeusen (2002) found that witnessing intimate

partner violence between parents while growing up is related to intimate partner violence perpetration.

Exposure to intimate partner violence early in life has been thought to influence other forms of family violence such as the use of violence against a child. Research has found that exposure to intimate partner violence is associated with later parent-to-child violence (Straus, 1991; Straus & Kantor, 1994); this holds regardless of the gender of the person victimized (Heyman & Smith Slep, 2002). It is also thought to influence sibling violence (Graham-Bermann et al., 1994; Straus et al., 2006). The rationale behind this is that children are young and very impressionable. By viewing such violent behavior between two “admired” adult figures, children may learn to use similar behavior in dealing with others. Thus, witnessing intimate partner violence provides a framework for children where they see violence as a normal and legitimate response to certain situations.

#### *Parent-to-child violence*

A myriad of research indicates that experiencing parent-to-child violence relates to later offending (e.g., Fagan, 2005; Hines & Malley-Morrison, 2005; Smith & Thornberry, 1995; Straus & Gelles, 1990; Straus et al., 2006; Thornberry, Ireland, & Smith, 2001; Whitfield et al., 2003; Widom, 1989a; Widom, 1995; Widom & Maxfield, 2001). For instance, experiencing parent-to-child violence while growing up is correlated with a wide range of delinquent behaviors including youth’s vandalism, stealing, drinking, drug use, and arrest (Hotaling et al., 1990). Victimized youth are more likely to offend and also have a higher frequency of offending when compared to non-victims.

A prospective study by Widom (1989) found that being abused and/or neglected as a child increases the likelihood of arrest in adulthood when compared to those who were

not victimized in childhood. The study found that victimized males had higher rates of adult arrest for violent and non-violent crime whereas victimized females had higher rates of adult arrest for non-violent offenses. However, updates on the study (Widom & Maxfield, 2001) indicated that victimized females did, indeed, have an increased risk for violent offending. Additionally, updates found that those victimized have an earlier onset for criminal behavior, a longer continuance of such behavior, commit offenses more frequently, and are more likely to become chronic or life course persistent offenders than those not victimized (Widom, 1995; Widom & Maxfield, 2001). Updates also revealed that the type of victimization experienced predicts the type of offense committed.

Data analysis from the Rochester Youth Development Study, a multi-wave panel study that collects data from adolescents, parents, and official agencies, also found that childhood maltreatment (i.e., sexual abuse, physical abuse, and/or neglect) relates to offending (Smith & Thornberry, 1995). Compared to non-maltreated youth, those who have been maltreated are more likely to have official police records of delinquency and more likely to self-report delinquency, including serious and violent offending. Thus, maltreatment relates to offending regardless of whether offending is measured officially or through self-reports. The relationship maltreatment-offending has also been found to strengthen as the seriousness of maltreatment increases (Thornberry et al., 2001).

Additionally, research has found that parent-to-child violence in adolescence may be better able to predict offending than parent-to-child violence earlier in life (Benda & Corwyn, 2002; Straus et al., 2006; Thornberry et al., 2001). Whereas victimized children are at increased risk of offending at some point in their lives compared to their counterparts, victimized adolescents have been found to have a higher risk of offending

(Thornberry et al., 2001) and are at risk for offending over longer periods of time (Benda & Corwyn, 2002) including adolescence, the transition period to adulthood, and early adulthood (Fagan, 2005). This could be due to prolonged experiences of victimization that increases the negative sequelae associated with such victimization. Along these lines, research has found that parent-to-child violence in adolescence mediates the relationship between early parent-to-child violence and later violent delinquency (Salzinger, Rosario, & Feldman, 2007), suggesting that those who experience violence over long periods of time have a greater likelihood of offending when compared to those who experience violence early on.

When looking the targets of violence, victims of parent-to-child violence are at increased risk of violent behavior against individuals outside of the family (Hotaling et al., 1990) as well as those within (Levinson, 1989; Noland, Liller, McDermott, Coulter, & Seraphine, 2004; Straus et al., 2006; Whitfield et al., 2003). Research has found that children who experienced parent-to-child violence are more likely to assault a child outside of the family than children who witnessed parent-to-parent violence and children who have not experienced family violence (Hotaling et al. 1990). The same holds true when looking at violence perpetrated against siblings; those who experienced parent-to-child violence are more likely to perpetrate sibling violence than those who experienced exposure to intimate partner violence or no violence (Eriksen & Jensen, 2006; Hotaling et al., 1990; Noland et al., 2004). They also have a higher frequency of violence against siblings. Being the victim of parent-to-child violence is also correlated with child-to-parent violence (Hotaling et al., 1990); the rates of violence against parents are higher for

children living in households where violence against children is present than in households where there is no violence.

It has been suggested that those who have been victimized by their parents are more likely to engage in the very same acts which they experienced (Ross, 1996; Straus, 1990a; Straus & Kantor, 1994; Straus et al., 2006). For example, Straus, Gelles, and Steinmetz (2006) revealed that one-third of parents used physical punishment on their teenage children, and these victimized teens were more likely to report engaging in violent acts towards their own children once they became parents when compared to those who were not physically punished as teens. Moreover, the more frequent the violence experienced in childhood was, the higher the levels of abusive violence the parents engaged in against their own children (Straus, 1990a; Straus et al., 2006). This provides support for the intergenerational transmission of violence.

Additionally, research has found that experiencing parent-to-child violence relates to later intimate partner violence (Fagan, 2005; Foshee et al., 1999; Heyman & Smith Slep, 2002; Shook et al., 2000; Simonelli et al., 2002; Straus, 1990a; Straus & Kantor, 1994; Straus et al., 2006; Whitfield et al., 2003). For example, the Adverse Childhood Experiences Study found that experiencing physical parent-to-child violence doubles the risk of intimate partner violence perpetration for men (Whitfield et al., 2003); the same holds for experiencing sexual parent-to-child violence. Additionally, Fagan (2005) analyzed data from the National Youth Survey and found that adolescents who experienced severe violence at the hands of a parent had a greater risk of engaging in minor and severe intimate partner violence when compared to those who have not experienced such violence. Other research has also supported this link, and suggested

that the relationship between parent-to-child violence victimization and later intimate partner violence perpetration is sustained regardless of whether ordinary physical punishment or more severe forms of parent-to-child violence are examined (Straus, 1990a). The frequency of parent-to-child violence has also been found to predict the frequency of intimate partner violence for both males and females, possibly indicating that violence is learned early on and enacted later in life.

### *Sibling violence*

Research on the correlates and outcomes of sibling violence is scarce and pales in comparison to research on other forms of family violence. Nevertheless, research has linked sibling violence to aggressive and violent behavior. Children with siblings, particularly those from mixed sibling pairs, who engaged in violence with one another, have a greater likelihood of perpetrating violence against nonfamily members than those who do not engage in sibling violence (Gully, Dengerink, Pepping, & Bergstrom, 1981; Hoffman & Edwards, 2004). Potentially, this can be due to interacting with other individuals similar in age in a nearly identical manner to how they interact with siblings.

Childhood sibling violence has also been linked to later intimate partner violence perpetration. Research has found that experiencing sibling violence in childhood poses a greater risk for intimate partner violence perpetration and may better predict such violence than parent-to-child victimization (Simonelli et al., 2002). However, sibling violence victimization may have differential correlates or outcomes depending on gender. One study notes that sibling violence victimization is associated with physical dating violence among females but emotional dating violence among males (Simonelli et al., 2002). Still, other research (see Gully et al., 1981) suggests that sibling violence



victimization may not be associated with any negative correlates and may actually act to suppress later violent behaviors, which is contrary to the previous findings and indicative of positive relationship qualities that can buffer correlates of violence.

In short, sibling violence has been linked to negative outcomes that may impact later relationships. Even weak sibling relationships lacking violence have been associated with offending (Duncan, 1999). Overall, emerging evidence proposes that sibling violence has similar correlates and outcomes to those commonly found in other forms of family violence. Nevertheless, sibling violence has only been investigated in recent years as a potential and serious form of family violence that should be acknowledged in future research.

### Issues in Research

#### *Longitudinal v. Cross-Sectional Data*

The general consensus in criminal justice research is that longitudinal studies are preferred to cross-sectional studies because they are valuable in offering evidence for a causal link and documenting the course, development, and even desistance of various behaviors (Huizinga, Loeber, & Thornberry, 1993; Farrington, 1998; Farrington, Ohlin, & Wilson, 1986; Tonry, Ohlin, & Farrington, 1991). However, longitudinal studies have their share of flaws. For instance, some experiences, such as violence in the family, are not likely to be reported at the same time they are occurring (Hardt & Rutter, 2004). Consequently, underreporting of events is likely to occur. Another limitation of longitudinal data includes the problem of attrition (Hardt & Rutter, 2004; Maxfield & Babbie, 2005). Those individuals who drop out of the sample may differ from those who remain in the study. This is obviously a limitation because it may influence the outcomes

of the study. In some cases, non-victimized groups may experience victimization that leads to them dropping out of the study or to resembling the comparison group.

Cross-sectional studies also have flaws (Glasner & van der Vaart, 2009; Hardt & Rutter, 2004; Maxfield & Babbie, 2005). First, casual inference is rather limited in cross-sectional studies since such a study cannot typically account for other factors that may have influenced the outcome variable of interest. Longitudinal studies perform a better job at making numerous measurements over time to see what impact they have. Yet, longitudinal studies cannot capture all potential influences that explain offending.

#### *Prospective v. Retrospective Data*

Prospective data have been preferred to retrospective data in criminal justice research because retrospective data is often considered unreliable. One of the major problems with retrospective methods involves memory decay. However, some research notes that in cases involving adverse experiences, such as family violence experiences, memories may be difficult to forget and can be recalled through discussion of those previous experiences (Hardt & Rutter, 2004). In order to examine whether retrospective data is valid, researchers have compared the use of prospective and retrospective data to see whether they yield similar results (e.g., Henry et al., 1994; Herrenkohl, Huang, Tajima, & Whitney, 2003). For example, Henry and colleagues (1994) obtained prospective data from the Dunedin longitudinal study and later tracked down the subjects to ask them about family conflict experiences that occurred earlier in life. The retrospective measures were compared with the prospective measures to test the accuracy of recall, and the researchers concluded that while the use of retrospective reports for estimating specific frequency and dates is cautioned, the use of retrospective reports can be used in a more

relative manner, such as whether estimating whether an event had occurred (Henry et al., 1994). Additionally, Herrenkohl and colleagues (2003) found that prospective and retrospective measures yield similar results and that retrospective data can be relied on in research. Other researchers support this notion (e.g., Dube, Williamson, Thompson, Felitti, & Anda, 2004).

Retrospective recall, however, can also be improved. Research has found that using a “calendar” or timeline-like technique aids in the recall of experiences and helps to bring out long-term memories by serving as event cues (Glasner & van der Vaart, 2009).

Although experiences prior to elementary school are thought to be too young for the respondent to recall (see Lewis, 1995 for an article on infantile amnesia), individuals can usually recall experiences thereafter. Yet it should be noted that the relative effectiveness of different event markers has yet to be examined (Glasner & van der Vaart, 2009). It is possible that using different periods of school can serve to recall these memories.

Although schooling systems may differ by jurisdictions since not all school systems encompass the same grades, they are all relatively similar; elementary school, middle school, and high school. By using multiple points in time, important information on how the timing and duration of experiences relate to later behavior can be revealed.

It has been noted that retrospective data offers several crucial advantages; one of the most important being a lack of need to wait for results while subjects grow up (Hardt & Rutter, 2004), which is especially beneficial for researchers who are looking at early experiences and later behavior. Furthermore, obtaining data from youth or even parents overtime while events are occurring may be counterproductive, as, for instance, those who reside in violent homes may be reluctant to report experiences (Kendall-Tackett &

Becker-Blease, 2004) or may not fully understand what is going on. When people get older, they may be better able to reflect on such past experiences (Graham-Bermann et al., 1994).

Further, retrospective data can be beneficial in that it has the potential to uncover victimized and non-victimized groups, with the victimized group possibly recalling experiences that may have been missed in a prospective study that covered a limited time frame (see Kendall-Tackett & Becker-Blease, 2004). Prospective research often relies on clinical samples or a samples obtained from official records such as those who have entered courts or came to police attention (Hardt & Rutter, 2004), which identifies victimized groups early on and has the potential to overlook later cases of violent victimization that may take place in the control group, and as previously noted, victimization in adolescence may have more detrimental outcomes than victimization earlier in life (e.g., Benda & Corwyn, 2002; Fagan, 2005; Thornberry et al., 2001). Further, the very fact that subjects were chosen on being victimized may tamper implications of findings, as those who have had attention drawn to them are more likely to have had some type of intervention (i.e., police, child protective services, etc.) when compared to those cases of violence that have not come to attention of authorities, and this may reduce negative outcomes.

### The Role of Attachment in Family Violence Research

#### *Exposure to Intimate Partner Violence*

Although virtually no research examines the role of attachment in the relationship between exposure to intimate partner violence and violent offending, one study examined parental attachment and how it relates to exposure to intimate partner violence and dating

violence. The study found that parental attachment interacts with exposure to intimate partner violence to greater the perceived likelihood of violence against an intimate partner (Chapple, 2003). Additionally, recent research has begun to investigate related aspects including the role that social support (Kennedy et al., 2009; Owen, Thompson, Mitchell, Kennebrew, Paranjape, Reddick, Hargrove, & Kaslow, 2008) and attachment (El-Sheikh & Elmore-Staton, 2004) play in the link between exposure to intimate partner violence and negative outcomes. For instance, Owen and colleagues (2008) examined an at-risk sample of women and their children to determine if perceived social support decreases negative symptoms for children exposed to intimate partner conflict and found that social support mediates the relationship between exposure and externalizing behaviors for children. Kennedy and colleagues (2009) examined the relationship between exposure to intimate partner violence (as well as community and school violence), perceived family social support, and anxiety, and found that exposure to intimate partner violence is related to increased levels of anxiety but that families that experience intimate partner violence are capable of providing social support, which may moderate the effects of some types of violence exposure on anxiety. These studies are important because limited studies exist that examine the role of social support in the family violence and negative outcomes link, and the findings signify that individuals in violent families can offer positive relationship qualities that can reduce negative symptoms of violence exposure.

El-Sheikh and Elmore-Staton (2004) also investigated how one aspect of social support, namely parent-to-child attachment, impacts the relationship between marital conflict and negative child adjustment problems; they also examined parent-to-child

conflict. The authors hypothesized that parent-to-child conflict would moderate the negative outcomes associated with marital conflict while secure parent-child attachment would mediate outcomes. They found that weak attachment to parents moderate rather than mediate the relationship between marital conflict and behavioral problems for children; secure attachment acted as a protective factor.

### *Parent-to-Child Violence*

Recent research suggests that attachment may play a role in understanding the relationship between early experiences of physical parent-to-child violence and later violent offending (see Herrenkohl et al., 2003 and Salzinger, Rosario, & Feldman, 2007). For instance, Herrenkohl and colleagues (2003) examined parental attachment as well as other elements in a social bond as potential mediators to severe parent-to-child violence on adolescent violence. They found that severe parent-to-child violence, whether measured prospectively or retrospectively, is largely mediated in its prediction of youth violence so that such abuse itself does not lead to violence but rather takes other routes. The prospective and retrospective models had similar structural paths, but the retrospective model provided a fuller pattern of mediation. It revealed that parental attachment partially mediated experiences of severe parent-to-child violence on violence and had a direct effect on violence. In both models, youth who reported higher scores on the parental attachment variable were significantly less likely to engage in violence while those who reported lower scores were more likely to engage in violence.

Salzinger, Rosario, and Feldman (2007) also studied the role of attachment as a mediator to the relationship between severe parent-to-child violence and later violent offending. Here, the researchers used a sample of 100 confirmed physically abused

and/or neglected urban schoolchildren and 100 matched non-abused children. In the study, subjects were asked about violent delinquency in the past year using a subset of items modified from Elliott and Ageton's (1980) Self Report of Delinquency. They were also asked about severe verbal and physical violence between themselves and their parents as well as themselves and their current best friends using an instrument created by the researchers that summed up violence scores. Finally, they were asked about attachment to their primary parent figure and to close friends. The study found that parental attachment (but not peer attachment) mediated the relationship between severe parent-to-child violence and later violent delinquency, meaning that severe parent-to-child violence led to weak attachment, which led to violent delinquency.

#### *Family-of-Origin Violence*

Research indicates that attachment plays a role in the relationship between family-of-origin violence and later intimate partner violence. One study by Kesner and McKenry (1998) examined both childhood and adult attachment, family-of-origin violence (measured by asking respondents if they had witnessed intimate partner violence by a mother, witnessed intimate partner violence by a father, or experienced violence themselves at the hands of their mother or father) and later intimate partner violence perpetration. They found that violence in childhood and adult attachment factors are related to the perpetration of violence by males against their intimate partners. Unexpectedly, childhood attachment was not related to adult violence, but it was related to adult attachment style, which was related to adult violence. Upon further analyses, adult attachment factors differentiated violent and non-violent groups. Violent males and their partners were less likely to have secure attachment style (i.e., weak, avoidant

attachment) compared to non-violent males and their partners, and the insecurity of the attachments can be seen as responsible for the perpetration of violence.

Additionally, research has examined how attachment to intimate partners functions in the relationship between family-of-origin violence and later violence perpetration as well as the perceived likelihood of it. Lackey and Williams (1995) measured partner attachment with a Likert-type scale that asked men how important it was to have special occasions and activities with their partner while family-of-origin violence was measured by combining experiences of exposure to intimate partner violence and parent-to-child violence. They found that partner attachment acted as a moderator to early family violence on intimate partner violence perpetration so that the stronger partner attachment was rated by men from violent homes, the less likely these men were to report engaging in violence and the less likely they reported the future likelihood of violence with a spouse/cohabitant. However, there was no relationship between attachment by men from non-violent homes and their likelihood to offend. Future studies are needed to determine why this is unique to men from violent families.

### *Putting the Pieces Together*

The examination of the different forms of family violence sheds much light on the commonalities of familial violence. Each form of family violence has been studied independently in order to identify risk factors that can help in understanding why that specific form of violence occurs. We know a great deal about risk factors for intimate partner violence, parent-to-child violence, and sibling violence, yet limited research attempts to consider *shared* risk factors that can assist in explaining family violence. Taken together, the research reveals that certain demographics (e.g., gender, age, number



of children), family characteristics (e.g., stress, conflict, aggression), and victimization in the family-of-origin (e.g., exposure to intimate partner violence, parent-to-child violence) are risk factors commonly found in each unique form of family violence that can also be used explain general family violence. Interestingly, these factors have been found to hold irrespective of the severity of the violence. For instance, the same factors which explain severe intimate partner violence, severe parent-to-child violence, and severe sibling violence also explain minor violence between spouses, ordinary physical punishment, and minor sibling violence (see section titled *Risk Factors for Family Violence*).

Each form of family violence victimization has been linked to negative correlates and outcomes including problematic attachment and offending. Although evidence on the former is scarce, evidence to support the latter is abundant. In particular, exposure to intimate partner violence, parent-to-child violence, and sibling violence have all been linked to violence perpetration inside and outside the family as well as violence perpetration against those considered close to an individual later in life: intimates and victims' own children. For instance, evidence links exposure to intimate partner violence (Howells & Rosenbaum, 2007; Straus & Gelles, 1990), parent-to-child violence (Benda & Corwyn, 2002; Fagan, 2005; Smith & Thornberry, 1995; Straus & Gelles, 1990; Thornberry et al., 2001; Widom, 1989a; Widom & Maxfield, 2001), and sibling violence (Gully et al., 1981) to aggressive and violent behavior. Evidence also links exposure to intimate partner violence (Carr & vanDeusen, 2002; Heyman & Smith Slep, 2002; Hill & Nathan, 2008; Shook et al., 2000; Whitfield et al., 2003; Wolfe et al., 1998), parent-to-child violence (Fagan, 2005; Hill & Nathan, 2008; Shook et al., 2000; Simonelli et al., 2002; Straus & Gelles, 1990; Straus et al., 2006; Whitfield et al., 2003), and sibling

violence (Noland et al., 2004; Simonelli et al., 2002) to a specific form of family violence perpetration later in life: intimate partner violence.

Research has also observed the same negative correlates when more than one of these family violence experiences has occurred (e.g., Heyman & Smith Slep, 2002; Hotaling et al., 1990; Wekerle & Wolfe, 1998; Wolfe et al., 1998). However, the risk of behavioral problems (El-Sheikh & Elmore-Staton; 2004) and violence (Whitfield et al., 2003) becomes greater with each form of family violence victimization experienced. In fact, data from the Adverse Childhood Experiences Study indicates that when exposure to intimate partner violence is experienced along with physical and sexual parent-to-child violence, the risk of violence perpetration increases nearly fourfold for men compared with twofold for experiencing one form when compared to those who have not experienced such violence (Whitfield et al., 2003). This suggests that the totality of family violence experiences should be taken into account, yet research that measures family violence victimization rarely captures all experiences and almost always leaves out sibling violence.

A recent meta-analysis on the intergenerational transmission of violence suggest that there is a weak to moderate relationship between growing up in a violent home and becoming involved in violent relationships (see Stith et al., 2000). It is possible that the relationship could strengthen if dating couples were included in the study along with those married and cohabitating. Nevertheless, not all victims of early family violence engage in later violence. This is less well understood in research and more studies are needed to determine how the “cycle of violence” is broken. One factor that may help to explain this is attachment. Recent research is emerging (see The Role of Attachment in

Family Violence Research) that implies the usefulness of attachment in explaining the early experiences of family violence victimization and later negative outcomes like violence perpetration. Yet there is a lack of research using adults, and a lack of research that incorporates multiple forms of early family violence (e.g., exposure to intimate partner violence, parent-to-child violence, and sibling violence) and multiple attachment relationships (e.g., best friends, intimates, parents, and siblings).

Nevertheless, it is possible that individuals who experience early family violence are able to form positive attachments later in life, which can reduce the risk of violence. On the other hand, those individuals who are not able to secure constructive attachments with others may be at increased risk of violence. Attachment theory and social control theory would both be useful in explaining this. Yet, it is possible that some individuals may form positive attachments that increase violence if the attachment is to someone who also engages in violence, which would provide support for a social learning explanation.

#### Explanations – Why Does Family Violence Occur?

##### *Direct Route – Early Violence → Later Violence: The Social Learning Explanation*

Research examining the link between early family violence experiences and later violent behavior often references social learning theory as an explanation for the phenomenon (e.g., Benda & Corwyn, 2002; Grusec, 1992; Hoffman & Edwards, 2004; Straus et al., 2006). In short, social learning theory states that experiencing or even witnessing violence early in life provides a framework where one learns that violence is an appropriate response to certain situations. For example, family violence victimization is thought to influence later violence because one will model the behaviors they have experienced and are familiar with when placed into similar situations later in life (see

Bandura, 1977). This holds especially true when the perpetrator of violence is someone who is older, seen as powerful or authoritative, and admired.

Social learning theory, developed by Albert Bandura, helps to explain why family violence (as well as the cycle of violence) exists. Bandura (1977) believed people are not born with the ability to act violently but learn to be aggressive through their life experiences and interactions with significant others. Children as well as adolescents and adults learn to act aggressively because they model their behavior after the violent acts seen or experienced early in their lives; in this case, modeling parent-to-parent, parent-to-child violence, or sibling violence. In the case of witnessing parent-to-parent violence, a child may mimic the violent acts exhibited between parents with a sibling. In the case of parent-to-child violence, the physical punishment received may send a signal that it is permissible to use violence against others under certain conditions. With sibling violence, one may learn to act violently with individuals similar in age. Consequently, violent experiences, whether indirect or direct, may influence violence as a means of conflict resolution with others since violent episodes often lack verbal reasoning and effective communication strategies. This can be seen in later relationships (Bandura, 1977; Grusec, 1992). The violent behavior occurs because one forms an idea of how new behaviors are performed from observing others and once this information is cognitively acquired, it guides later actions through imitation and modeling (Bandura, 1977).

A famous study by Bandura (1961), known as the “Bobo Doll” study, helped to provide support for social learning theory. Here, a group of young children were exposed to an aggressive adult model that beat up a bobo doll and shouted aggressive words at the toy. The group of children who observed the aggressive behavior (i.e., experimental

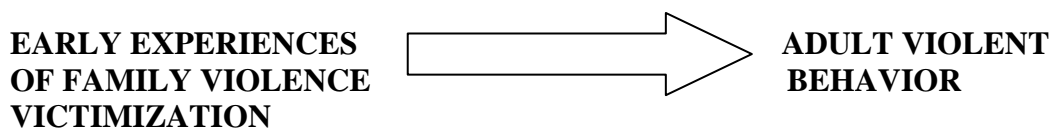
group) and a group of children who did not observe the aggressive behavior (i.e., control group) were later placed in a room with a similar bobo doll. The study found that the children in the experimental group imitated the aggressive adult model by hitting the bobo doll and shouting unkind words at it (Bandura, 1961). Conversely, children in the control group did not exhibit such physical and verbal aggression. This reveals that the children's behavior was learned, modeled, and imitated after adult actions. The behavior was not a result of external reinforcement, but rather of observational learning.

Observational learning involves acquiring information through attention, retention, motor reproduction, and motivation (Bandura, 1977). Attention is determined by the power and attractiveness of the model. In this case, an adult figure is the focus. Retention deals with holding the behavior in memory. Motor reproduction involves reproducing the behavior. Finally, motivation is when the observer expects to get something out of the behavior, which is similar to self-reinforcement. All this plays a role in observational learning. Individuals operate cognitively on their experiences, whether direct or indirect, and these cognitions influence actual behavior and tactics, as seen in the experiment.

According to the cycle of violence hypothesis, also known as the intergenerational transmission of violence hypothesis, a history of violence in the family of origin is associated with an increased risk of becoming a perpetrator (or even a victim) of violence in adulthood (Gelles, 1997; Simonelli et al., 2002; Straus et al., 2006). Therefore, witnessing intimate partner violence, experiencing parent-to-child violence, and/or experiencing sibling violence influences later adult violent behavior including but not limited to perpetrating violence in adult intimate relationships and using violence against

one's own child/children. This is depicted in Figure 2.1 and implies that there is a direct link between early experiences of family violence and later violent behavior.

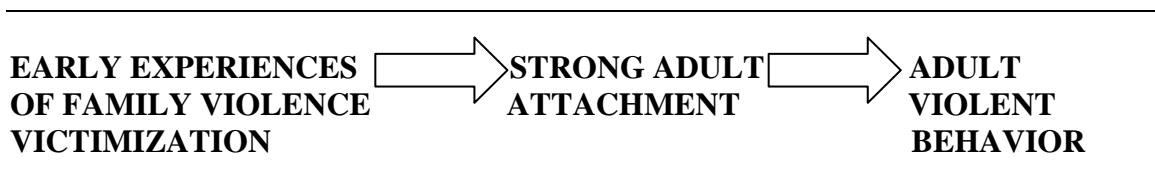
Figure 2.1 Social Learning Theory Pathway



When multiple forms of family violence co-occur, there is a greater chance that violence will be witnessed or experienced. According to social learning theory, this poses a greater risk for later violent offending given the opportunity to watch and learn these violent behaviors. The co-occurrence of different forms of family violence also suggests that each form of family violence is not just one problem but an aspect of a larger problem that can be explained through social learning.

Figure 2.2 also provides a social learning explanation for the relationships between early experiences of family violence victimization and later adult violent behavior. In this alternative model, it is possible that strong attachment exists to the family violence perpetrator that can adult violence perpetration because, as previously stated, violent behaviors seen/experienced early in life pose a greater risk of being enacted by an individual when the perpetrator is someone who is seen as important, powerful, and looked up to (Bandura, 1961; Bandura, 1977; Simons & Johnson, 1998). Therefore, a victim of childhood family violence would have strong admiration and, quite likely, strong attachment to the perpetrator and subsequently model the perpetrator's violent behaviors with others in adulthood if social learning theory is correct.

Figure 2.2 Alternative Social Learning Theory Pathway



*Indirect Route –*

*Early Violence → Weak Attachment → Later Violence: Attachment Theory & Social Control Theory*

Attachment theory and social control theory are both useful in helping to explain why early experiences of family violence relate to adult violent behavior as well as non-violent behavior. Rather than attributing the relationship to the role modeling of a parent to whom the child is attached, these theories suggest that the relationship exists because of quite the opposite: children are suffering from a lack of attachment (see Simons & Johnson, 1998). According to attachment theory, the initial bond formed between parent and child predicts how successful the child will be in later adult relationships. Individuals who experience family violence are less likely to have strong, secure attachments early in life and so they tend to have more troubled relationships later in life given that early attachment experiences serve as a framework for later relationship experiences (Ainsworth et al., 1978; Bowlby, 1969). Any disrupted or damaged attachment can play an important role in later negative behavior. For instance, weak attachment early in life can lead to anger in the form of conflict, violence, and abusive patterns in later intimate relationships (Bowlby, 1984; Kesner & McKenry, 1998).

Therefore, it is possible that early experiences of family violence relate to adult violence via problematic attachment.

In regard to social control theory, positive, strong attachments provide constraints against negative, non-conforming behaviors while negative, weak attachments provide no constraints, thereby influencing one's decision to offend or engage in devious acts (Hirschi, 1969). Experiencing early forms of family violence can break or weaken any existent bond and free one to engage in negative behaviors like violence perpetration. Just like attachment theory, this theory also suggests that early experiences of family violence relate to adult violent behavior via weak attachment. However, this is not to say that people with early problematic attachments to caregivers cannot develop positive attachments to others later in life; although it may be more difficult for these individuals to interact in social relationships and establish positive attachment, some influential figure(s) can come into the person's life and make it possible to establish a successful and supportive attachment. This potentially can help to explain a resistance to engage in later negative behaviors, yet there is no research on the topic. For example, someone who experienced early family violence may have weak attachment to a caregiver, but may somehow establish positive attachment to a normative peer(s), which can help to explain why this person does not get immersed with deviant behavior. Conversely, someone who experienced early family violence may have weak attachment to a caregiver and trouble forming positive attachment to normative peers, which is expected to increase negative behaviors. This peer relationship is just one of several important relationships that can help us understand changes in attachment and behavior. As one ages, he/she encounters various opportunities to form attachments with others.



### *Attachment theory*

Attachment is a bond or tie between two individuals. Almost all the research on attachment looks at how family violence impacts early attachment building off Bowlby's (1969) theory of maternal attachment. This psychological theory focuses on attachment styles and cognitive schemes. It states that all people are naturally predisposed to form close relationships in order to satisfy basic needs; when stressed or scared, individuals look for someone they can rely on for safety and protection. Adequate care during infancy establishes positive, secure attachment while inadequate or even inconsistent care during infancy causes disrupted types of attachment, leading to trouble in later interpersonal relationships. Thus, violent families are likely to cause disrupted patterns of attachment, which can lead to trouble in forming attachment in later relationships.

Bowlby was among the first attachment theorists who described attachment as an enduring psychological connectedness between two people (Bowlby, 1969), indicating that the bond is an emotional one. In general, attachment theory states that an infant needs physical proximity to his/her caregiver in order to receive the protection, warmth, and care essential for survival. The infant looks for the caregiver to be nearby as well as provide comfort and support. The type of treatment the child receives from the caregiver determines the attachment established between the child and his/her caregiver (Bowlby, 1969). This is important for developing the child's feelings of security and dependability.

Looking into more detail, the child develops something known as internal working models, which are expectations that can be used to predict the caregiver's availability and responsiveness to the child when the child seeks the caregiver (Bowlby, 1973). These

internal working models become stable over time and incorporated into one's personality; they determine how an individual thinks, feels, and acts in later social relationships based on his/her internalized expectations. Therefore, attachment has a continuing impact in the child's life and determines later behavior in interpersonal relationships. Research has verified the notion of such attachment stability (see Hazan & Shaver, 1987).

According to Bowlby (1984), anger is a natural part of relationships. Anger as well as other negative emotions result when attachment needs are not satisfied, when a partner threatens to leave, or when a partner feels rejected. Although a couple may not physically separated, stress results from a psychological separation and can be considered the equivalent of parent-child separation. The violence serves as a form of protest from the adult, just as a child has been found to protest when separated from his/her parent (Bowlby, 1973; Kesner & McKenry, 1998). Therefore, attachment, when threatened, plays a role in adult violent behavior.

Ainsworth and colleagues (1978) expanded on the work of Bowlby. By studying the behavior of infants who were briefly separated from their parents in a controlled laboratory setting known as the Strange Situation Protocol, they observed the children's reactions and subsequent behaviors, which formed the categorizations for different styles of attachment: secure attachment, anxious-ambivalent (also referred to as ambivalent-insecure) attachment, and avoidant attachment (see Ainsworth et al., 1978). The first attachment style, secure attachment, is when a child experiences minimal distress when separated from his/her parent because he/she knows the parent will come back; the child relies on his/her parent for comfort and support and feels safe enough to play and explore the world even without the parent. In the second attachment style, anxious-ambivalent, a

child becomes distressed when separated from his/her caregiver because the child is unsure as to whether the caregiver will be there for them. There is inconsistency in the availability and responsiveness of the caregiver. In the third attachment style, avoidant, a child tries to avoid his/her caregiver and might show no preference between his/her caregiver and a complete stranger. It is in this category that a child possibly may experience violence. A fourth category of disorganized/disoriented attachment was added by researchers (Main & Solomon, 1990), where infants lack any coherent coping strategy. This may result when a caregiver is depressed or abusive.

The attachment styles displayed at such an early age are similar to the attachment styles that develop in adulthood. This is because early attachment styles have a great impact on how one interprets and acts in later social relationships (Ainsworth et al., 1978). Thus, those with a secure attachment style tend to have positive adult relationships while those with ambivalent-insecure and avoidant attachment styles tend to have more troubled adult relationships (See Collins and Read, 1990 for a study of adults' attachment styles and their recall of childhood attachment styles with parents). As a result, those who experience early forms of family violence are thought to have weak adult attachments to close others since such violence has been linked to weak childhood attachment and that attachment remains stable over time.

Hazan and Shaver (1987) have expanded attachment theory to explain intimate adult relationships. They discuss affectional bonds formed between lovers as a similar process to that underlying affectional bonds formed earlier in life between infants and parents (Hazan & Shaver, 1987). More specifically, they suggest that the type of attachment style one has in adulthood with an intimate partner is similar to the attachment style one

has had early in childhood with a parent, reflecting continuity in the attachment process guided by internal working models. Hazan and Shaver (1987) have identified three categories of attachment: secure, anxious/ambivalent, and avoidant, which resemble the categories proposed for childhood attachment: secure, anxious/ambivalent, avoidant. In the secure attachment style, an individual is happy and trusting in an intimate relationship; in the anxious/ambivalent attachment style, an individual has obsessive thoughts about being with a partner, developing closeness, and falling in love; in the avoidant attachment styles, an individual experiences fear of intimacy and lacks trust in relationships (Hazan & Shaver, 1987). Thus, attachment style established in childhood is very similar to attachment style exhibited in adulthood. When attachment styles are non-secure, there is greater risk for violence.

#### *Social control theory*

Little research, if any, investigates how adult attachment impacts violence in Hirschi's social control theory (1969) because most research investigates childhood attachment and how it impacts a wide range of delinquent behaviors, rather than focusing on adult attachment and a specific topic like family violence or physically violent offending. Social control theory, also known as social bonding, was originally formulated to explain juvenile delinquency, but it is also suitable in explaining other behaviors since it is internally consistent, logically coherent, parsimonious, and *not* tautological (Akers, 1999). Unlike many criminological theories, this theory is often used to explain why people conform, rather than explaining why they commit crime, since everyone is assumed to have equal motivation to become criminal. Individuals with

strong bonds are more inclined to abide by conventional behavior, whereas individuals with weak bonds are thought to be at greater risk for offending (Hirschi, 1969).

The elements that make up a bond include: attachment, commitment, involvement, and belief (see Hirschi, 1969). Attachment is named the most important of these elements and affects all other dimensions of a social bond. It involves affectionate or emotional ties to those close to an individual such as family members, intimates, and friends (e.g., Benda & Corwyn, 2002; Foshee et al., 1999; Hirschi, 1969; Lackey & Williams, 1995). Hirschi (1969) operationalizes attachment to caregivers/parents as consisting of close parental supervision and proper discipline, good communication between the parent and child, and the child's identification with his/her parent while he measures attachment to peers as affectional identification and respect for *conventional* best friends (Hirschi, 1969), as delinquent best friends have been found to increase delinquency (Akers, 1999). Hirschi (1969) argues that attachment to caregivers, and eventually to others, is important in controlling misbehavior and urges like retaliation and intimidation; this attachment is considered necessary for the internalization of norms. Further, someone with strong attachments develops sensitivity to the opinions of others and by doing so, would not want to disappoint those he/she is attached to by engaging in behavior deemed inappropriate. However, in the absence of attachment, one will act out and engage in deviant behaviors.

Unlike attachment theory, in social control theory, attachment may change over time, which is extremely important to note and consider. There are various circumstances in one's life where attachment may weaken or, conversely, strengthen. For instance, divorce, a death in the family, incarceration and other misfortunes can lead to a negative

change in attachment while the acquisition of new family members can create either positive or negative attachment (for examples, see Glueck & Glueck, 1974; West & Farrington, 1973). Research has supported the notion that the establishment of some social bonds may act as “turning points” that can influence nonviolent relationships for some individuals victimized early in life (Lack & Williams, 1995). Yet limited research examines dating couples who have been noted for higher rates of violence, and no research has encompassed sibling violence in its search of family-of-origin violence as a form of victimization. Nevertheless, the fact that bonds can change over time is important to note and may help us better understand the cycle of violence. Important to note, research often relies on social learning theory to explain why those who witness or experience family violence early in life subsequently use violence themselves, yet research also shows that many people from violent families do not perpetrate violence later in life (e.g., Rivera & Widom, 1990; Straus et al, 2006; Widom, 1989a). Perhaps attachment to those other than the individuals involved in the violence can help to explain why some people who experience family violence do *not* go on to become violent.

#### *Attachment theory & social control theory*

Attachment theory and social control theory have their differences, but they also share many similarities. In regard to differences, attachment theory exposes the origins of attachment as an early bonding experience between an infant and his/her caregiver that is essential for the child’s survival; it is the early attachment style that determines one’s responses and later behavior. In this manner, attachment is an evolutionary and stable process. Conversely, social control theory starts with the premise that all people are motivated towards deviance, but only individuals free of bonds (or those with weak

bonds) will engage in negative behaviors; those with strong bonds will refrain from it. However, the bonds in social control theory are not static and have been found to change over time. The natural criminal motivation is not an assertion made in attachment theory, nor is the changing status of the bond. Another difference is that attachment theory focuses on various attachment styles while social control theory focuses on attachment as only one elements to a bond; commitment, involvement, and belief are also included in understanding bonds. Additionally, attachment theory tends to focus on infants while social control theory tends to focus on youth and adolescence, although both have focused on adults as well.

Attachment theory and social control theory share many similar concepts. Both theories deal with important social relationships between human beings that are formed relatively early in life. Notably, both theories focus on emotional ties to those who are considered closest to a person: one's parent. The theories also consider the amount of time one spends with that close someone as well as whether one can depend on or rely on that significant person. Additionally, both theories look at how one person views or looks up to someone. Both theories also examine how early experiences influence attachment and how that attachment influences behavior. For instance, poor interactions between parent and child at an early age, such as is the case in a violent family, can lead to weak, disrupted attachments while positive interactions between parent and child at an early age can provide positive, secure attachment, and individuals who have secure attachment are much less likely to offend or act violently later in life when compared to those with other attachment styles. Figure 2.3 reflects the general idea behind attachment theory and social control theory.

Figure 2.3 Attachment Theory and Social Control Theory Pathway





### CHAPTER 3: RESEARCH QUESTIONS

There are three questions at the bivariate level that form the groundwork for the primary focus of this dissertation: the association between family violence victimization experiences and adult physically violent behavior, the association between family violence victimization experiences and adult attachment type, and the association between adult attachment type and adult physically violent behavior.

- *RQ(1) Are childhood experiences of family violence victimization related to adult physically violent behavior?*

Table 3.1 presents the hypothesized relationships. It is predicted that experiencing any form of family violence victimization has a positive relationship with adult physically violent behavior.

Table 3.1 Family Violence Victimization and Adult Violent Behavior Hypotheses

Adult Physically Violent Behavior	Form of Family Violence Victimization		
	Exposure to Intimate Partner Violence	Parent-to-Child Violence	Sibling Violence
Yes	+	+	+
No	-	-	-

- *RQ(2) Is there a relationship between childhood experiences of family violence victimization and adult attachment type?*

Table 3.2 presents the hypothesized relationships between adult attachment type and family violence victimization. Given that most research only examines attachment to a parent, this study will provide an understanding of the other types of relationships that exist. It is predicted that relationships where one was victimized relate to low attachment in that relationship. Specifically, exposure to intimate partner violence and parent-to-child violence relate to low adult attachment to a parent and that sibling violence relates

to low adult sibling attachment. No predictions are made for the other relationships, as it is believed that high attachment can be formed in some of the relationships.

Table 3.2 Family Violence Victimization and Adult Attachment Type Hypotheses

Adult Attachment Type	Form of Family Violence Victimization		
	Exposure to Intimate Partner Violence	Parent-to-Child Violence	Sibling Violence
Parent	-	-	0
Sibling	0	0	-
Intimate Partner	0	0	0
Best Friend	0	0	0

- *RQ(3) Is there a relationship between adult attachment type and adult physically violent behavior?*

Table 3.3 illustrates the hypothesized relationships between adult attachment types and adult physically violent behavior. It is predicted that there is an inverse relationship between adult attachment and adult violent behavior so that low attachment relates to adult violent behavior while high attachment relates to non-violence across all attachment types.

Table 3.3 Adult Attachment Type and Adult Physically Violent Behavior

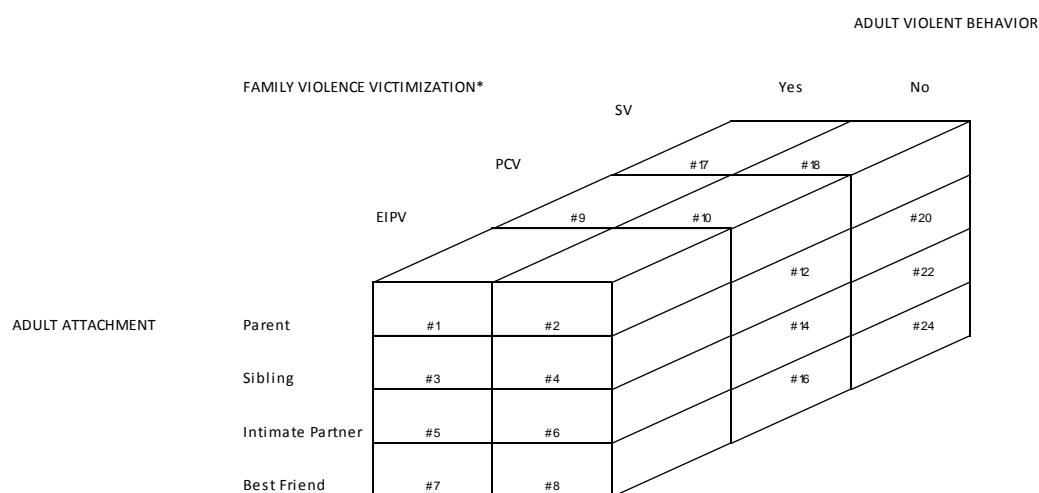
Adult Violent Offending	Adult Attachment Type			
	Parent	Sibling	Intimate Partner	Best Friend
Yes	-	-	-	-
No	+	+	+	+

- *RQ(4) Does adult attachment type act as a mediator/moderator on the relationship between childhood experiences of family violence victimization and adult physically violent behavior?*

The investigation of the mediating/moderating effect of adult attachment on the relationship between family violence and adult physically violent behavior is the focus of this dissertation.

This analysis will yield 24 separate sub-analyses. Given the complexity of Research Question #4, a figure was created to exhibit all of the possible relationships that may exist in an effort to test for mediating and moderating effects. This is illustrated in Figure 3.1. This figure is presented as a set of first order analyses. That is, the analyses will be conducted on block pairs (e.g., blocks 1 and 2). The figure is heuristic and not meant to convey a specific statistical analysis.

Figure 3.1 Hypotheses Regarding the Mediating/Moderating Effect of Adult Attachment



**\* FAMILY VIOLENCE VICTIMIZATION KEY:**

EIPV = Exposure to Intimate Partner Violence

PCV = Parent-to-Child Violence

SV = Sibling Violence Victimization

Each of the block sets comprising Figure 3.1 can each be examined individually by taking the blocks from the larger picture and converting them to first-order tables. These tables, then, may be used to display theoretically derived hypotheses.

In general, it is predicted that all forms of family violence victimization and all types of low adult attachment are associated with adult physically violent behavior. This is especially true when the victimization and low attachment are linked to the same perpetrator (e.g., sibling violence victimization and low sibling attachment correlate with violent behavior; parent-to-child victimization and low parental attachment correlate with violent behavior; exposure to intimate partner violence and low parental attachment correlate with violent behavior) as suggested by both theories. However, it is also predicted that one can form high attachments in relationships where the respondent was not victimized (e.g., those who experience parent-to-child violence are thought to be able to develop high attachment to peers or intimates) that is predicted to be correlated with no violent behavior.

Beginning with blocks 1 and 2 in this figure, this is the first-order analysis of the effect of adult attachment to a parent on the relationship between exposure to intimate partner violence and adult physically violent behavior. It is predicted that low adult parental attachment plays a role in the relationship between exposure to intimate partner violence and adult physically violent behavior. Exposure to intimate partner violence and low adult parental attachment are predicted to relate to adult physically violent behavior, as reflected in Table 3.4. Low adult parental attachment and no exposure to intimate partner violence are also predicted to relate to physically violent behavior.

Table 3.4 The Effect of Adult Attachment to a Parent on the Relationship between Exposure to Intimate Partner Violence and Adult Violent Behavior

	Block #1		Block #2	
	ADULT ATTACHMENT TO A PARENT			
	High		Low	
	Exposure to Intimate Partner Violence		Exposure to Intimate Partner Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Next, with blocks 3 and 4 in this figure, is the first-order analysis of the effect of adult attachment to a sibling on the relationship between exposure to intimate partner violence and adult physically violent behavior. Individuals with low adult sibling attachment who have been exposed to intimate partner violence as well as those not exposed to intimate partner violence are predicted to have engaged in adult physically violent behavior, as seen in Table 3.5. The reason being that if someone exposed to intimate partner violence engages in violent behavior, they may not have formed a positive attachment to another, in this case, a sibling, who would provide constraints against such behavior.

Table 3.5 The Effect of Adult Attachment to a Sibling on the Relationship between Exposure to Intimate Partner Violence and Adult Violent Behavior

	Block #3		Block #4	
	ADULT ATTACHMENT TO A SIBLING			
	High		Low	
	Exposure to Intimate Partner Violence		Exposure to Intimate Partner Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

With blocks 5 and 6 in this figure, this is the first-order analysis of the effect of adult attachment to an intimate partner on the relationship between exposure to intimate partner violence and adult physically violent behavior. It is predicted that low adult attachment to an intimate partner and exposure to intimate partner violence relate to adult physically violent behavior, as seen in Table 3.6. Again, the reason being that if someone exposed to intimate partner violence offends, they may not have formed a positive attachment to an individual who would provide constraints against violent behavior. It is also predicted that low adult attachment to an intimate partner and no exposure to intimate partner violence relate to adult physically violent behavior.

Table 3.6 The Effect of Adult Attachment to an Intimate Partner on the Relationship between Exposure to Intimate Partner Violence and Adult Violent Behavior

	Block #5		Block #6	
	ADULT ATTACHMENT TO AN INTIMATE PARTNER			
	High		Low	
	Exposure to Intimate Partner Violence		Exposure to Intimate Partner Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Moving on to blocks 7 and 8 in this figure, this is the first-order analysis of the effect of adult attachment to a best friend on the relationship between exposure to intimate partner violence and adult physically violent behavior. It is predicted that low adult attachment to a best friend and exposure to intimate partner violence relate to adult physically violent behavior, as seen in Table 3.7. Likewise, it is predicted that low adult attachment to a best friend and no exposure to intimate partner violence relate to adult physically violent behavior.

Table 3.7 The Effect of Adult Attachment to a Best Friend on the Relationship between Exposure to Intimate Partner Violence and Adult Violent Behavior

	Block #7		Block #8	
	ADULT ATTACHMENT TO A BEST FRIEND			
	High		Low	
	Exposure to Intimate Partner Violence		Exposure to Intimate Partner Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Turning to blocks 9 and 10 in this figure, this is the first-order analysis of the effect of adult attachment to a parent on the relationship between parent-to-child violence and adult physically violent behavior. It is predicted that low parental attachment and parent-to-child violence are associated with adult physically violent behavior, as seen in Table 3.8. It is also predicted that low parental attachment and no exposure to parent-to-child violence are associated with adult physically violent behavior.

Table 3.8 The Effect of Adult Attachment to a Parent on the Relationship between Parent-to-Child Violence and Adult Violent Behavior

	Block #9		Block #10	
	ADULT ATTACHMENT TO A PARENT			
	High		Low	
	Parent-to-Child Violence		Parent-to-Child Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Moving to blocks 11 and 12, this is the first-order analysis of the effect of adult attachment to a sibling on the relationship between parent-to-child violence and adult physically violent behavior. It is predicted that low adult attachment to a sibling and parent-to-child violence relate to adult physically violent behavior, as seen in Table 3.9. Likewise, low adult attachment to a sibling and no parent-to-child violence are predicted relate to adult physically violent behavior.

Table 3.9 The Effect of Adult Attachment to a Sibling on the Relationship between Parent-to-Child Violence and Adult Violent Behavior

	Block #11		Block #12	
	ADULT ATTACHMENT TO A SIBLING			
	High		Low	
	Parent-to-Child Violence		Parent-to-Child Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Turning to blocks 13 and 14, this is the first-order analysis of the effect of adult attachment to an intimate partner on the relationship between parent-to-child violence and adult physically violent behavior. It is believed that low adult attachment to an intimate partner and parent-to-child violence relates to adult physically violent behavior, as seen in Table 3.10. Low adult attachment to an intimate partner and no parent-to-child violence are also predicted to relate to adult physically violent behavior.



Table 3.10 The Effect of Adult Attachment to an Intimate Partner on the Relationship between Parent-to-Child Violence and Adult Violent Behavior

	Block #13		Block #14	
	ADULT ATTACHMENT TO AN INTIMATE PARTNER			
	High		Low	
	Parent-to-Child Violence		Parent-to-Child Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Moving to blocks 15 and 16, this is the first-order analysis of the effect of adult attachment to a best friend on the relationship between parent-to-child violence and adult physically violent behavior. It is predicted that low adult attachment to a best friend and parent-to-child violence are associated with adult physically violent behavior, as seen in Table 3.11. Low adult attachment to a best friend and no parent-to-child violence are also predicted to relate to adult physically violent behavior.

Table 3.11 The Effect of Adult Attachment to a Best Friend on the Relationship between Parent-to-Child Violence and Adult Violent Behavior

	Block #15		Block #16	
	ADULT ATTACHMENT TO A BEST FRIEND			
	High		Low	
	Parent-to-Child Violence		Parent-to-Child Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Turning to blocks 17 and 18, this is the first-order analysis of the effect of adult attachment to a parent on the relationship between sibling violence victimization and adult physically violent behavior. Low adult attachment to a parent and sibling violence victimization are predicted relate to adult physically violent behavior, as depicted in Table 3.12. Additionally, low adult attachment to a parent and no sibling violence victimization are predicted to relate to adult physically violent behavior.

Table 3.12 The Effect of Adult Attachment to a Parent on the Relationship between Sibling Violence Victimization and Adult Violent Behavior

	Block #17		Block #18	
	ADULT ATTACHMENT TO A PARENT			
	High		Low	
	Sibling Violence Victimization		Sibling Violence Victimization	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Moving to blocks 19 and 20, this is the first-order analysis of the effect of adult attachment to a sibling on the relationship between sibling violence victimization and adult physically violent behavior. Low adult sibling attachment and sibling violence victimization are predicted to relate to adult physically violent behavior, as seen in Table 3.13. Additionally, low adult attachment and no sibling violence victimization are predicted to relate to adult physically violent behavior.

Table 3.13 The Effect of Adult Attachment to a Sibling on the Relationship between Sibling Violence Victimization and Adult Violent Behavior

	Block #19		Block #20	
	ADULT ATTACHMENT TO A SIBLING			
	High		Low	
	Sibling Violence		Sibling Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	-	-	+	+

Turning to blocks 21 and 22, this is the first-order analysis of the effect of adult attachment to an intimate partner on the relationship between sibling violence victimization and adult physically violent behavior. Low adult attachment to an intimate partner and sibling violence victimization are predicted to relate to adult physically violent behavior, as seen in Table 3.14, just as low adult attachment to an intimate partner and no sibling violence victimization are predicted to relate to adult physically violent behavior.

Table 3.14 The Effect of Adult Attachment to an Intimate Partner on the Relationship between Sibling Violence Victimization and Adult Violent Behavior

	Block #21		Block #22	
	ADULT ATTACHMENT TO AN INTIMATE PARTNER			
	High		Low	
	Sibling Violence		Sibling Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

Ending with blocks 23 and 24, this is the first-order analysis of the effect of adult attachment to a best friend on the relationship between sibling violence victimization and adult physically violent behavior. Low adult attachment to a best friend and sibling violence victimization are predicted to be associated with adult physically violent behavior, as seen in Table 3.15. Similarly, low adult attachment to a best friend and no sibling violence victimization are predicted to be associated with adult physically violent behavior.

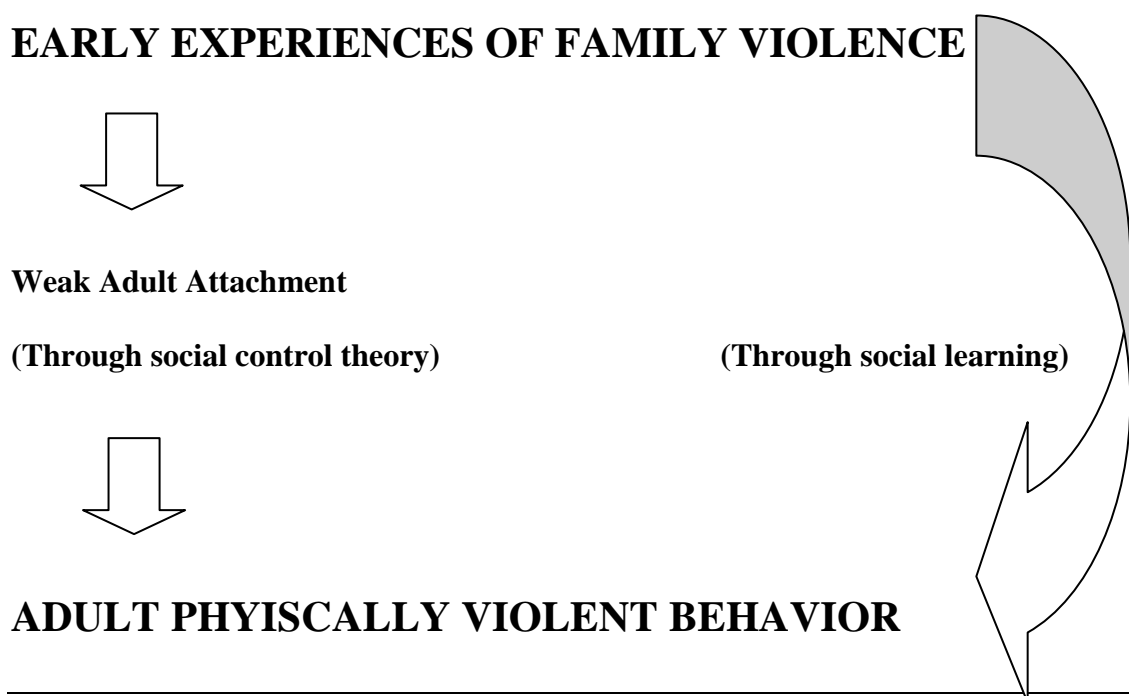
Table 3.15 The Effect of Adult Attachment to a Best Friend on the Relationship between Sibling Violence Victimization and Adult Physically Violent Behavior

	Block #23		Block #24	
	ADULT ATTACHMENT TO AN BEST FRIEND			
	High		Low	
	Sibling Violence		Sibling Violence	
	Yes	No	Yes	No
Adult Physically Violent Behavior				
Yes	-	-	+	+
No	+	+	-	-

## CHAPTER 4: METHODOLOGY

Figure 4.1 exhibits two possible routes that can help to explain how early experiences of family violence lead to adult physically violent behavior; one of these routes being direct (i.e., through social learning) and one being indirect via attachment (i.e., attachment theory and/or social control theory).

Figure 4.1 Competing Theoretical Explanations for Early Family Violence Victimization and Later Adult Physically Violent Behavior



It is important that each of these forms is examined, as a myriad of research provides evidence that links them to later violence (see Chapter 2). Nevertheless, what is not known and a lot less studied is the role of adult attachment. Weak adult attachments may be a correlate of early family violence victimization, and this may influence later violent behavior. However, some individuals may form positive attachments to others that

would act to influence law abiding behavior. Thus, some relationships may act to buffer any negative experiences thereby resulting in lower offending but various adult attachment types (i.e., to best friend, an intimate, a parent, and a sibling) have yet to be investigated in research, which is important in understanding how such attachments impact the early victimization – later perpetration link.

## Measurement

### *Variables*

It should be noted that the manner in which key concepts below are conceptualized and operationalized are relatively consistent with past research. For instance, the relationships defined in each segment below, such as intimate partner, parent, and sibling are similar to those used in other studies. Additionally, the attachment variable consists of measures similar to the measures Benda and Corwyn (2002) used, which measured attachment on a Likert-type scale by asking each respondent how close he/she felt to, how much he/she liked to be with, and how much he/she wanted to be like his/her mother or father. The measures for attachment in this study are also similar to the measure used by Henry and colleagues (1994), which measured attachment by asking each respondent how close he/she felt to his/her parents. A fourth attachment measure was added asking each respondent how much he/she trusts individuals considered close to him/her (e.g., best friend, intimate partner, parent, sibling) because it reflects another form of attachment, anxious attachment, which research indicates is important to investigate and may differ from the other measures used (Rodrigues & Kitzmann, 2007). Numerous other attachment surveys include similar measures (e.g., Armsden & Greenberg, 1987; Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Fraley, Waller, &

Brennan, 2000; Hazan & Shaver, 1987). In regard to physical violence, whether examining victimization or perpetration, the acts included consist of those commonly used in studies and found in the physical violence and abuse segments of the Conflict Tactics Scale (for examples of studies using the Conflict Tactics Scale or modified versions of it as a measure, see Carr & VanDeusen, 2002; Eriksen & Jensen, 2006; Graham-Bermann et al., 1994; Hoffman et al., 2005; Howells & Rosenbaum, 2008; Kesner & McKenry, 1998; Noland et al., 2004; Shook et al., 2000; Springer et al., 2007; Straus et al., 2006; Temcheff et al., 2008).

### *Independent Variables*

In order to measure experiences of family violence victimization, each respondent is asked about acts of physical violence that may have occurred within the family-of-origin at some point in time; this includes direct and indirect experiences. Again, such violence refers to physical acts intended to inflict injury or cause pain. Exposure to intimate partner violence, also referred to as exposure to parental violence, is defined as having witnessed or viewed an act of violence between parents/caregivers. Parent-to-child violence is defined as having experienced violence perpetrated by a parent or caregiver. Sibling violence is defined as having experienced violence perpetrated by a sibling. For each form of family violence (i.e., exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization), the respondent is asked whether he/she has ever experienced minor acts of violence and then asked whether he/she has ever experienced severe acts of violence. The acts included for each form of family violence are based off of a combination of acts found in the minor and severe physical assault subscales of all versions of the Conflict Tactics Scales (i.e., Conflict Tactics Scale,

Revised Conflict Tactics Scale, and Parent-Child Conflict Tactics Scale; see Straus, 1979; Straus, 2006); minor violence includes acts like throwing something at someone, pushing, shoving, grabbing, slapping, pinching, or spanking someone while severe violence includes acts like punching or hitting someone with a fist, kicking, choking, slamming against a wall, beating up, biting, burning, and threatening or actually using a knife or gun. Given that the wording found in different versions of the Conflict Tactics Scale can be modified to reflect any relationship (Straus, Hamby, Boney-McCoy, & Sugarman, 1996), it is an ideal measure to use in studying multiple forms of family violence. Responses are coded for minor violence (1 = no victimization, 2 = victimization) and severe violence (1 = no victimization, 2 = victimization) for each form of family violence victimization experience.

Additionally, the respondents are asked about the duration, frequency, and severity of both minor and severe family violence victimization experiences (i.e., exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization). Duration is defined as the length of time, measured in periods, which the act/acts occurred. In order to determine the duration, the respondent is first asked about the onset of violence, or when the act/acts first occurred (1 = before elementary school, 2 = elementary school, 3 = middle school, 4 = high school, 5 = after high school), and then asked about desistance, or when the act/acts ended (1 = before elementary school, 2 = sometime in elementary school, 3 = sometime in middle school, 4 = sometime in high school, 5 = after high school or did not end). The onset and desistance allowed the researcher to determine the number of periods over which minor and severe violence had occurred for each form of family violence, which was then coded (0 = no periods, 1 = 1



period, 2 = 2 periods, 3 = 3 periods, 4 = four periods, 5 = 5 periods). For instance, if no minor acts of exposure to intimate partner violence occurred, then the duration resulted in a score of zero since it occurred over zero periods of time. If, however, minor acts of exposure to intimate partner violence started before elementary school and ended after high school, then this has occurred over five periods. The frequency of minor and severe family violence victimization is derived by asking respondents how often the act/acts happened (1 = almost never, 2 = not often, 3 = neutral, 4 = somewhat frequently, 5 = very frequently), while the severity asks about how severe the respondents would rate the act/acts (1 = not severe at all, 2 = not really that severe, 3 = neutral, 4 = somewhat severe, 5 = very severe).

#### *Mediator/Moderator Variable*

The role of adult attachment is investigated in the link between early experiences of family violence and later violent offending. Attachment itself is defined as the affectionate or emotional ties between two individuals. Since this study examines adult attachment only, subjects eighteen years of age and older will be asked about their current attachment in regard to those types of relationships that should be considered as closest to a respondent: a best friend, an intimate partner, a sibling, and a parent, thereby encompassing intra-familial as well as extra-familial relationships. A best friend is defined as someone that one share similar interests to, often hang out with, and consider trustworthy and dependable; the best of all their friends. The respondent is asked whether he/she has had a best friend, which will be dichotomized into No/Yes (1 = No, 2 = Yes). If the respondent answers Yes, that he/she has had a best friend, then he/she is asked “How emotionally close or connected do you feel with your best friend?”, “How

much do you like spending time with your best friend?”, “How much do you look up to or admire your best friend?”, and “How much do you trust your best friend to be loyal/faithful to you?” Each question is measured on a Likert-type scale (1 = very little, 2 = little, 3 = neither a little nor a lot, 4 = quite much, 5 = very much). These four measures represent attachment to a best friend. The same questions and measures just described will also be used to measure attachment to an intimate, a parent, and a sibling. An intimate partner is defined as someone whom one is going out with, dating, or romantically involved with, which may include a dating partner, girlfriend, boyfriend, fiancé, wife, or husband. A parent refers to a primary caregiver or the person responsible for taking care of and raising the respondent while growing up, regardless of whether or not the parent is biologically related; if the respondent’s parent is no longer living, he/she is asked to provide information on the relationship that did exist when the respondent was living with his/her parent. Lastly, a sibling includes having a brother or sister, brothers, sisters, or any combination of, which are biologically related, adopted, or acquired into the family/family household through marriage (e.g., step-brothers/step-sisters).

### *Dependent Variable*

Adult physically violent behavior is the outcome variable of interest in the current study. Consistent with past research, this is defined as engaging in an intentional act (or acts) by someone over the age of 18 that has the potential of causing injury or pain to another person. It is measured using acts commonly found in the Conflict Tactics Scale among other surveys. Mild violence is measured by asking the respondent “In the past year, have you thrown something at someone, pushed, shoved, grabbed, or slapped someone?”, which is similar to the acts Straus (1979, 2006) included as minor violence,

what Fagan (2005) has used in measuring minor intimate partner violence, and others have used in measuring other forms of family violence. Severe violence is measured by asking the respondent “In the past year, have you punched or hit someone with a fist, kicked or choked someone, slammed someone against a wall, beaten up, bit, or burned someone, or threatened to use or actually used a knife or gun against someone?” This is also similar to acts Straus (1979, 2006) and others have used to gauge severe violence. Responses are dichotomized for each question (1 = No, 2 = Yes). Another variable has been created to measure *any* adult physically violent behavior (1 = No, 2 = Yes), regardless of the severity of violence. If the respondent answers ‘Yes’ to any of the violence measures, he/she is asked whether he/she has engaged the act(s) against someone considered close to them, someone they know, someone they do not know, or rather not say (coded 1, 2, 3, 4, accordingly).

### *Control Variables*

Basic demographics, such as age (continuous variable), gender (1 = male, 2 = female), race/ethnic background (1 = White/Caucasian, 2 = Black/African-American, 3 = Hispanic/Latino, 4 = Asian, 5 = Other), marital status (1 = married, 2 = engaged, 3 = single, 4 = separated, 5 = divorced),<sup>1</sup> approximate financial status (1 = poor, 2 = below average, 3 = average, 4 = good, 5 = extremely well-off) and academic achievement (1 = F student, 2 = D student, 3 = C student, 4 = B student, 5 = A student) were also collected for this study. Approximate financial status was recoded to represent below average, average, and above average (coded 1, 2, and 3, respectively) and academic achievement

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<sup>1</sup> Given that most of the students in the sample define themselves as ‘single’, marital status was excluded from this study.

was recoded to include A students, B students, and C/D students (1, 2, and 3, respectively) given that no students reported being F students.

### Sample

This study has been conducted with a sample of undergraduate students enrolled in a large urban university in the Northeast. More specifically, only adult subjects over the age of eighteen whom were attending Rutgers University in Newark, New Jersey during the fall of 2009 were used in this study. Rutgers University has over 10,000 students whom are racially diverse: 33% are White, 17% are Black, 13% are Hispanic, 19% are Asian, 12% are Unknown, and 6% are foreign students (CityTownInfo.com, 2007). One of the reasons that Rutgers University was chosen is because of its college setting; research has found high rates of dating violence among college students, especially when compared to the general population. For instance, studies have shown that the rate of intimate violence among college students is nearly 30%, which is approximately double the rate that is found in married couples (Stets & Straus, 1990b). Further, the risk of intimate violence perpetration (as well as victimization) is highest for those between the ages of twenty and twenty-four (Rennison & Welchans, 2000). Additionally, in comparison to children or adolescents, adults they may be able to better reflect one's life experiences and reveal sensitive information about victimization within the family that they otherwise might not been able to provide while growing up, whether due to fear of retaliation, separation from the family, or another reason.

The study sample will be taken from those individuals enrolled in undergraduate social science courses, including criminal justice courses, psychology courses, sociology courses, and political science courses. The rationale behind this is that students enrolled

in such social science courses may be more aware and open to identifying the issues contained in the survey, as their courses may introduce them to human behavior and such related matters that provide them with a background on the given topics. This awareness can potentially increase low-base rates as informed respondents can offer positive answers to their experiences while other undergraduate courses may have students who are not familiar with the topics report false negatives, which causes the underreporting of rates and can potentially lead to Type 1 error. In order to minimize recall error, data obtained from students who are over twenty-eight years of age will be excluded.

#### Data Collection & Procedures

A self-administered survey was administered to an opportunistic sample of undergraduate students enrolled in social science courses, including criminal justice, psychology, sociology, and political science courses.<sup>2</sup> In order to reach our subjects, contact was made via email with instructors of introductory courses who taught during the fall of 2009 semester. Approximately 20 instructors were emailed and asked if they were willing to set aside 20 to 30 minutes during one class period where students can take part in the study, which includes time to administer and complete the surveys, thereby forming a convenience sample for this study. Instructors who responded to this email and answered affirmatively were then asked to choose a date/time for the researcher to come in, explain the survey, distribute the survey, and collect the data. After dates and times were set, the researcher visited the classrooms, verbally explained the purpose of the survey to all students present, and distributed the self-report surveys to those who were willing to participate.

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<sup>2</sup> A pilot study was first conducted in the summer of 2009 using one criminal justice course. The study had a high completion rate; fourteen out of 15 students participated (93%). Slight adaptations were made based off this study for the current study.

The survey was accompanied by a two identical informed consent forms that provided participants with contact information to reach the researcher and/or the Institutional Review Board if they so desired; these consent forms also provided information about the purpose of the study as well as the potential risks and benefits. The first copy was signed and returned to the researcher while the second copy was for the participants to hold onto in case they had any questions about the study (see Appendix A). The students were also informed that participation in the survey is voluntary and the information provided will be anonymous in order to protect students' identity.

In order increase response rates and to reward participants for their time, participants were told that, if interested, they may provide their emails on the informed consent form and several participants would be selected at random to win one of a few prizes (five \$20 gift cards were awarded). The winners were notified at the survey close date of their award status via email, and arrangements were made to pick up prizes. The survey remained anonymous since there were no identifiers to link the responses in the survey to the respondents; those who desired to be included in the prize pool provided an email address on the informed consent form that they returned to the researcher.

The informed consent forms and surveys were collected after respondents completed them and subsequently placed them into corresponding manila envelopes. The researcher collected both envelopes after about thirty minutes or when the respondents finished up. The data were entered into a dataset using Statistical Package for the Social Sciences (SPSS) also known as Predictive Analytics Software (PASW).

## CHAPTER 5: RESULTS<sup>1</sup>

Of the 20 instructors emailed, twelve instructors (60%) responded. From this responding group, ten (83%) were willing to lend class time for the study; one instructor refused to offer class time and another instructor could not offer class time as her course since the student did not meet (i.e., distance learning via online class). Arrangements made between the researcher and instructors were followed by the researcher. The researcher was able to visit all 10 classrooms, which consisted of a total of 427 students. The size of the classrooms ranged from 19 to 163 students.

The response rate for the survey was rather high. About 95% of students who were asked to participate in the study did so. From the surveys collected among the group of participants, 32 couldn't be used; 12 were completed by individuals older than 28 years of age and 20 were mostly incomplete. This left a total of 372 surveys (i.e., 92.1% of the surveys collected from students), which comprised the sample size.

### Descriptive Statistics

In this chapter, descriptive statistics will be provided first, followed by bivariate and multivariate statistics resulting from tests that have been performed on the research questions presented in Chapter 3.

#### *Participant Demographics*

Participant demographic characteristics are displayed in Table 5.1. The majority (57.8%) of participants in the study were female. The student respondents were a racially/ethnically diverse group: 26.7% were White, 17.0% were Black, 26.1% were Hispanic/Latino, 16.2% were Asian, and 14% comprised an 'Other' grouping. The age

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<sup>1</sup> Statistical Package for the Social Sciences (SPSS) also known as Predictive Analytics Software (PASW) was utilized for data description and data analyses.

of the participants ranged from 18 to 28 years of age with a mean of 20.2 years (standard deviation = 2.01 years). The majority of participants described their financial status as average (54%), while 21.3% reported their financial status as being below average, and 24.7% reported being above average. Finally, 25.4% of participants reported being A students, 56.5% reported being B students, and 18.1% reported being C or D students.

Table 5.1 Participant Demographics (N = 372)

Variable	Mean (Standard Deviation)	%
<b>Sex</b>		
% Female		57.8
<b>Race</b>		
% White		26.7
% Black		17.0
% Hispanic/Latino		26.1
% Asian		16.2
% Other		14.0
<b>Age</b>	20.2 (2.01)	
<b>Financial Status</b>		
% Below Average		21.3
% Average		54.0
% Above Average		24.7
<b>Academics</b>		
% A Student		25.4
% B Student		56.5
% C or D Student		18.1

### *Family Violence Victimization*

Family violence victimization is displayed in Table 5.2. Data revealed that 37.1% of respondents were victims of exposure to minor parental violence, 72.8% were victims of minor parent-to-child violence, and 78.4% were victims of minor sibling violence. Additionally, data from survey responses revealed 14.2% of the respondents were exposed to severe parental violence, 18.0% were victims of severe parent-to-child violence, and 28.7% experienced severe sibling violence victimization (cases where



respondents did not have siblings were excluded resulting in a subsample of 328). The data also revealed that the duration of experiences was rather short; minor parent-to-child violence and minor sibling violence victimization had the longest durations (i.e., occurring over approximately two different periods in time) while exposure to severe parental violence and severe parent-to-child violence had the shortest. The frequency of experiences showed that they did not occur often; minor parent-to-child violence and minor sibling violence victimization were highest in occurrence (i.e., not often) while the exposure to severe parental violence and severe parent-to-child violence were lowest (i.e., almost never). Finally, the severity of experiences revealed that they were rated as not being severe; minor parent-to-child violence and minor sibling violence victimization were highest (i.e., not really severe) while the severity for exposure to severe parental violence and severe parent-to-child violence were lowest (i.e., not severe at all). The fact that some respondents did not experience minor or severe forms of family violence is reflected by the numbers.

Table 5.2 Family Violence Victimization (N = 372)

<b>Form of Family Violence Victimization</b>	<b>Minor Violence</b>		<b>Severe Violence</b>	
	<b>Mean (Standard Deviation)</b>	<b>%</b>	<b>Mean (Standard Deviation)</b>	<b>%</b>
<b>Exposure to Parental Violence</b>				
% Yes		37.1		14.2
Duration	.88(1.45)		.40(1.11)	
Frequency	.91(1.43)		.47(1.22)	
Severity	1.04(1.56)		.56(1.43)	
<b>Parent-to-Child Violence</b>				
% Yes		72.8		18.0
Duration	1.86(1.57)		.37(.95)	
Frequency	1.68(1.35)		.40(.97)	
Severity	1.58(1.31)		.58(1.33)	
<b>Sibling Violence Victimization</b>				
% Yes		78.4		28.7
Duration	1.94(1.56)		.62(1.17)	
Frequency	1.91(1.39)		.66(1.21)	
Severity	1.56(1.19)		.73(1.33)	

### *Adult Attachment Type*

Table 5.3 displays information for adult attachment types. Ninety-eight percent of the student respondents reported having a best friend, 83.9% reported having an intimate partner, 100% reported having a parent/caregiver, and 88.2% reported having a sibling. Adult attachment was based on four measures: emotional closeness, involvement, admiration, and trust, which were based upon a five-point Likert-like scale. All measures of attachment were moderate to high. Trust and emotional closeness were highest for attachment to a best friend, involvement and emotional closeness were highest for attachment to an intimate partner, admiration and trust were highest for attachment to a

parent, and trust and emotional closeness were highest for attachment to a sibling.

Overall, the measures for parental attachment were highest; attachment to a best friend and attachment to an intimate partner were lower than parental attachment, which is interesting given that individuals can choose their friends and partners but not parents. Given that attachment was measured on a five-point Likert scale and most respondents reported high attachment to others, there is little overall variation present.

Table 5.3 Adult Attachment Type (N = 372)

<b>Variable</b>	<b>Mean (Standard Deviation)</b>	<b>%</b>
<b>Best Friend</b> % Yes		97.6
<b>Attachment to a Best Friend</b> Emotional Closeness Involvement Admiration Trust	4.09 (.93) 4.14(.82) 3.58(1.10) 4.29(.91)	
<b>Intimate Partner</b> % Yes		83.9
<b>Attachment to an Intimate Partner</b> Emotional Closeness Involvement Admiration Trust	4.17(1.03) 4.34(.85) 3.77(1.11) 3.82(1.21)	
<b>Parent</b> % Yes		100.0
<b>Attachment to a Parent</b> Emotional Closeness Involvement Admiration Trust	4.04(1.11) 3.73(1.07) 4.16(1.09) 4.43(.96)	
<b>Sibling</b> % Yes		88.2
<b>Attachment to a Sibling</b> Emotional Closeness Involvement Admiration Trust	3.70(1.18) 3.63(1.16) 3.47(1.23) 4.05(1.10)	

### *Adult Physically Violent Behavior*

Table 5.4 displays information for adult physically violent behavior. Thirty-nine percent of the respondents reported committing some form of minor violence in the past year (i.e., having thrown something at someone, pushed, shoved, grabbed, or slapped someone in the past year); of these, most acted violently against someone considered close to them (40.8%). Eighteen percent of the respondents reported committing some form of severe violence in the past year (i.e., punching or hitting someone, kicking or choking someone, slamming someone against a wall, beating up, biting, or burning someone in the past year); of these, most acted violently against strangers (34.8%). When examining *any* violent behavior in the past year, the data revealed that nearly 39.8% reported engaging in some degree of violent behavior in the past year. As stated in Chapter 4, any violent behavior will serve as the dependent variable measure for bivariate and multivariate analyses.

Table 5.4 Adult Physically Violent Behavior (N = 372)

<b>Variable</b>	<b>%</b>
<b>Adult Minor Physical Violence</b>	
% Yes	38.7
<b>Adult Severe Physical Violence</b>	
% Yes	18.0

### Data Reduction

#### *Family Violence Victimization Variables*

New variables were created in order to account for the duration of experiences as well as perceived frequency and severity. Since minor acts of violence may be perceived as abusive if serious and repetitive in nature (and some severe acts may be perceived as having minor effects), it is important to account for the duration, frequency, and severity

of the acts. Exploratory analyses were conducted to test the reliability of six factors (i.e., minor violence duration, severe violence duration, minor violence frequency, severe violence frequency, minor violence severity, and severe violence severity) in measuring exposure to parental violence, parent-to-child violence, and sibling violence victimization. Specifically, Cronbach's alpha was computed and revealed good reliability for the six variables used to construct each family violence victimization scale; specifically, exposure to parental violence ( $\alpha = .955$ ), parent-to-child violence ( $\alpha = .902$ ), and sibling violence victimization ( $\alpha = .899$ ). For exposure to parental violence, all of the variables were strongly related to one another. For the scales involving parent-to-child violence and sibling violence victimization, the minor and severe items clustered together.

Due to the high alpha levels, factor analysis was conducted for exposure to parental violence, parent-to-child violence, and sibling violence victimization to determine what, if any, underlying structure exists for measures on the following six variables: minor violence duration, severe violence duration, minor violence frequency, severe violence frequency, minor violence severity, and severe violence severity. For each analysis, principal components analysis was performed with one factor being extracted for each form of family violence victimization. This analysis was chosen because it can systematically reduce a large number of independent variables to a smaller and more coherent set of variables or even one single variable that represents a linear combination of the original variables (see Duntelman, 1989).

First, principal components analysis was conducted on variables related to exposure to parental violence including duration of minor violence, frequency of minor violence,

severity of minor violence, duration of severe violence, frequency of severe violence, and severity of severe violence with the goal of creating one single factor. Table 5.5 displays the loadings for these six variables. The resulting factor had an eigenvalue of 4.96 and accounted for 82.6% of the total variance of the observed variables. This factor will be used in further testing of the hypotheses.

Table 5.5 Component Loadings for Exposure to Parental Violence

	<b>Loading</b>
Severe Violence Frequency	.929
Minor Violence Frequency	.929
Severe Violence Severity	.918
Severe Violence Duration	.906
Minor Violence Duration	.887
Minor Violence Severity	.882

Next, principal components analysis was conducted on variables related to parent-to-child violence including duration of minor violence, frequency of minor violence, severity of minor violence, duration of severe violence, frequency of severe violence, and severity of severe violence with the goal of creating one single factor. Table 5.6 displays the loadings for these six variables. The resulting factor had an eigenvalue of 4.16 and accounted for 69.4% of the total variance of the observed variables. This factor will be used in further testing of hypotheses.

Table 5.6 Component Loadings for Parent-to-Child Violence

	<b>Loading</b>
Severe Violence Frequency	.877
Severe Violence Severity	.873
Severe Violence Duration	.826
Minor Violence Frequency	.822
Minor Violence Severity	.814
Minor Violence Duration	.779

Last, principal components analysis was conducted on variables related to sibling violence victimization including duration of minor violence, frequency of minor violence, severity of minor violence, duration of severe violence, frequency of severe violence, and severity of severe violence with the goal of creating one single factor. Table 5.7 displays the loadings for these six variables. The resulting factor had an eigenvalue of 4.06 and accounted for 67.7% of the total variance of the observed variables. This factor will be used in further testing of hypotheses.

Table 5.7 Component Loadings for Sibling Violence Victimization

	<b>Loading</b>
Severe Violence Frequency	.877
Severe Violence Severity	.870
Severe Violence Duration	.862
Minor Violence Frequency	.790
Minor Violence Severity	.772
Minor Violence Duration	.756

#### *Adult Attachment Type Variables*

Exploratory analyses were conducted to test the reliability of four factors (i.e., emotional closeness, involvement, admiration, and trust) in measuring adult attachment in four relationship types: best friend, intimate partner, sibling, and parental. Cronbach's alpha was computed and revealed good reliability for the four measures of attachment in measuring attachment to a best friend ( $\alpha = .813$ ), an intimate partner ( $\alpha = .882$ ), a sibling ( $\alpha = .895$ ), and a parent ( $\alpha = .894$ ).

Factor analyses were then conducted on variables related to adult attachment types including emotional closeness, involvement, admiration, and trust in order to determine if there is any underlying structure using methods recommended by Duntelman (1989). For each analysis, principal components analysis was performed with the goal of creating one

single factor for each attachment type (i.e., attachment to a best friend, attachment to an intimate partner, attachment to a parent, and attachment to a sibling). Table 5.8 displays the loadings for the four variables in regard to attachment to a best friend. The resulting factor had an eigenvalue of 2.59 and accounted for 64.7% of the total variance of the observed variables. Table 5.9 displays the loadings for the four variables in regard to attachment to an intimate partner; the resulting factor had an eigenvalue of 3.00 and accounted for 75.1% of the total variance of the observed variables. Table 5.10 displays the loadings for the four variables in regard to attachment to a parent; the resulting factor had an eigenvalue of 3.03 and accounted for 75.8% of the total variance of the observed variables. Finally, Table 5.11 displays the loadings for the four variables in regard to attachment to a sibling; the resulting factor had an eigenvalue of 3.04 and explained 76.1% of the total variance of the observed variables. Each of these factors will be used in further testing of the hypotheses.

Table 5.8 Component Loadings for Attachment to a Best Friend

	<b>Loading</b>
Emotional Closeness	.859
Admiration	.798
Involvement	.781
Trust	.776

Table 5.9 Component Loadings for Attachment to an Intimate Partner

	<b>Loading</b>
Emotional Closeness	.899
Involvement	.865
Trust	.852
Admiration	.850



Table 5.10 Component Loadings for Attachment to a Parent

	<b>Loading</b>
Admiration	.892
Emotional Closeness	.884
Involvement	.857
Trust	.849

Table 5.11 Component Loadings for Attachment to a Sibling

	<b>Loading</b>
Emotional Closeness	.897
Involvement	.886
Admiration	.871
Trust	.834

### Bivariate Analyses

There are three questions at the bivariate level that must be investigated in this study: the association between family violence victimization experiences and adult physically violent behavior, the association between family violence victimization experiences and adult attachment type, and the association between adult attachment type and adult physically violent behavior. Table 5.12 presents the results from bivariate correlation analysis.

Table 5.12 Bivariate Correlations of the Association between Family Violence Victimization and Adult Physically Violent Behavior (N = 372<sup>2</sup>)

Variable♦	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>EIPV</b>	1.0							
<b>PCV</b>	.53**	1.0						
<b>SV</b>	.41**	.46**	1.0					
<b>ATT_BF</b>	-.21**	-.22**	-.22**	1.0				
<b>ATT_INT</b>	-.18**	-.29**	-.22**	.33**	1.0			
<b>ATT_P</b>	-.40**	-.49**	-.29**	.35**	.26**	1.0		
<b>ATT_S</b>	-.12*	-.26**	-.16**	.26**	.17**	.36**	1.0	
<b>VIOLENCE</b>	.20**	.33**	.29**	-.16**	-.06	-.20**	-.09	1.0

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

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

♦Variable Key:

EIPV = Exposure to Intimate Partner Violence

PCV = Parent-to-Child Violence

SV = Sibling Violence Victimization

ATT\_BF = Attachment to a Best Friend

ATT\_INT = Attachment to an Intimate Partner

ATT\_P = Attachment to a Parent

ATT\_S = Attachment to a Sibling

VIOLENCE = Any Violent Behavior in the Past Year

*RQ(1) Are Childhood Experiences of Family Violence Victimization Related to Adult Physically Violent Behavior?*

In regard to the first research question, bivariate correlations were estimated to examine whether childhood experiences of family violence victimization (i.e., exposure to intimate partner violence, parent-to-child violence, and sibling violence) relate to adult physically violent behavior. Data analysis revealed that exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization are all positively correlated with adult physically violent behavior. There is a weak positive relationship ( $r = .20, p < .01$ ) between exposure to intimate partner violence and adult physically violent behavior; that is, higher exposure to parental violence is associated with adult physically

<sup>2</sup> Some of the correlations are based on smaller sample sizes. For instance, not everyone in the sample has a sibling, nor does everyone have (or have had) a best friend or intimate partner.

violent behavior. Additionally, there is a moderate positive relationship ( $r = .33, p < .01$ ) with parent-to-child violence and adult physically violent behavior. Lastly, there is a moderate positive relationship ( $r = .29, p < .01$ ) between sibling violence victimization and adult physically violent behavior. This supports the hypotheses made in Chapter 3.

*RQ(2) Is There a Relationship between Childhood Experiences of Family Violence Victimization and Adult Attachment Type?*

The second research question also reveals significant relationships. Beginning with the first form of family violence examined, results from bivariate correlation analysis suggest that exposure to intimate partner violence is related to all attachment relationship types: attachment to a best friend, attachment to an intimate partner, attachment to a parent, and attachment to a sibling. There is a moderate negative relationship between exposure to intimate partner violence and parental attachment ( $r = -.40, p < .01$ ); there are also weak negative relationships between exposure to intimate partner violence and attachment to a best friend ( $r = -.21, p < .01$ ), an intimate partner ( $r = -.18, p < .01$ ) and a sibling ( $r = -.12, p < .05$ ). Higher exposure to parental violence is associated with lower attachment in all relationships. Although no prediction was made for many of the attachment types, the results from this analysis provide support for the specific hypothesis (see Chapter 3) that exposure to intimate partner violence relates to weak parental attachment, and among all of the attachments, the parental one is the strongest.

The next form of family violence, parent-to-child violence, is also related to all attachment types. Interestingly, the highest correlation here was also with attachment to a parent; there is a large negative relationship ( $r = -.49, p < .01$ ) between parent-to-child violence and attachment to a parent. This suggests that higher parent-to-child violence is associated with lower adult parental attachment, which supports the hypothesis made in

Chapter 3. Analyses also revealed weak to moderate negative relationships between parent-to-child violence and attachment to a best friend ( $r = -.22, p < .01$ ), attachment to an intimate partner ( $r = -.29, p < .01$ ), and attachment to a sibling ( $r = -.26, p < .01$ ) so that higher parent-to-child violence is associated with lower attachment.

Likewise, sibling violence victimization is related to adult attachment types. The results from bivariate correlations reveal weak to moderate negative relationships between sibling violence victimization and attachment to a best friend ( $r = -.22, p < .01$ ), attachment to an intimate partner ( $r = -.22, p < .01$ ), attachment to a parent ( $r = -.29, p < .01$ ), and attachment to a sibling ( $r = -.16, p < .01$ ). Thus, higher sibling violence victimization is associated with lower attachment as hypothesized in Chapter 3. However, attachment to a sibling is not the strongest correlation among attachment types here; attachment to a parent is.

*RQ(3) Is There a Relationship between Adult Attachment Type and Adult Physically Violent Behavior?*

This research question investigates whether there is a relationship between adult attachment type and adult physically violent behavior. Data analysis revealed that there is a weak negative relationship ( $r = -.16, p < .01$ ) between attachment to a best friend and adult physically violent behavior. There is also a weak negative relationship ( $r = -.20, p < .01$ ) between attachment to a parent and adult physically violent behavior; that is, higher attachment to a best friend and/or to a parent is associated with non-violence. The other attachment relationships were not significant. It was predicted that there would be an inverse relationship between adult attachment types and adult violent behavior so that low attachment relates to adult violent behavior while high attachment relates to non-violence across all attachment types; this was only partially supported.

### Multivariate Analyses

*RQ(4) Does Adult Attachment Type Act as a Mediator/Moderator on the Relationship between Childhood Experiences of Family Violence Victimization and Adult Physically Violent Behavior?*

This fourth research question is the critical focus of this study. Specifically, it tests whether adult attachment types act as a mediator/moderator on the relationship between childhood experiences of physical family violence on adult physically violent behavior. Analyses conducted by Baron and Kenny (1986) were conducted to examine whether adult attachment types mediate or moderate the relationship between family violence victimization and adult physically violent offending. For mediation, this includes establishing association between: (1) the independent variable and the dependent variable, (2) the independent variable and the mediator variable, and (3) the mediator variable and the dependent variable. Thus, if the effect of family violence victimization and adult physically violent behavior is reduced by introducing adult attachment type variables, then mediation is said to exist. For moderation, the moderator variable affects the direction and/or strength of the relationship between the independent and the dependent variable. Thus, moderation exists if the relationship between family violence victimization and adult physically violent behavior is a function of adult attachment types (i.e., an interaction).

In order to test this, the study employed logistic regression analysis. This method is used because the dependent variable is a dichotomy and because of its desirable properties and ease in interpretation of coefficients (Aldrich & Nelson, 1984). The method allows the researcher to assess multiple independent variables of any type to predict a dichotomous dependent variable like group membership and determines the

percent of variance in the dependent variable explained by the independent variables (Tabachnick & Fidell, 1996); these independent or predictor variables are typically explained in terms of odd ratios. In logistic regression, one can examine whether the addition of new variables makes a significant contribution in explaining the dependent variable by using nested models (Tabachnick & Fidell, 1996). Logistic regression also permits the use of interaction effects using product terms to test for moderation (Jaccard, 2001; Tabachnick & Fidell, 1996).

For purposes of this study, two different sets of equations were used to estimate whether adult attachment types (i.e., attachment to a best friend, an intimate partner, a parent, and a sibling) play a role in explaining adult physically violent behavior. These will determine whether attachment and social control theories (or whether social learning theory) serve as useful theoretical frameworks for studying adult violent behavior. The two sets of analyses are: (1) nested models to analyze the independent effect of each adult attachment type of the relationship between family violence victimization and adult physically violent behavior, and (2) models using main effects and interactions between family violence-adult attachment types on adult physically violent behavior.

Before estimating the models, bivariate analyses were conducted using the study's primary covariates in order to test for significant relationships between covariates and family violence and adult attachment variables. Analyses revealed that all of the covariates (i.e., age, gender, race/ethnicity, financial status, and academic achievement) were related to some variable in the study (i.e., either family violence or adult attachment

type variables). As a result, these covariates were retained and used in the multivariate analyses to control for estimate inflation.<sup>3</sup>

*Logistic regression of family violence victimization and adult attachment type on adult physically violent behavior*

Six models were estimated to investigate the influence of adult attachment type on adult physically violent behavior. These are displayed in Table 5.13. The first model includes the intercept and covariates (i.e., age, gender, race/ethnicity, financial status, and academic achievement) only.<sup>4</sup> The second model adds family violence victimization variables including exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization. Models 3 through 6 each have one, and only one, adult attachment type; model 3 attachment to a best friend, model 4 attachment to an intimate partner, model 5 attachment to a parent, and model 6 attachment to a sibling.<sup>5</sup> The improvement of fit statistic ( $\chi^2$ ) from model 1 to model 2 and models 3 through 6 provide an indication of the predictive power of the variables beyond that of the covariates alone.

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<sup>3</sup> Correlation analysis was used to determine whether age relates to family violence victimization and adult attachment variables, an independent sample t-test was used to determine whether gender relates to family violence victimization and adult attachment type variables, and one-way ANOVA was used to determine whether race/ethnicity, financial status, and academic progress relate to family violence victimization and adult attachment type variables.

<sup>4</sup> For categorical variables, the first category served as the reference category. For the variable of gender, male was the omitted reference category. For race/ethnicity, White was the reference category. For financial status, below average was the reference category. For academic progress, C/D student was the reference category.

<sup>5</sup> The enter method was used for each block.

Table 5.13 Logit Estimates of Family Violence Victimization and Adult Attachment Type on Adult Physically Violent Behavior (N = 372)

Variable	1	2	3	4	5	6
<b>Age</b>	-.173**	-.24***	-.26***	-.229**	-.24***	-.24***
<b>Male</b>	-.173	-.192	-.095	-.090	-.187	-.201
<b>Race (omit White)</b>						
Black/African American	.031	.446	.559	.534	.447	.468
Hispanic/Latino	-.174	-.005	-.102	.080	-.001	.013
Asian	-.247	.090	.138	.127	.090	.107
Other	.272	.275	.276	.392	.277	.278
<b>Financial Status (omit &lt; Avg)</b>						
Average	.050	.393	.410	.189	.401	.390
> Average	-.386	.247	.251	.368	.286	.268
<b>Academic Achiev (omit C/D)</b>						
B Student	-.844**	-.751*	-.645	-.765*	-.747*	-.762*
A Student	-.917**	-.884*	-.843*	-.956*	-.881*	-.888*
<b>Exposure to Intimate Partner Violence</b>	-	-.046	-.095	-.019	-.051	-.049
<b>Parent-to-Child Violence</b>	-	.62***	.60***	.56***	.61***	.63***
<b>Sibling Violence</b>	-	.374*	.454**	.417*	.374*	.374*
<b>Attachment to a Best Friend</b>	-	-	-.151	-	-	-
<b>Attachment to an Intimate Partner</b>	-	-	-	.024	-	-
<b>Attachment to a Parent</b>	-	-	-	-	-.023	-
<b>Attachment to a Sibling</b>	-	-	-	-	-	.052
Nagelkerke R Square	.088	.247	.268	.255	.247	.247
Model $\chi^2$	24.80	62.76	67.42	55.64	62.78	62.91
$\Delta$ in $\chi^2$	-	36.79	1.08	.02	.02	.15

\*p<.05, \*\*p<.01, \*\*\*p<.001 (two-tailed test of statistical significance)

Overall, model 2 was statistically significant ( $\chi^2 = 62.76$ ,  $df = 13$ ,  $p < .001$ ), explaining 24.7% of variance in adult physically violent behavior. The difference in Chi-Square statistic suggests that the family violence variables as a block significantly improved the model fit.



Models 3, 4, 5, and 6 examine each adult attachment type. In none of the models were the attachment variables statistically significant, suggesting that attachment does not mediate the relationship between childhood experiences of family violence and adult physically violent behavior.

In Chapter 3, it was hypothesized that forms of family violence victimization relate to adult physically violent behavior. Results of the analyses indicate that parent-to-child violence had a positive and significant effect on adult physically violent behavior in all models. Likewise, sibling violence victimization had a positive and significant effect on adult physically violent behavior. These findings support the two hypotheses that parent-to-child violence and sibling violence relate to adult physically violent behavior. Surprisingly, exposure to intimate partner violence was not significantly related to adult physically violent behavior, thus rejecting the main hypothesis related to the direct effects of exposure on adult physically violent behavior. This could imply that direct experiences of family violence have more of an influence on adult physically violent behavior than indirect experiences.

Adult attachment type variables (i.e., attachment to a best friend, an intimate partner, a parent, and a sibling) were not significantly related to adult physically violent behavior controlling for exposure variables, contrary to the hypotheses. Therefore, adult attachment types do not mediate the relationship between family violence victimization and adult physically violent behavior.

*Logistic regression of family violence victimization, adult attachment type, and family violence-adult attachment interactions on adult physically violent behavior*

A second set of analyses were conducted to test for interaction effects. Three models were estimated to investigate the influence of interactions between family

violence and adult attachment types on adult physically violent behavior. These are displayed in Table 5.14. The first model includes the intercept and covariates (i.e., age, gender, race/ethnicity, financial status, and academic achievement) only. The second model adds family violence victimization variables (i.e., exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization) and adult attachment type variables (i.e., attachment to a best friend, an intimate partner, a parent, and a sibling). The third model includes all interaction terms (i.e., exposure to intimate partner violence·attachment to a best friend, exposure to intimate partner violence·attachment to an intimate partner, exposure to intimate partner violence·attachment to a parent, exposure to intimate partner violence·attachment to a sibling, parent-to-child violence·attachment to a best friend, parent-to-child violence·attachment to an intimate partner, parent-to-child violence·attachment to a parent, parent-to-child violence·attachment to a sibling, sibling violence victimization·attachment to a best friend, sibling violence victimization·attachment to an intimate partner, sibling violence victimization·attachment to a parent, and sibling violence victimization·attachment to a sibling). The improvement of fit statistic ( $\chi^2$ ) from the first model to the second model and last model provide an indication of the predictive power of the theoretical variables beyond that of the covariates alone.

Table 5.14 Logit Estimates for Family Violence Victimization, Adult Attachment Type, and Family Violence-Adult Attachment Interactions on Adult Physically Violent Behavior (N = 372)

Variable	1	2	3
<b>Age</b>	-.173**	-.238**	-.291**
<b>Male</b>	-.173	-.052	-.034
<b>Race (omit White)</b>			
Black/African American	.031	.612	.403
Hispanic/Latino	-.174	.039	-.001
Asian	-.247	.130	.218
Other	.272	.449	.404
<b>Financial Status (omit &lt; Avg)</b>			
Average	.050	.205	.329
> Average	-.386	.453	.451
<b>Academic Achiev (omit C/D Student)</b>			
B Student	-.844**	-.691	-.895*
A Student	-.917**	-.901*	-1.195*
<b>Exposure to Intimate Partner Violence</b>	-	-.033	-.025
<b>Parent-to-Child Violence</b>	-	.526**	.542**
<b>Sibling Violence</b>	-	.455**	.626**
<b>Attachment to a Best Friend</b>	-	-.146	-.270
<b>Attachment to an Intimate Partner</b>	-	.064	.251
<b>Attachment to a Parent</b>	-	-.045	-.134
<b>Attachment to a Sibling</b>	-	.009	.122
<b>EIPV·Attachment to a Best Friend</b>	-	-	-.575*
<b>EIPV·Attachment to an Intimate Partner</b>	-	-	.594*
<b>EIPV·Attachment to a Parent</b>	-	-	.378
<b>EIPV·Attachment to a Sibling</b>	-	-	.211
<b>PCV·Attachment to a Best Friend</b>	-	-	-.323
<b>PCV·Attachment to an Intimate Partner</b>	-	-	-.365
<b>PCV·Attachment to a Parent</b>	-	-	-.098
<b>PCV·Attachment to a Sibling</b>	-	-	-.268
<b>SV·Attachment to a Best Friend</b>	-	-	.455*
<b>SV·Attachment to an Intimate Partner</b>	-	-	-.189
<b>SV·Attachment to a Parent</b>	-	-	-.226
<b>SV·Attachment to a Sibling</b>	-	-	.481*
Nagelkerke R Square	.088	.265	.356
Model $\chi^2$	24.80	57.83	80.84
$\Delta$ in $\chi^2$	-	34.51	23.01

\*p<.05, \*\*p<.01 (two-tailed test of statistical significance)

Overall, model 2 was statistically significant ( $\chi^2 = 57.83$ ,  $df = 17$ ,  $p < .001$ ), explaining 26.5% of variance in adult physically violent behavior. The difference in Chi-Square statistic suggests an improved model fit when the block of family violence and attachment variables are added to the model. Like the previous analyses, parent-to-child violence and sibling violence victimization are significant, while exposure to parental violence and all attachment types are nonsignificant.

Adding the interaction terms significantly improves the model fit. The full model is statistically significant ( $\chi^2 = 80.84$ ,  $df = 29$ ,  $p < .001$ ), explaining 35.6% of variance in adult physically violent behavior. Model 3 revealed four significant interaction terms between family violence variables and adult attachment type variables. Remembering that the main effects revealed that experiencing parent-to-child and/or sibling violence are positively related to adult physically violent behavior and exposure to parental violence and all adult attachment types were not significantly related, the interaction between exposure to intimate partner violence and attachment to a best friend had a significant negative effect on adult physically violent behavior while the interactions between exposure to intimate partner violence and attachment to an intimate partner, sibling violence and attachment to a best friend, and sibling violence and attachment to a sibling had a significant positive effect. This means that the effect of exposure to intimate partner violence on adult physically violent behavior is moderated by attachment to a best friend. Specifically, as attachment to a best friend and exposure to intimate partner violence increase, the odds of adult violence are lower. The effect of exposure to parental violence on adult violence is also moderated by attachment to an intimate partner, although in a different direction. As attachment to an intimate partner and

exposure to intimate partner violence increase, the odds of adult violence are higher. Additionally, the effect of sibling violence victimization on adult violence is moderated by attachment to a best friend as well as attachment to a sibling. As attachment to a best friend and sibling violence victimization increase, the odds of adult violence are higher. Likewise, as attachment to a sibling and sibling violence victimization increase, the odds of adult violence are higher.

It was hypothesized that the interaction between adult attachment types (i.e., attachment to a best friend, intimate partner, parent, and best friend) and family violence experiences (i.e., exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization) would be significantly related to adult physically violent behavior. However, only four out of 12 interactions were significant. Moreover, it was predicted that increased adult attachment types would interact with family violence victimization experiences to lower adult violence. With the exception of the interaction between exposure to intimate partner violence and attachment to a best friend, this was not the case. Three out of four interactions had a significant positive effect on adult violence. Finally, it was hypothesized that adult violent behavior would occur when family violence and adult attachment type are linked to the same perpetrator (e.g., exposure to intimate partner violence and parental attachment correlate with violence; parent-to-child victimization and parental attachment correlate with violence; sibling violence victimization and sibling attachment correlate with violence), yet the findings revealed this to hold for one case only: the interaction between sibling violence victimization and sibling attachment, although in a different direction than expected.

### Summary of Multivariate Analyses

Both logistic regression analyses provided important information. Both sets of analyses point to the importance of family violence victimization in relation to adult physically violent behavior and suggest that family violence variables significantly contribute to explaining adult physically violent behavior. In particular, both sets of analyses indicated that parent-to-child violence and sibling violence victimization were linked to adult physically violent behavior. Thus, self-reports of direct experiences of physical family violence victimization are associated with self-reports of adult violence.

There are also interesting contrasts to make between the two sets of analyses. In the first set of analyses, each attachment type was not significant in any of the models. In the second set of analyses, adult attachment types were also not found to be significant, but interactions between family violence variables and adult attachment type variables were. This suggests that the relationship between family violence victimization variables and adult physically violent behavior may be a function of (or conditioned by) adult attachment types. While the first set of analyses explained no more than 26.8% of variation in adult physically violent behavior (i.e., for model 3, which is the model incorporating adult attachment to a best friend), the second set of analyses was able to explain 35.6% of variation in adult physically violent behavior, suggesting that it has a better model fit.

### Post-Hoc Analyses

Further investigations into the processes behind the significant interactions were undertaken. Hand computations were completed using a logistic regression equation based off the data output in order to investigate the influence of all combinations of low

(using one standard deviation below the mean) and high (using one standard deviation above the mean) attachment types and family violence forms for the significant interactions (i.e. the interaction between exposure to intimate partner violence and attachment to a best friend, exposure to intimate partner violence and attachment to an intimate partner, sibling violence victimization and attachment to a best friend, and sibling violence victimization and attachment to a sibling) on adult physically violent behavior. Specifically, a logistic regression equation was used to predict the probability of adult physically violent behavior when adult attachment to a best friend is low and exposure to intimate partner violence is low, adult attachment to a best friend is low and exposure to intimate partner violence is high, when adult attachment to a best friend is high and exposure to intimate partner violence is high, and when adult attachment to a best friend is high and exposure to intimate partner violence is low; when adult attachment to an intimate partner is low and exposure to intimate partner violence is low, adult attachment to an intimate partner is low and exposure to intimate partner violence is high, when adult attachment to an intimate partner is high and exposure to intimate partner violence is high, and when adult attachment to an intimate partner is high and exposure to intimate partner violence is low; when adult attachment to a best friend is low and sibling violence victimization is low, adult attachment to a best friend is low and sibling violence victimization is high, when adult attachment to a best friend is high and sibling violence victimization is high, and when adult attachment to a best friend is high and sibling violence victimization is low; and when adult attachment to a sibling is low and sibling violence victimization is low, adult attachment to a sibling is low and sibling violence victimization is high, when adult attachment to a sibling is high and sibling

violence victimization is high, and when adult attachment to a sibling is high and sibling violence victimization is low. Based off of methods recommendations by Jaccard (2001) and Tabachnick and Fidell (1996), the logistic regression equation presented below was used to derive logits for each combination, which were subsequently converted into odds and odds ratios. In the equation, A represents the constant while  $B_1X_1$  through  $B_kX_k$  represent predictors and coefficients.

$$\text{logit}(p) = A + B_1X_1 + B_2X_2 + B_3X_3 + \dots + B_kX_k$$

$\text{logit}(p) = 5.932 + (\text{one standard deviation above or below the mean for attachment variable of interest})(\text{logit}) + (\text{one standard deviation above or below the mean for family violence victimization variable of interest})(\text{logit}) + (\text{one standard deviation above or below the mean for attachment variable of interest})(\text{one standard deviation above or below the mean for family violence variable of interest})(\text{logit of interaction for attachment to a best friend and exposure to intimate partner violence}) + (\text{mean age})(\text{logit for age}) + (\text{mean gender})(\text{logit}) + (\text{mean race1})(\text{logit}) + (\text{mean race2})(\text{logit}) + (\text{mean race3})(\text{logit}) + (\text{mean race4})(\text{logit}) + (\text{mean financial status1})(\text{logit}) + (\text{mean financial status2})(\text{logit}) + (\text{mean academics1})(\text{logit}) + (\text{mean academics2})(\text{logit}) + (\text{mean exposure to intimate partner violence})(\text{logit}) + (\text{parent-child violence})(\text{logit}) + (\text{mean sibling violence})(\text{logit}) + (\text{mean best friend attachment})(\text{logit}) + (\text{intimate partner attachment})(\text{logit}) + (\text{mean parent attachment})(\text{logit}) + (\text{mean sibling attachment})(\text{logit})$

Confidence intervals were then derived by taking the logit and adding or subtracting the critical value ( $Z_{\text{critical}} = 1.96$  for a 95% confidence interval) multiplied by the standard error of the logit for the interaction for upper and lower limits, and then calculating the exponents of the upper and lower limits of the confidence intervals to obtain the confidence interval based on methods by Jaccard (2001) and Tabachnick and Fidell (1996).

$$CI = [\text{logit} \pm 1.96(\text{s.e.})]e$$



The logit was also converted to into odds by taking the exponential of it, and the odds of low attachment for a given type of relationship (e.g. attachment to a best friend, attachment to an intimate partner, attachment to a sibling) were dividing by the odds of high attachment for the same relationship type for both high and low family violence victimization (i.e. exposure to intimate partner violence and sibling violence victimization) to derived odd ratios.

*Exposure to Intimate Partner Violence·Adult Attachment to a Best Friend*

The first significant interaction was between exposure to intimate partner violence and adult attachment to a best friend. In order to compute the logit for low adult attachment to a best friend and low exposure to intimate partner violence, one standard deviation below the mean for adult attachment to a best friend and one standard deviation below the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (-1)(-.270) + (-1)(.025) + (-1)(-1)(-.575) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = -.298$$

$$\text{CI} = [-.298 \pm 1.96(.287)]e$$

upper = 1.3; lower = .4

The logit was then converted into odds, resulting in .74.

In order to compute the logit for low adult attachment to a best friend and high exposure to intimate partner violence, one standard deviation below the mean for adult attachment to a best friend and one standard deviation above the mean for exposure to

intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (-1)(-.270) + (1)(.025) + (-1)(1)(-.575) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = .902$$

$$\text{CI} = [.902 \pm 1.96(.287)]e$$

$$\text{upper} = 4.33; \text{lower} = 1.40$$

The logit was then converted into odds, resulting in 2.46.

In order to compute the logit for high adult attachment to a best friend and high exposure to intimate partner violence, one standard deviation above the mean for adult attachment to a best friend and one standard deviation above the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (1)(-.270) + (1)(.025) + (1)(1)(-.575) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = -.788$$

$$\text{CI} = [-.788 \pm 1.96(.287)]e$$

$$\text{upper} = .80; \text{lower} = .26$$

The logit was then converted into odds, resulting in .45.

In order to compute the logit for high adult attachment to a best friend and low exposure to intimate partner violence, one standard deviation above the mean for adult

attachment to a best friend and one standard deviation below the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (1)(-.270) + (-1)(.025) + (1)(-1)(-.575) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = .312$$

$$\text{CI} = [.312 \pm 1.96(.287)]e$$

upper = 2.40; lower = .78

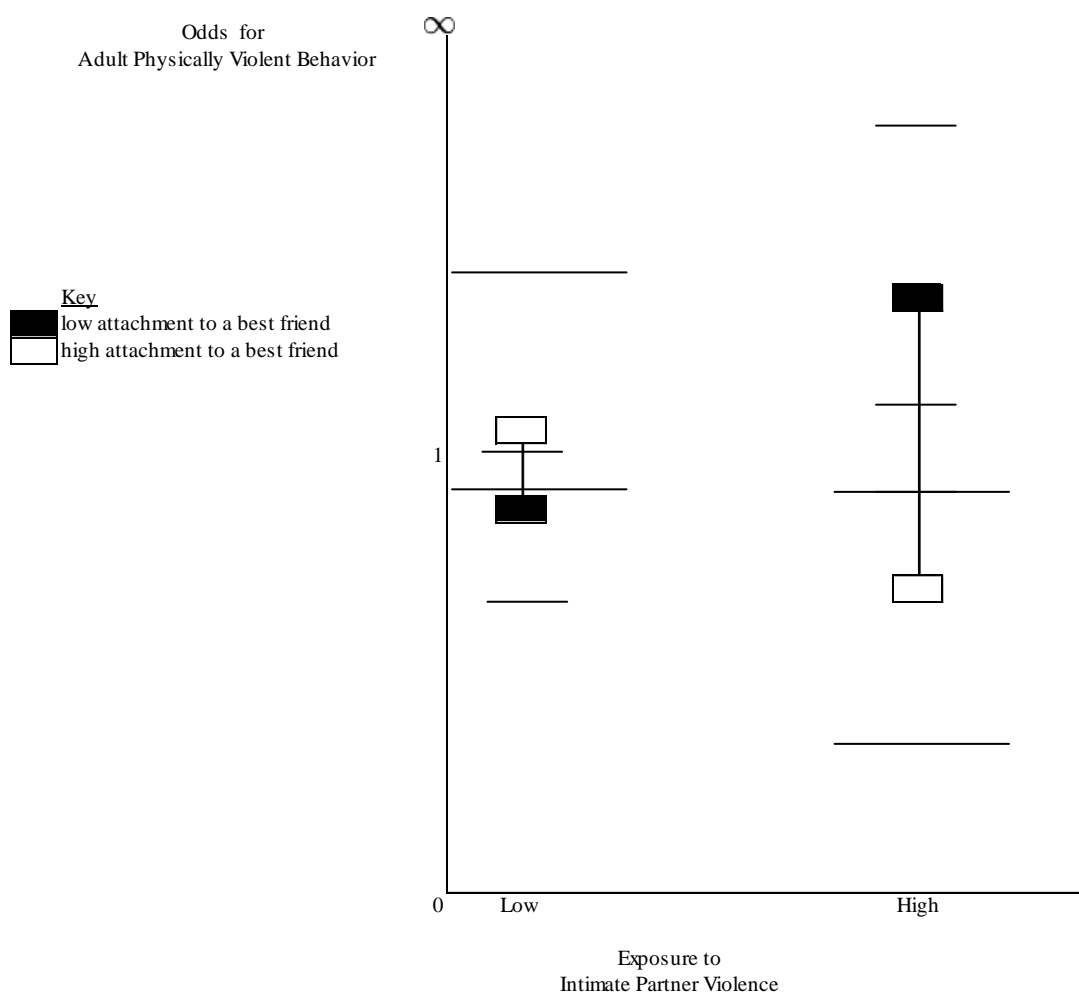
The logit was then converted into odds, resulting in 1.37.

Table 5.15 displays the odds for adult attachment to a best friend as a moderator in the link between exposure to intimate partner violence and adult physically violent behavior while Figure 5.1 plots the odds for the different relationships along with their confidence intervals.

Table 5.15 Odds for Adult Attachment to a Best Friend as a Moderator in the Link Between Exposure to Intimate Partner Violence and Adult Physically Violent Behavior

Odds	Adult Attachment to a Best Friend	
	Low	High
<b>Exposure to Intimate Partner Violence</b>		
Low	.74	1.37
High	2.46	.45

Figure 5.1 Odds for Adult Attachment to a Best Friend as a Moderator in the Link Between Exposure to Intimate Partner Violence and Adult Physically Violent Behavior



Confidence Intervals (95%) for low attachments ————  
 Confidence Intervals (95%) for high attachments ————

In order to compute odds ratios for adult violence for those with low exposure to intimate partner violence and those with high exposure to intimate partner violence, the resulting odds for low attachment to a best friend was divided by the resulting odds for high attachment to a best friend. For low exposure to intimate partner violence, this

resulted in .54. This suggests that among individuals with low exposure to intimate partner violence, those with low attachment to a best friend have lower odds of adult violence than those with high attachment to a best friend. Specifically, among individuals with low exposure to intimate partner violence, people with low adult attachment to a best friend have .54 times the odds of adult physically violent behavior than those with high adult attachment to a best friend. For high exposure to intimate partner violence, the resulting odds ratio was 5.47. This suggests that among individuals with high exposure to intimate partner violence, those with low attachment to a best friend have higher odds of adult violence than those with high attachment to a best friend. Specifically, among individuals with high exposure to intimate partner violence, those with low adult attachment to a best friend have 5.47 times the odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend. The confidence intervals suggest that 95% of the cases fall between .4 and 1.3.

*Exposure to Intimate Partner Violence·Adult Attachment to an Intimate Partner*

The second significant interaction was between adult attachment to an intimate partner and exposure to intimate partner violence. In order to compute the logit for low adult attachment to an intimate partner and low exposure to intimate partner violence, one standard deviation below the mean for adult attachment to an intimate partner and one standard deviation below the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\begin{aligned} \text{logit}(p) = & 5.932 + (-1)(.251) + (-1)(.025) + (-1)(-1)(.594) + (-.291)(20.2) + (- \\ & .034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + \\ & (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + \\ & (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122) \end{aligned}$$

$$\text{logit}(p) = .35$$

$$\text{CI} = [.35 \pm 1.96(.292)]e$$

$$\text{upper} = 2.52; \text{lower} = .80$$

The logit was then converted into odds, resulting in 1.42.

In order to compute the logit for low adult attachment to an intimate partner and high exposure to intimate partner violence, one standard deviation below the mean for adult attachment to an intimate partner and one standard deviation above the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\begin{aligned} \text{logit}(p) = & 5.932 + (-1)(.251) + (1)(.025) + (-1)(1)(.594) + (-.291)(20.2) + (- \\ & .034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + \\ & (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.542) + \\ & (0)(.626) + (0)(-.270) + (0)(-.134) + (0)(.122) + (0)(.025) + (0)(.542) + (0)(.626) + \\ & (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122) \end{aligned}$$

$$\text{logit}(p) = -.788$$

$$\text{CI} = [-.788 \pm 1.96(.292)]e$$

$$\text{upper} = .81; \text{lower} = .26$$

The logit was then converted into odds, resulting in .45.

In order to compute the logit for high adult attachment to an intimate partner and high exposure to intimate partner violence, one standard deviation above the mean for adult attachment to an intimate partner and one standard deviation above the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\begin{aligned} \text{logit}(p) = & 5.932 + (1)(.251) + (1)(.025) + (1)(1)(.594) + (-.291)(20.2) + (-.034)(1.578) \\ & + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + \\ & (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.542) + \\ & (0)(.626) + (0)(-.270) + (0)(-.134) + (0)(.122) + (0)(.025) + (0)(.542) + (0)(.626) + \\ & (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122) \end{aligned}$$

$$\text{logit}(p) = .902$$

$$\text{CI} = [.902 \pm 1.96(.292)]e$$

$$\text{upper} = 4.37; \text{lower} = 1.39$$

The logit was then converted into odds, resulting in 2.46.

In order to compute the logit for high adult attachment to an intimate partner and low exposure to intimate partner violence, one standard deviation above the mean for adult attachment to an intimate partner and one standard deviation below the mean for exposure to intimate partner violence were used, along with the actual means and logits for the other independent variables.

$$\begin{aligned} \text{logit}(p) = & 5.932 + (1)(.251) + (-1)(.025) + (1)(-1)(.594) + (-.291)(20.2) + (- \\ & .034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + \\ & (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.542) + \\ & (0)(.626) + (0)(-.270) + (0)(-.134) + (0)(.122) + (0)(.025) + (0)(.542) + (0)(.626) + \\ & (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122) \end{aligned}$$

$$\text{logit}(p) = -.336$$

$$\text{CI} = [-.336 \pm 1.96(.292)]e$$

$$\text{upper} = 1.27; \text{lower} = .40$$

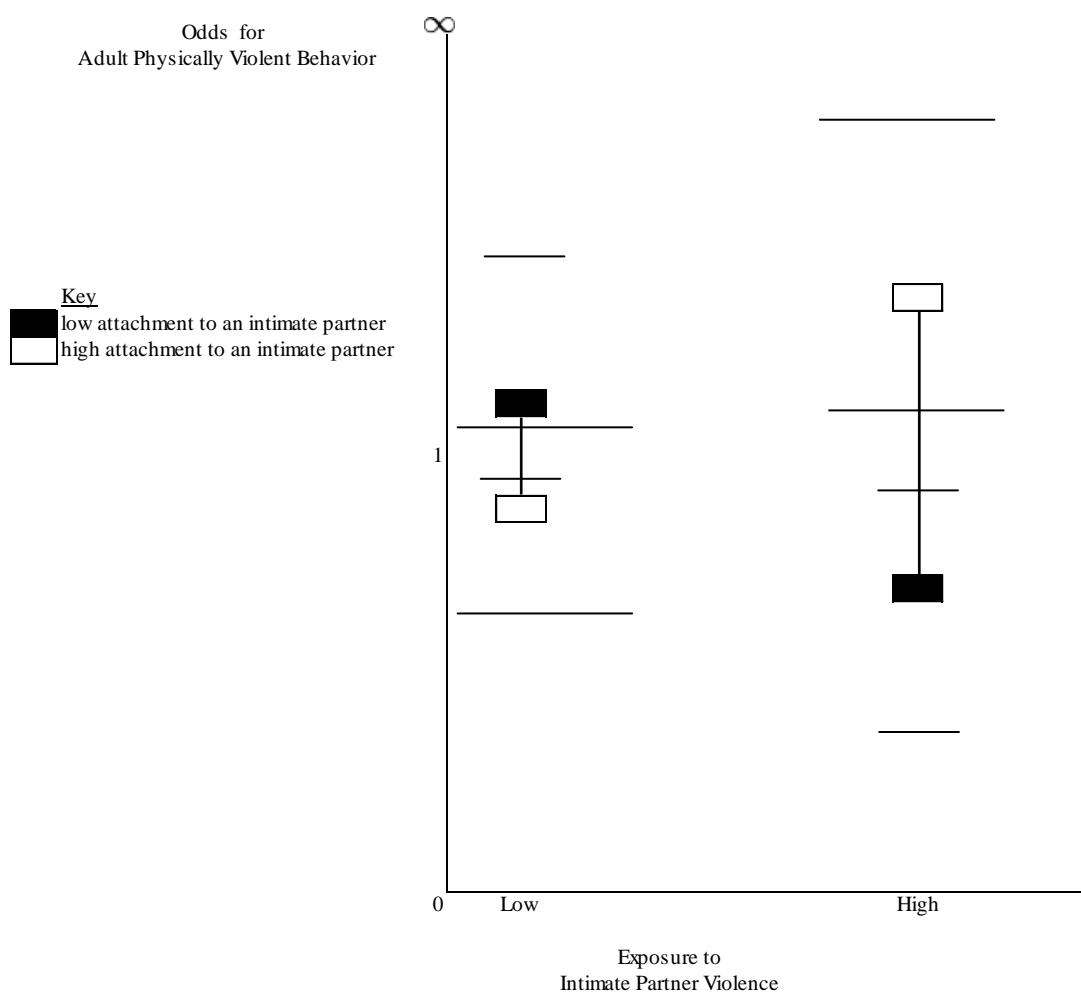
The logit was then converted into odds, resulting in .71.

Table 5.16 displays the odds for adult attachment to an intimate partner as a moderator in the link between exposure to intimate partner violence and adult physically violent behavior while Figure 5.2 plots the odds for the different relationships along with confidence intervals.

Table 5.16 Odds for Adult Attachment to an Intimate Partner as a Moderator in the Link Between Exposure to Intimate Partner Violence and Adult Physically Violent Behavior

Odds	Adult Attachment to an Intimate Partner	
	Low	High
Exposure to Intimate Partner Violence		
Low	1.42	.71
High	.45	2.46

Figure 5.2 Odds for Adult Attachment to an Intimate Partner as a Moderator in the Link Between Exposure to Intimate Partner Violence and Adult Physically Violent Behavior





In order to compute odds ratios for adult violence for those with low exposure to intimate partner violence and for those with high exposure to intimate partner violence, the resulting odds for low attachment to an intimate partner was divided by the resulting odds for high attachment to an intimate partner. For low exposure to intimate partner violence, this resulted in 2.0. This suggests that among individuals with low exposure to intimate partner violence, those with low attachment to an intimate partner have higher odds of adult violence compared to those with high attachment to an intimate partner. Specifically, among individuals with low exposure to intimate partner violence, those with low adult attachment to an intimate partner have 2.0 times the odds of adult physically violent behavior than those with high adult attachment to an intimate partner. For high exposure to intimate partner violence, the odds ratio was .18. This suggests that among individuals with high exposure to intimate partner violence, those with low attachment to an intimate partner have lower odds of adult violence than those with high attachment to an intimate partner. Specifically, among individuals with high exposure to intimate partner violence, those with low adult attachment to an intimate partner have .18 times the odds of engaging in adult physically violent behavior than those with high adult attachment to an intimate partner.

*Sibling Violence Victimization-Adult Attachment to a Best Friend*

The third significant interaction was between adult attachment to a best friend and sibling violence victimization. In order to compute the logit for low adult attachment to a best friend and low sibling violence victimization, one standard deviation below the mean for adult attachment to a best friend and one standard deviation below the mean for

sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (-1)(-.270) + (-1)(.626) + (-1)(-1)(.455) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = .131$$

$$\text{CI} = [.131 \pm 1.96(.226)]e$$

upper = 1.78; lower = .73

The logit was then converted into odds, resulting in 1.14.

In order to compute the logit for low adult attachment to a best friend and high sibling violence victimization, one standard deviation below the mean for adult attachment to a best friend and one standard deviation above the mean for sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (-1)(-.270) + (1)(.626) + (-1)(1)(.455) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = .473$$

$$\text{CI} = [.473 \pm 1.96(.226)]e$$

upper = 2.50; lower = 1.03

The logit was then converted into odds, resulting in 1.60.

In order to compute the logit for high adult attachment to a best friend and high sibling violence victimization, one standard deviation above the mean for adult attachment to a best friend and one standard deviation above the mean for sibling

violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (1)(-.270) + (1)(.626) + (1)(1)(.455) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.251) + (0)(-.134) + (0)(.122) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = .843$$

$$\text{CI} = [.843 \pm 1.96(.226)]e$$

upper = 3.62; lower = 1.49

The logit was then converted into odds, resulting in 2.32.

In order to compute the logit for high adult attachment to a best friend and low sibling violence victimization, one standard deviation above the mean for adult attachment to a best friend and one standard deviation below the mean for sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (1)(-.270) + (-1)(.626) + (1)(-1)(.455) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = -1.319$$

$$\text{CI} = [-1.319 \pm 1.96(.226)]e$$

upper = .42; lower = .17

The logit was then converted into odds, resulting in .27.

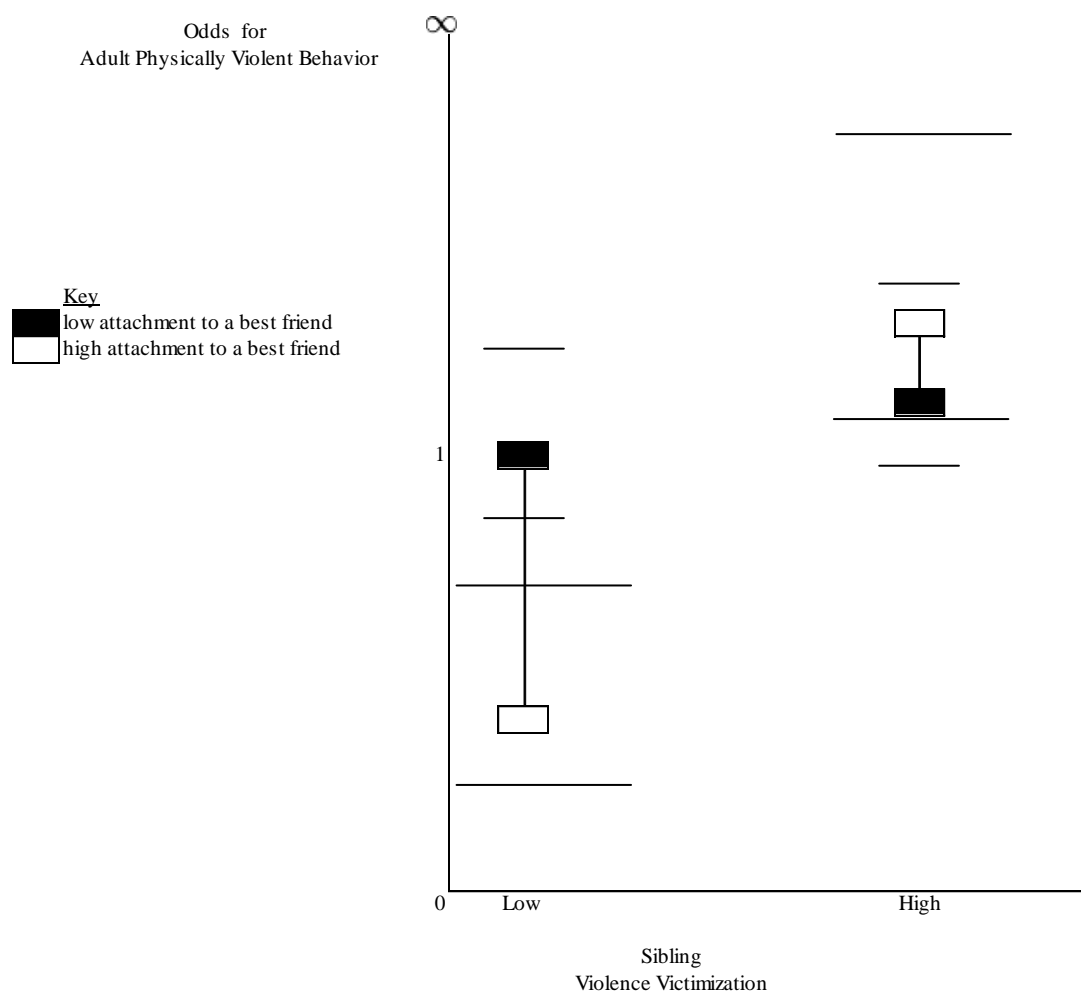
Table 5.17 displays the odds for adult attachment to a best friend as a moderator in the link between sibling violence victimization and adult physically violent behavior

while Figure 5.3 plots the odds for the different relationships along with accompanying confidence intervals.

Table 5.17 Odds for Adult Attachment to a Best Friend as a Moderator in the Link Between Sibling Violence Victimization and Adult Physically Violent Behavior

Odds	<b>Adult Attachment to a Best Friend</b>	
<b>Sibling Violence Victimization</b>	Low	High
Low	1.14	.27
High	1.60	2.32

Figure 5.3 Odds for Adult Attachment to a Best Friend as a Moderator in the Link Between Sibling Violence Victimization and Adult Physically Violent Behavior



Confidence Intervals (95%) for low attachments

Confidence Intervals (95%) for high attachments

In order to compute odds ratios for adult violence for those with low sibling violence victimization and those with high sibling violence victimization, the resulting odds for low attachment to a best friend was divided by the resulting odds for high attachment to a best friend. For low sibling violence victimization, this resulted in 4.22. This suggests that among individuals with low sibling violence victimization, those with low

attachment to a best friend have higher odds of adult violence compared to those with high attachment to a best friend. Specifically, among individuals with low sibling violence victimization, those with low adult attachment to a best friend have 4.22 times the odds of adult physically violent behavior than those with high adult attachment to a best friend. For high sibling violence victimization, the resulting odds ratio was .69. This suggests that among individuals with high sibling violence victimization, those with low attachment to a best friend have lower odds of adult violence than those with high attachment to a best friend. Specifically, among individuals with high sibling violence victimization, those with low adult attachment to a best friend have .69 times the odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend.

*Sibling Violence Victimization·Adult Attachment to a Sibling*

The fourth and final significant interaction was between adult attachment to a sibling and sibling violence victimization. In order to compute the logit for low adult attachment to a sibling and low sibling violence victimization, one standard deviation below the mean for adult attachment to a sibling and one standard deviation below the mean for sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (-1)(.122) + (-1)(.626) + (-1)(-1)(.481) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = -.235$$

$$\text{CI} = [-.235 \pm 1.96(.210)]e$$

upper = 1.19; lower = .52

The logit was then converted into odds, resulting in .79.

In order to compute the logit for low adult attachment to a sibling and high sibling violence victimization, one standard deviation below the mean for adult attachment to a sibling and one standard deviation above the mean for sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (-1)(.122) + (1)(.626) + (-1)(1)(.481) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = .055$$

$$\text{CI} = [.055 \pm 1.96(.210)]e$$

$$\text{upper} = 1.59; \text{lower} = .70$$

The logit was then converted into odds, resulting in 1.06.

In order to compute the logit for high adult attachment to a sibling and high sibling violence victimization, one standard deviation above the mean for adult attachment to a sibling and one standard deviation above the mean for sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (1)(.122) + (1)(.626) + (1)(1)(.481) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = 1.261$$

$$\text{CI} = [1.261 \pm 1.96(.210)]e$$

$$\text{upper} = 5.33; \text{lower} = 2.34$$

The logit was then converted into odds, resulting in 3.53.

In order to compute the logit for high adult attachment to a sibling and low sibling violence victimization, one standard deviation above the mean for adult attachment to a sibling and one standard deviation below the mean for sibling violence victimization were used, along with the actual means and logits for the other independent variables.

$$\text{logit}(p) = 5.932 + (1)(.122) + (-1)(.626) + (1)(-1)(.481) + (-.291)(20.2) + (-.034)(1.578) + (.403)(2.7385) + (-.001)(2.7385) + (.404)(2.7385) + (.218)(2.7385) + (.329)(2.0349) + (.451)(2.0349) + (-.895)(2.0730) + (-1.195)(2.0730) + (0)(.025) + (0)(.542) + (0)(.626) + (0)(-.270) + (0)(.251) + (0)(-.134) + (0)(.122)$$

$$\text{logit}(p) = -.953$$

$$\text{CI} = [-.953 \pm 1.96(.210)]e$$

$$\text{upper} = .58; \text{lower} = .26$$

The logit was then converted into odds, resulting in .39.

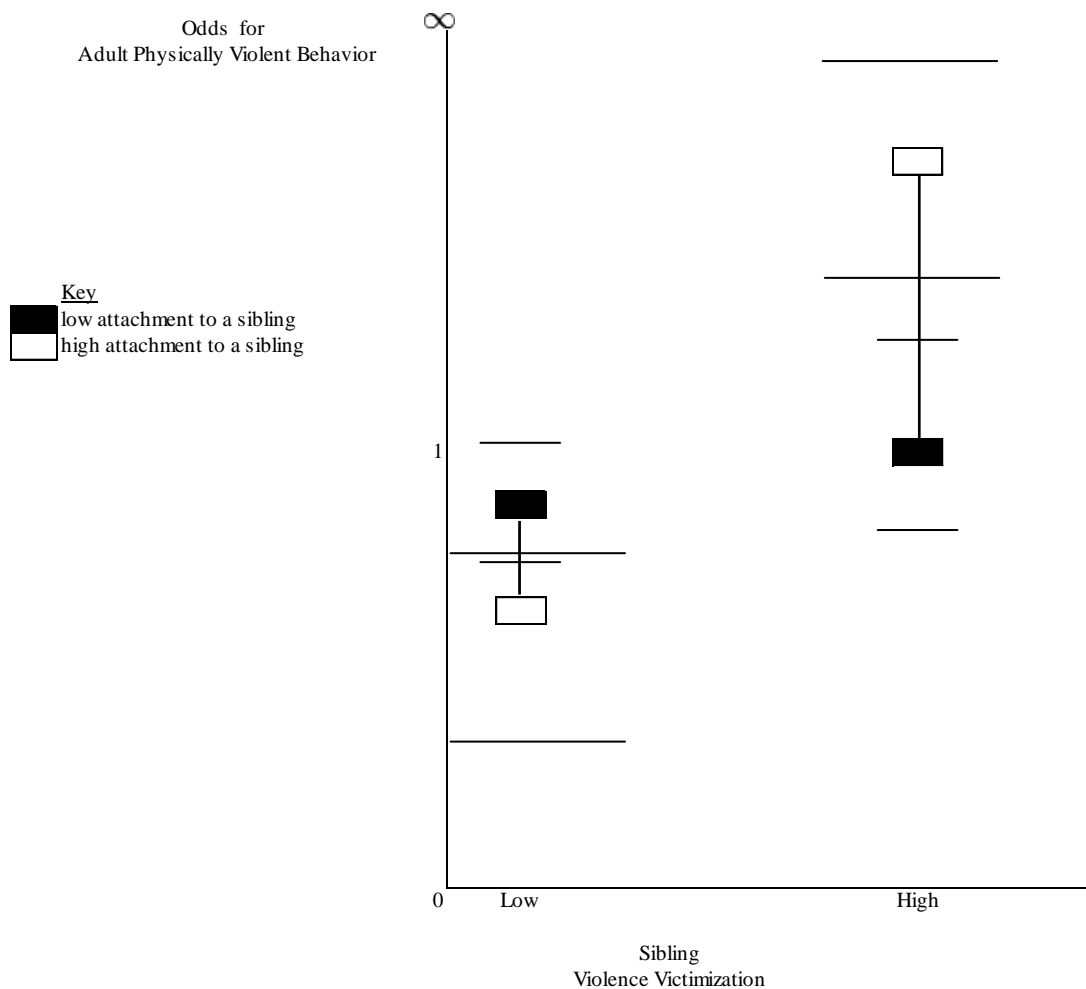
Table 5.18 displays the odds for adult attachment to sibling as a moderator in the link between sibling violence victimization and adult physically violent behavior while Figure 5.4 plots the odds for the different relationships with confidence intervals.



Table 5.18 Odds for Adult Attachment to a Sibling as a Moderator in the Link Between Sibling Violence Victimization and Adult Physically Violent Behavior

Odds Sibling Violence Victimization	Adult Attachment to a Sibling	
	Low	High
Low	.79	.39
High	1.06	3.53

Figure 5.4 Odds for Adult Attachment to a Sibling as a Moderator in the Link Between Sibling Violence Victimization and Adult Physically Violent Behavior



Confidence Intervals (95%) for low attachments

—

Confidence Intervals (95%) for high attachments

—

In order to compute odds ratios for adult violence for those with low sibling violence victimization and those with high sibling violence victimization, the resulting odds for low attachment to a sibling was divided by the resulting odds for high attachment to a sibling. For low sibling violence victimization, this resulted in 2.03. This suggests that among individuals with low sibling violence victimization, those with low attachment to a sibling have higher odds of adult violence than those with high attachment to a sibling. Specifically, among individuals with low sibling violence victimization, those with low adult attachment to a sibling have 2.03 times the odds of adult physically violent behavior than those with high adult attachment to a sibling. For high sibling violence victimization, the odds ratio was .30., which suggests that among individuals with high sibling violence victimization, those with low attachment to a sibling have lower odds of adult violence than those with high attachment to a sibling. Specifically, among individuals with high sibling violence victimization, those with low adult attachment to a sibling have .30 times the odds of engaging in adult physically violent behavior than those with high adult attachment to a sibling.

#### Summary of Post-Hoc Analyses

Post-hoc analyses of the significant interactions revealed that adult attachment types have complex and inconsistent effects across family violence victimization on adult physically violent behavior, making it difficult to find a pattern. However, the findings of the analyses revealed that the majority of individuals who have experienced high family violence victimization who had low attachment had lower odds of engaging in adult violence than those with high attachment while the majority of individuals who have experienced low family violence victimization who had low attachment had higher

odds of engaging in adult violence than those with high attachment. For instance, for individuals with high exposure to intimate partner violence, those with low adult attachment to an intimate partner had lower odds of engaging in adult physically violent behavior than those with high adult attachment to an intimate partner. For individuals with high sibling violence victimization, those with low adult attachment to a best friend had lower odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend. For individuals with high sibling violence victimization, those with low adult attachment to a sibling had lower odds of engaging in adult physically violent behavior than those with high adult attachment to a sibling. Additionally, the findings of the analyses revealed that the majority of individuals who have experienced low family violence victimization who had low attachment had higher odds of engaging in adult violence. For individuals with low exposure to intimate partner violence, those with low adult attachment to an intimate partner had higher odds of engaging in adult physically violent behavior than those with high adult attachment to an intimate partner. For individuals with low sibling violence victimization, those with low adult attachment to a best friend had higher odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend. For individuals with low sibling violence victimization, those with low adult attachment to a sibling had higher odds of engaging in adult physically violent behavior than those with high adult attachment to a sibling.

It was also found that for individuals with low exposure to intimate partner violence, those who have low adult attachment to a best friend had lower odds of engaging in adult physically violent behavior compared to those with high adult attachment. In addition,

individuals with high exposure to intimate partner violence who have low adult attachment to a best friend had higher odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend; this finding was the only one that emerged as what was expected.

Examining the figures presented above (i.e. Figures 5.1-5.4), the odds of adult physically violent behavior appear to have the greatest variation for low and high adult attachment for those who have experienced high family violence victimization with the exception of Figure 5.3. For Figure 5.1, among individuals with high exposure to intimate partner violence, the odds range from .45 for high adult attachment to a best friend to 2.46 for low adult attachment to a best friend. For Figure 5.2, among individuals with high exposure to intimate partner violence, the odds range from 2.46 for high adult attachment to an intimate partner to .45 for low adult attachment to an intimate partner. For Figure 5.4, among individuals with high sibling violence victimization, the odds range from .39 for low adult attachment to a sibling to .79 for high adult attachment to a sibling. For Figure 5.3, there is greater variation in odds when there is low victimization; among individuals with low sibling violence, the odds range from .27 for high attachment to a best friend to 1.14 for low attachment to a best friend. This reveals the complexity of the processes underlying the interactions.

The figures also reveal that the moderator effects of the first two figures (i.e. Figure 5.1 and Figure 5.2) are not as robust as the moderator effects for the second two figures (i.e. Figure 5.3 and Figure 5.4). While Figures 5.1 and 5.2 represent interactions dealing with exposure to intimate partner violence and some form of adult attachment, Figures 5.3 and 5.4 represent interaction terms dealing with sibling violence victimization and

some form of adult attachment. In particular, Figure 5.3 deals with sibling violence victimization and adult attachment to a best friend while Figure 5.4 deals with sibling violence victimization and adult attachment to a sibling. Given that among individuals with high sibling violence victimization, those with high attachments (i.e. attachment to a best friend and attachment to a sibling) had greater odds of engaging in adult physically violent behavior than those with low attachments, and among individuals with low sibling violence victimization, those with high attachments had lower odds of engaging in adult physically violent behavior than those with low attachments, it appears that the former may be explained through social learning theory while the latter can be explained by social control theory. The findings here suggest that sibling violence victimization is an important form of family violence that should not be overlooked.

## CHAPTER 6: DISCUSSION

### Review of Hypothesis and Summary of Analyses

Adult attachment type variables were examined as mediators and moderators in the relationship between family violence victimization and later violent behavior in a sample of college-aged students. The findings of this study lend support to some of the research hypotheses presented in Chapter 3. Bivariate and multivariate analyses conducted in Chapter 5 provide evidence of this support and offer insight into the role of family violence victimization and adult attachment types in the dynamics of adult physically violent behavior. Additionally, post-hoc analyses on the significant interactions were complex, but facilitated the understanding of how attachment is operating in the relationship between family violence victimization and adult physically violent behavior.

In the first research question presented in Chapter 3, it was hypothesized that experiences of family violence victimization were related to adult physically violent behavior. Results of the bivariate analysis echo the research and literature presented in Chapter 2; it revealed that all forms of family violence victimization were related to adult physically violent behavior. There was a moderate positive relationship between exposure to intimate partner violence and adult physically violent behavior, a moderate positive relationship between parent-to-child violence and adult physically violent behavior, and a weak positive relationship between sibling violence and adult physically violent behavior. This provides support for the social learning theory perspective.

In the second research question, it was hypothesized that relationships where one was victimized relate to low attachment in that relationship; parent-to-child violence and exposure to intimate partner violence relate to weak adult parental attachment while

sibling violence victimization relates to weak adult sibling attachment. The findings of the bivariate analysis support this notion. In fact, all forms of family violence victimization related to all types of adult attachment so that increased family violence victimization (i.e., exposure to intimate partner violence, parent-to-child violence, and sibling violence victimization) relate to decreased adult attachment to a best friend, an intimate partner, a parent, and a sibling. This is in line with attachment theory in that it shows that negative early experiences impact attachment.

In the third research question, it was hypothesized that low adult attachment types (i.e., attachment to a best friend, an intimate partner, a parent, and a sibling) related to adult physically violent behavior. The bivariate analysis showed that adult attachment to a best friend and adult attachment to a parent were inversely related to adult physically violent behavior; lower attachment was associated with such behavior while higher attachment was associated with non-violent behavior. However, the other attachment types were not significant. This provides only partial support for social control theory.

In general, it was predicted that all forms of family violence victimization (positive) and all types of adult attachment (negative) would be associated with adult physically violent behavior, especially in cases pertaining to the same perpetrator: exposure to intimate partner violence and adult attachment to a parent, parent-to-child violence and adult attachment to a parent, and sibling violence victimization and adult attachment to a sibling relate to adult physically violent behavior. While all forms of family violence victimization were related to adult physically violent behavior in bivariate analysis, all adult attachment types were not; only attachment to a best friend and attachment to a parent were.

The multivariate analyses indicated that parent-to-child violence and sibling violence victimization were associated with adult physically violent behavior. In both sets of analyses, the results were statistically significant and in the direction predicted by social learning theory, as hypothesized in Chapter 3. Given that exposure to intimate partner violence was not significant in either set of analyses, this may imply that the “cycle of violence” occurs when an individual experiences direct violence victimization rather than circuitous violence.

The critical focus of this paper rests on exploring and understanding adult attachment. Adult attachment types were tested including attachment to a best friend, an intimate partner, a parent, and a best friend in order to determine what role, if any, these social relationships have in influencing adult physically violent behavior and whether attachment and social control theories serve as more useful explanations for the victimization-perpetration link than the commonly used social learning theory. In the first set of multivariate analyses, none of the adult attachment type variables significantly added to the explanatory power in adult physically violent behavior, meaning that there was no mediation. Thus, this is contrary to the hypotheses that adult attachment types would be related to adult physically violent offending. Therefore, attachment and social control theories cannot be used to explain adult physically violent behavior.

While the direct effects of adult attachment types on adult physically violent behavior do not exist, it is important to highlight the second set of analyses that provided evidence of moderation effects between family violence victimization and adult attachment types on adult physically violent behavior. In Chapter 3, it was hypothesized that family violence victimization would interact with adult attachment types to influence adult



physically violent behavior, especially when the victimization and attachment type involved the same person. Although the interaction between exposure to intimate partner violence and adult parental attachment and the interaction between parent-to-child violence and adult parental attachment were not found to be significantly related to adult physically violent behavior, the interaction between sibling violence victimization and adult attachment to a sibling was; it had a significant positive effect on adult physically violent behavior. The interaction enhanced adult violence so that as attachment to a sibling and sibling violence victimization increased, the odds of adult physically violent behavior were higher. When further examining this interaction, it was revealed that for individuals with high sibling violence victimization, those with low adult attachment to a sibling had lower odds of adult physically violent behavior than those with high adult attachment to a sibling, contrary to attachment, and social control theories; this may provide evidence for social learning if those with high victimization and high attachment have higher odds of adult violence. For individuals with low sibling violence victimization, those with low attachment to a sibling had higher odds of adult physically violent behavior than those with high adult attachment to a sibling, which could provide support for social control theory given that the theory relates weak attachment to problematic behaviors.

Interestingly, the interaction for exposure to intimate partner violence and adult attachment to an intimate partner had a significant positive effect on adult violence. As attachment to an intimate partner and exposure to intimate partner violence increased, the odds of adult violence were higher. When further examining this interaction, for individuals with high exposure to intimate partner violence, those with low adult

attachment to an intimate partner had lower odds of engaging in adult physically violent behavior than those with high adult attachment to an intimate partner, also contrary to theoretical expectations. For individuals with low exposure to intimate partner violence, those with low adult attachment to an intimate partner had higher odds of engaging in adult physically violent behavior than those with high adult attachment to an intimate partner, which provides support for social control theory.

The findings from the multivariate analyses also suggested that the interaction between sibling violence victimization and attachment to a best friend had a significant positive effect on adult physically violent behavior so that as attachment to a best friend and sibling violence victimization increased, the odds of adult violence were higher. Further analyses on the interaction revealed that for individuals with high sibling violence victimization, those with low adult attachment to a best friend had lower odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend, contrary to theoretical expectations and possibly supporting social learning theory. For individuals with low sibling violence victimization, those with low adult attachment to a best friend had higher odds of engaging in adult physically violent behavior than those with high adult attachment to a best friend, providing support for social control theory.

Alternatively, the interaction between exposure to intimate partner violence and adult attachment to a best friend dampened violence. It had a significant negative effect on adult violence so that as attachment to a best friend and exposure to intimate partner violence increased, the odds of adult violence were lower. Further examination of the interaction revealed that for individuals with high exposure to intimate partner violence,

those with low adult attachment to a best friend had higher odds of engaging in adult physically violent behavior than those with high adult attachment to a sibling. This provides support for attachment and social control theories since family violence should relate to weak attachment and weak attachment relates to negative behaviors.

Interestingly and importantly, both sets of logistic regression analyses revealed that exposure to intimate partner violence was not significantly related to adult physically violent behavior. However, when examining the significant interaction between exposure to intimate partner violence and adult attachment to a best friend in further detail, it was revealed that individuals with high exposure to intimate partner violence and low adult attachment to a best friend had very high odds of engaging in adult violent behavior. This is something must be given further consideration in research. The further analyses of the interaction also found that for individuals with low exposure to intimate partner violence, those with low adult attachment to a best friend had lower odds of engaging in adult physically violent behavior than those with high adult attachment to a sibling.

These findings of the present study generate great interest for several reasons. For one, the findings reveal that adult attachment plays a role in the relationships of two forms of family violence, namely exposure to intimate partner violence and sibling violence victimization, and adult physically violent behavior. This is interesting because these forms of family violence are much less studied in research than other forms of family violence (e.g. parent-to-child violence) and sometimes, not even thought of as family violence victimization. If the first set of multivariate analyses were the only analyses conducted, it might appear that adult attachment has no influence on adult violence and only direct experiences of family violence victimization relate to adult

violence. However, conducting the second set of analyses and post-hoc analyses shed light on the interaction effects between exposure to intimate partner violence and adult attachment to a best friend, exposure to intimate partner violence and adult attachment to an intimate partner, sibling violence victimization and adult attachment to a best friend, and sibling violence victimization and adult attachment to a sibling on adult violence. The findings of these subsequent analyses also revealed that the moderator effects for sibling violence victimization and adult attachment to a best friend and sibling violence victimization and adult attachment to a sibling were more robust than the moderator effects for exposure to intimate partner violence and adult attachment to a best friend and exposure to intimate partner violence and adult attachment to an intimate partner. Additionally, the findings for the role of adult attachment to a best friend and low sibling violence victimization as well as the findings for the role of adult attachment to a sibling and low sibling violence victimization could be explained through social control theory since high attachment lowered the odds of adult violence (as seen in Figure 2.3) while the findings for the role of adult attachment to a best friend and high sibling violence victimization as well as the findings for the role of adult attachment to a sibling and high sibling violence victimization could potentially be explained through social learning theory since high attachment heightened the odds of adult violence (as reflected in Figure 2.2).

Second, these findings revealed that adult attachment in relationships that model the relationship where one was victimized should be studied. For instance, the interaction between sibling violence victimization and adult attachment to a sibling was found to significantly relate to adult physically violent behavior. Additionally, the interaction

between exposure to intimate partner violence and adult attachment to an intimate partner was found to significantly relate to adult physically violent behavior. Perhaps watching individuals (i.e., siblings, intimates) act violently may influence one's attachment with another person that takes on that specific role: a sibling or an intimate partner later in life. These findings are noteworthy given that it reveals that adult attachment types influence adult violence for those who have experienced victimization, especially when the attachment is in relationships with those individuals relatively similar in age.

Additionally, the findings reveal that attachment to a best friend, an often understudied aspect of adult relationships, plays a role in adult physically violent behavior by moderating experiences of family violence victimization, both direct (sibling violence) and indirect (i.e., exposure to intimate partner violence). Such peer relationships may initially form as a coping strategy for children in violent households (Davies & Cummings, 1994), despite whether these relationships involve conventional or delinquent youth. Youth might also seek out peer relationships and form attachment to those whom are accepting of violent behavior and reject those who are not. Research indicates that children who have experienced violence and/or conflict in the home are more physically violent with their friends than non-victimized youth (Dodge et al., 1994; Wolfe et al., 1998). Thus, attachment to a best friend is a vulnerability factor for those who have experienced sibling violence victimization. Conversely, in cases where violence is indirect, as in exposure to intimate partner violence, youth might internalize their feelings and seek safety or support from peers, which acts as a protective factor to reduce any negative consequences associated with such exposure for those who can form

successful attachments. However, further testing underlying these relationships is needed, along with further testing of theoretical explanations.

In short, the findings revealed that attachment is an aspect that should not be overlooked in research. Although parental attachment is considered to be highly important by many (e.g., Bowlby, 1969; Bowlby, 1973; Hirschi, 1969), this research has found that other attachment types may bear more weight in adulthood; parental attachment was the only attachment type not found to interact with some form of family violence victimization to influence adult violence. One possible explanation for the lack of significance in regard to parental attachment is that college students tend to be more independent when pursuing their education, often living on their own or spending less time with the family. As a result, college students may be impelled to rely on friendships and other relationships for their emotional needs.

#### Limitations

Some methodological considerations merit attention in the current study. This sample was nonrandom, and excluded those unwilling to participate or those who skipped class on the given day. Leaving these individuals out of the sample may represent a systematic bias, the nature of which cannot be determined. However, only a small number of potential participants declined. Thus, the non-response bias is expected to be minimal.

The current study's external validity is limited insofar as the study only uses participants from Rutgers University, Newark, NJ. Therefore, it excludes individuals who are attending other universities, those attending county colleges and four year institutions, and those who are not in college. Thus, results may not be generalizable to the general adult population of college students or to the adult population in general.

The intentions of the study were not necessarily to generalize to these other individuals. Rather, the primary intentions were to determine whether adult attachment types play any role in adult physically violent behavior.

Additionally, the cross-sectional, correlational nature of the study requires that caution be used in interpreting the findings and conclusions in this study. Further, the study relies on one measure (i.e., retrospective self-report questionnaires) in order to examine childhood experiences of physical family violence, adult attachment types, and adult physically violent behavior. The reasons that one source was used rather than multiple sources are twofold: secondary sources (i.e. any sources other than the primary person) are not likely to capture an accurate estimate of a person's experiences of family violence and they may not offer a true reflection of a person's feelings about relationships with others. In regard to the former, family violence is often something that occurs behind closed doors and is not brought to police attention (Durose et al., 2005; Greenfield et al. 1998, Rennison & Welchans, 2000). Police records rarely capture physical violence committed between family members, as is the case with intimate partner violence, parent-to-child violence, and especially in the case of sibling violence. Further, individuals typically offend more than revealed in official data, thereby underestimating violent behavior. For instance, research notes that individuals who have been abused and/or neglected have been found to self-report more offenses than known to police when compared to non-victimized individuals (Maxfield, Weiler, & Widom, 2000); non-abused individuals also reported offending not in police records. Consequently, police arrest data is extremely limited in providing us with accurate data on adult physically violent behavior, as much of this is not reported to authorities. Even if police arrest records did

contain such information, it might not include the victim-offender relationship, thereby rendering the data useless for this study. Likewise, official data like police arrest records typically will not include information on matters such as attachment. Additionally, other data like clinical records and hospital admissions are limited since most victims never seek help for their injuries (Rennison & Welchans, 2000) and even if one wanted to use such data, one cannot access it due to doctor-patient confidentiality. Finally, data from informants including friends, intimates, parents, and/or siblings is not used in the current study because such data may not provide an accurate depiction of the respondents' experiences and beliefs (Barnett, Miller-Perrin, & Perrin, 2005). Consequently, obtaining data from these other figures can alter findings in a manner inconsistent with respondents' beliefs and feelings.

Research indicates that adult respondents alone can provide an accurate image of their own experiences of physical family violence (Widom & Shepard, 1996), and as a result, they are more influential than any outside and possibly incorrect perspective in understanding whether and why these individuals might engage in violence. Yet, recall bias also exists in retrospective reports (see Widom, Raphael, & DuMont, 2004 for review). For instance, research has found that one's well-being (Schraedley, Turner, & Gotlib, 2002) and current mood (Raphael & Cloitre, 1994) have the potential to influence the evaluation of past events. Thus, negative mental or physical health or an upset mood can persuade one to remember events in a way that justifies his/her current condition, possibly leading to overestimating events, while positive health or demeanor can lead to underestimating events. Nevertheless, many researchers have found retrospective reports to provide useful and valid information (e.g., Dube et al., 2004; Hardt & Rutter, 2004;



Henry et al., 1994; Herrenkohl et al., 2003; Widom & Shepard, 1996). When people get older, they may be better able to reflect on past experiences (Graham-Bermann et al., 1994), which can potentially increase the truthfulness and accuracy of the data provided.

Another limitation that comes with using retrospective data is memory decay. Some individuals may underestimate certain events that occurred in their life because they simply forgot about it, especially if the experience occurred early on, or they may have blocked it from their memories. This can lead to underestimating the actual occurrences of family violence experiences. Furthermore, telescoping is another issue that may occur, which is when the participant recalls an event happening as earlier than it actually did; this may obscure reference points. It may also present higher rates of adult violence. However, these are not major concerns for this study. The use of retrospective data is sufficient for an initial exploratory application of attachment theories to the perpetration of adult physically violent behavior. As research notes, individuals are likely to remember adverse experiences (Hardt & Rutter, 2004) and can recall whether an event had occurred (Henry et al., 1994). Additionally, retrospective measures yield similar estimates found in prospective designs (e.g., Dube et al., 2004; Herrenkohl et al., 2003). Further, retrospective recall can be improved with the use of event cues (Glasner & van der Vaart, 2009); in this study, periods of school were used. Although a respondent may not have the exact onset or desistance period correct, this study simply examined the overall duration of family violence experiences regardless of whether the experiences started relatively early in life or later on.

Due to the sensitive nature of the subject matter, another limitation regards the accuracy of the data and disclosure of private events. Because this topic deals with issues

of violence victimization and perpetration, it is thought that some participants may not reveal honest or truthful answers if they feel threatened by the questions or if they feel embarrassment, shame, or some other negative emotion. On the one hand, research indicates that individuals who have experienced family violence can recall and reflect on their experiences (Widom & Shepard, 1996), especially when such violence is measured with Conflict Tactics Scale-like measures. Further, adult samples tend to be unaffected in social desirability when it comes to self-reporting violence perpetration or other similar experiences (Dutton & Hemphill, 1992). Therefore, the measures of family violence victimization and perpetration in the current study should illicit truthful responses. On the other hand, research suggests that violence in interpersonal relationships is difficult to measure, particularly in cases of extreme abuse (Malamuth, Sockloskie, Koss, & Tanaka, 1991). Although we cannot determine whether underreporting is an issue in the present study or whether there are cases of extreme violence, an anonymous survey format completed by adults is also thought to provide valid data.

There are also some limitations in the measures of the current study. As is common with studies incorporating the Conflict Tactics scale and similar measures, some individuals might criticize the measures by arguing that the context of physically violent behavior is ignored (see Straus, 2006 for a discussion). When it comes to adult physically violent behavior, the researcher did not examine whether the respondent initiated the violent behavior or whether the violence occurred as a response to a threatening situation or circumstance. However, the researcher was more interested in the presence or absence of violent behavior than the circumstances surrounding it because using violence is a form of conflict resolution that some individuals may resort to. When placed in similar

circumstances, other individuals may not react in the same manner and may use other strategies in order to avoid such behavior and any consequences associated with it.

A final limitation in this study comes with not knowing the specific nature of adult physically violent behavior (e.g., intimate partner violence, sibling violence, violence against a parent, violence against a peer, etc.). Although the study did not focus on any unique form of adult violent, univariate analyses revealed that individuals who reported committing some form of minor violence in the past year (i.e., having thrown something at someone, pushed, shoved, grabbed, or slapped someone in the past year) committed the acts against someone considered close to them while respondents who reported committing some form of severe violence in the past year (i.e., punching or hitting someone, kicking or choking someone, slamming someone against a wall, beating up, biting, or burning someone in the past year) committed the acts against strangers.

#### Policy Implications

There are several important implications of the present study. The first of which is the vital need to address the use of violence within the home. The present study revealed that family violence victimization is not a rare phenomenon and neither is adult physically violent behavior. The vast majority of participants reported experiences of family violence victimization and nearly 40% reported engaging in physically violent behavior in the past year alone. The significant association established between direct experiences of family violence (i.e., parent-to-child violence and sibling violence victimization) and later violence points toward a learning experience where negative techniques are used against others that were once used against the individual him/herself. Given that research links minor as well as severe

forms of family violence to later negative outcomes, violence within the home is a harmful problem that needs to be brought to a halt.

Education itself is essential in reducing rates of physical violence. In order for the problem to be addressed, families must teach their children that violence is not an acceptable method of conflict resolution, and schools should implement programs that do the same, perhaps through a family systems or social relationship course that encompasses a broad range pertinent issues. For this reason, it is necessary to team up by including the family and also incorporating schools as well as other sources of informal social control in prevention strategies. By working with individuals and institutions where relationships form, it is hoped that the experiences and use of violence can be reduced.

Additionally, the findings of the current study have direct relevance for interventions. In order to help at-risk or even victimized individuals, there is a need to target risk factors for family violence. Moreover, the current research suggests that it is important to establish a pattern of healthy, nonviolent relationships with intra- and extra-familial members; this must be given noteworthy consideration. Provided that relationships outside of the family are as important as relationship within the family, such interventions should direct efforts at improving an array of relationships. For those potentially trapped in the “cycle of violence”, this is imperative to altering learned negative behaviors. Research on adolescents proposes similar interventions as a practical means of resolving problematic behaviors resulting from earlier experiences (e.g., Wolfe, Wekerle, & Scott, 1997). If violence is tackled early on and proper relationship building strategies are taught to those at-risk, the chain of negative social

interactions may be broken and turned into a positive relationship building experience that can function to buffer violent tendencies. However, empirical research is needed in order to determine how and when such issues can be addressed most effectively.

#### Attachment & Family Violence Research

By examining all forms of victimization, as future research should, each form of violence can be better understood. In light of the current study's findings and corroborating with others (e.g., Straus et al., 2006), it is important that sibling violence victimization, an act of family violence often ignored, is incorporated in family violence studies. When examining multiple forms of family violence, it is also important to use uniform measures. A review of past research in the area of family violence makes comparisons across different forms of violence problematic; many studies on intimate partner violence examine minor acts of violence like pushing, shoving, or grabbing while studies pertaining to parent-to-violence often look at more severe forms. This study utilized standardized measures of violent acts for each form of victimization, which helped to gauge violence victimization and enabled comparisons across groups. It is suggested that future research attempt to do the same.

Additionally, further research in the adult attachment domain is warranted, especially since adult relationships in this study have notably different influences than research has found in childhood or adolescence (e.g., Chapple, 2003; El-Sheikh & Elmore-Staton, 2004; Herrenkohl et al., 2003; Kennedy et al., 2009; Salzinger et al., 2007; Owen et al., 2008); rarely any research on adult attachment types exists. Research that examines multiple attachment types and processes into adult violence is also necessary in developing an understanding of this antisocial behavioral pattern given that all

attachment types (i.e., attachment to a best friend, an intimate partner, and a sibling) except parental attachment were found to influence violence. This was an unexpected finding.

Additionally, research that gives a deeper understanding of how to facilitate positive relationships is needed. The use of a prospective longitudinal design (e.g., Widom, 1989b) may be able to confirm or replicate the findings of this current study and assist in program/intervention development. If possible, such a study should aim to determine why increased attachment to others relates to higher odds of violent behavior rather than reduced odds of violent behavior for victims of family violence. Perhaps this is due to an individual seeking out a similar violent environment or interacting with others the same way he/she was interacted with. Future research may also provide greater insight into attachment over the life course. Although attachment theory argues that individual's attachment styles are determined early in life, social control theory argues that it can change over time. This study examined one's current adult attachment relationships, which is thought to influence whether or not one engages in violent behavior over the past year. However, it is possible that earlier attachments may have some impact on later behavior. For instance, those raised in violent homes who do not engage in adult violent behavior might have stronger attachment in adulthood because they have had previous positive bonding experiences while growing up. This issue can be resolved by using a prospective design.

It is also suggested that research examines whether gender and adult attachment types interact in influencing the later violent behavior. While this study did not examine this due to its more general focus on exploring the role of adult attachment types, the issue is

thought to be highly important. Research indicates that females seek different qualities in their relationships with others than males (Feingold, 1992; Peplau & Gordon, 1985).

Although gender itself was not significantly related to adult violent behavior in the current study, it is possible that there may be gender specific pathways to adult violent behavior when the qualities of attachments among an assortment of relationships are examined. Additionally, the gender of the perpetrator may influence outcomes, so this is an area of further research.

The means by which family violence victimization experiences develop into maladaptive and violent behavioral patterns is of interest in understanding the “cycle of violence.” In this study, social learning theory initially prevailed as the theory best suited in clarifying the link between early experiences of family violence victimization and later adult physically violent behavior. However, support for attachment and social control theories also emerged as competitors in later examination of interactions, indicating the need to continue testing competing theoretical explanations in the link between family violence victimization and adult physically violent behavior. Yet, the theories incorporated in this study (i.e. social learning, attachment, and social control theories) could not explain all of the relationships found in post-hoc analyses. Given the current study’s findings on the role of adult attachment in interacting with early experiences of family violence and its association with adult physically violent behavior, further researcher must be carried out to grasp what it is about these relationships that promote (or conversely, inhibit) violence. Further, research is also needed on potential relationship building interventions in order to determine what is effective and when the optimal time is to implement such a program. Only with further empirical testing will we

know about the role of attachment in the relationship between childhood experiences of family violence and later violent behavior and what works in stopping the transmission of problem-solving patterns.



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## APPENDICES



## Appendix A

## Informed Consent Form

You are invited to participate in a research study on human development that is being conducted by Alison Marganski, PhD student in the School of Criminal Justice at Rutgers University, in partial fulfillment of requirements for the degree of Doctor of Philosophy. The purpose of this research project is to study early childhood experiences and adult relationships as well as adult behavior. For this study, you will take part in one survey that will take about 10-20 minutes to complete, depending on your responses. Participation in this study will involve questions on the following: attachment to others, early childhood experiences, and adult behaviors. You must be at least 18 years of age to participate in this survey.

Participation may not benefit you directly. However, the knowledge that we obtain from your participation, and from the participation of other volunteers enrolled in social sciences courses (i.e., criminal justice, psychology, sociology, political science), may be valuable in helping us understand certain aspects of human development, such as whether positive adult relationships help to decrease the effects associated with negative life experiences.

There is a possibility that this research has risks. This includes possible embarrassment from answering personal questions and recalling unpleasant thoughts or experiences. If you require counseling due to your participation in the study, you may contact: Psychological and Counseling Services at Rutgers University – Newark. This counseling center is located in Blumenthal Hall, Room 101 on 249 University Ave, Newark, New Jersey, 07102. This service is free. The counseling center can be reached at: (973) 353-5805. Any additional costs that might result from outside counseling must be covered by you or your insurance company.

Anything that you answer in this survey will be completely anonymous. This means that there will be no information that can link you to your responses. Therefore, your identity will not be known. This form is separate from the actual survey and will be placed in one envelope while the survey will be placed into another. Therefore, the informed consent and the survey are separate and there is NO way to link you from your consent form to your survey.

You may choose to enter into a prize drawing by providing your email on this informed consent form. From the pool of people who enter and provide a valid email address for this study, five people will be randomly selected as winners; there will be five \$20 dollar gift card winners. Email addresses will only be used to compile a list of those interested entering the drawing and will be properly disposed of thereafter. Those who are selected will be notified of their award status at the close of the survey. Arrangements will be made to pick up the prizes.

Your participation in this research is voluntary. If you don't want to take part of the study, you do not have to. If you decide to participate, you can change your mind at any time during the survey. You may also choose not to answer any questions with which you are not comfortable.

If you have any questions about the research or comments about the survey, please contact Alison Marganski at (862) 668-4275 or email Alison at [amargans@andromeda.rutgers.edu](mailto:amargans@andromeda.rutgers.edu). If you have any questions about your rights as a research subject, you may contact the Institutional Review Board Administrator at Rutgers University at (732) 932-0150 ext. 2104.

You will be given a copy of this informed consent form for your own records. Sign below if you agree to participate in this study:

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email address (optional) \_\_\_\_\_

*This informed consent form was approved by the Rutgers University Institutional Review Board for the Protection of Human Subjects on 7/13/09; approval of this form expires on 7/12/10.*

## Appendix B

### Survey on Early Familial Experiences and Later Relationships and Behaviors

*This survey contains questions that are personal in nature. Please answer the questions in this survey truthfully and to the best of your ability. Please CIRCLE the appropriate answer for each question that applies (or fill it in if a line is provided).*

- You will now be asked some questions regarding your RELATIONSHIPS to others.

1. A BEST FRIEND is someone that you share similar interests to, often hang out with, and consider trustworthy and dependable. Have you ever had a best friend?

Yes		No*			
<i>*If answered No, skip to the Question # 2. If answered Yes, please continue with the box below.</i>					
Now I want you to think about your current or most recent best friend.					
How emotionally close or connected do you feel with your best friend?	very little	a little	neither a little nor a lot	quite much	very much
How much do you like spending time with your best friend?	very little	a little	neither a little nor a lot	quite much	very much
How much do you look up to or admire your best friend?	very little	a little	neither a little nor a lot	quite much	very much
How much do you trust your best friend to be faithful/loyal to you?	very little	a little	neither a little nor a lot	quite much	very much

2. An INTIMATE PARTNER is someone whom you are going out with, dating, or romantically involved with. This can include a dating partner, girlfriend, boyfriend, fiancé, wife, or husband. Have you ever had an intimate partner?

Yes		No*			
<i>*If answered No, skip to the Question # 3. If answered Yes, please continue with the box below.</i>					
Now I want you to think about your current or most recent intimate partner.					
How emotionally close or connected do you feel with your intimate partner?	very little	a little	neither a little nor a lot	quite much	very much
How much do you like spending time with your intimate partner?	very little	a little	neither a little nor a lot	quite much	very much
How much do you look up to or admire your intimate partner?	very little	a little	neither a little nor a lot	quite much	very much
How much do you trust your intimate partner to be faithful/loyal to you?	very little	a little	neither a little nor a lot	quite much	very much

3. A PARENT refers to a primary caregiver; it is the person who was responsible for taking care of you and raised you while growing up, regardless of whether or not he/she is biologically related. Although you may have more than one parent, I want you to think about your primary caretaker or person who took care of you the most.

Now I want you to think about your parent... If your parent is no longer living, please provide information on the relationship that existed with him/her.					
How emotionally close or connected do you feel with your parent?	very little	a little	neither a little nor a lot	quite much	very much
How much do you like spending time with your parent?	very little	a little	neither a little nor a lot	quite much	very much
How much do you look up to or admire your parent?	very little	a little	neither a little nor a lot	quite much	very much
How much do you trust your parent to be faithful/loyal to you?	very little	a little	neither a little nor a lot	quite much	very much

4. A SIBLING relationship is another family relationship that may exist. This involves brothers or sisters biologically related, adopted, or acquired into the family/family household through marriage (step-brothers/step-sisters). Do you have a sibling?

Yes	No*
<i>*If answered No, skip to the Question # 11. If answered Yes, please continue with the box below.</i>	
How many siblings do you have? (please provide the number) _____	
Please list each sibling's AGE (numerical number) AND GENDER (male/female) in chronological order:	
Younger Siblings' Ages/Gender	Older Siblings' Ages/Gender
1. _____	6. _____
2. _____	7. _____
3. _____	8. _____
4. _____	9. _____
5. _____	10. _____
YOUR AGE/GENDER _____	
Now I want you to think about the sibling closest in age to you.	

How emotionally close or connected do you feel with this sibling?	very little	a little	neither a little nor a lot	quite much	very much
How much do you like spending time with this sibling?	very little	a little	neither a little nor a lot	quite much	very much
How much do you look up to or admire your this sibling?	very little	a little	neither a little nor a lot	quite much	very much
How much do you trust your sibling to be faithful/loyal to you?	very little	a little	neither a little nor a lot	quite much	very much

- You will now be asked some sensitive questions about certain EXPERIENCES that may or may not have occurred in your LIFETIME. More specifically, you will be asked about experiences within your family that you may have witnessed or been involved in. In order to help you recall whether an event occurred or not, several points in time will serve as reference points, including elementary school, middle school, and high school. Elementary school typically includes grades 1-4; middle school includes grades 5-8; high school includes grades 9-12. This may slightly vary from school to school, which is just fine. Please answer the questions in this survey to the best of your ability.

5A . Sometimes, siblings get into fights or engage in acts that may hurt each other. Has a sibling ever thrown something at you, pushed, shoved, grabbed, slapped, pinched, or spanked you?

Yes			No*			
<i>* If answered No, skip to Question #5B; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

5B. Has a sibling ever punched or hit you with a fist, kicked or choked you, slammed you against a wall, beat up, bit, or burned you, or threatened to use or actually used a knife or gun against you?

Yes			No*			
<p><i>If answered Yes, please continue with the box below.</i>  <i>(*If you answered No to BOTH Question #5A and #5B, please skip to Question #6A. If you answered Yes to Question #5A but No to Question #5B, please go to Question #6A).</i></p>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

6A. Has a sibling ever touched you in a sexually inappropriate way?

Yes			No*			
<p><i>* If answered No, skip to Question #6B; if answered Yes, please continue with the box below.</i></p>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

6B. Has a sibling ever used force or threats to make you have oral, vaginal, or anal sexual intercourse with him/her?

Yes	No*					
<i>* If answered No, skip to Question #7; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

7.

Were any of the acts from Questions #5A, #5B, #6A, or #6B perpetrated by more than one sibling?	yes	no	does not apply
Were the acts from Questions #5A, #5B, #6A, or #6B perpetrated by a sibling who was:	older	younger	older and younger
Were the acts from Questions #5A, #5B, #6A, or #6B perpetrated by a sibling who was:	male	female	male and female



8A. Have YOU ever thrown something at a sibling, pushed, shoved, grabbed, slapped, pinched, or spanked a sibling?

Yes		No*				
<i>*If you answered No, please skip to Question #8B; If you answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

8B. Have YOU ever punched or hit a sibling with a fist, kicked or choked a sibling, slammed a sibling against a wall, beat up, bit, or burned a sibling, or threatened to use or actually used a knife or gun against a sibling?

Yes		No*				
<i>If answered Yes, please continue with the box below. (*If you answered No to BOTH Questions #8A and #8B, please skip to Question #9A. If you answered Yes to Question #8A but No to Question #8B, please go to Question #9A).</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

9A. Have YOU ever touched a sibling in a sexually inappropriate way?

Yes		No*				
<i>* If answered No, skip to Question #9B; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

9B. Have YOU ever used force or threats to make a sibling engage in oral, vaginal, or anal sexual intercourse with you?

Yes		No*				
<i>* If answered No, skip to Question #10; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

10.

Were any of the acts from Questions #8A, #8B, #9A, or #9B against more than one sibling?	yes	no	does not apply
Were the acts from Questions #8A, #8B, #9A, or #9B against a sibling who was:	older	younger	older and younger
Were the acts from Questions #8A, #8B, #9A, or #9B against a sibling who was:	male	female	male and female

11A. Another type of conflict that may have been experienced within the home consists of parent-to-child conflict. A parent may try to discipline his/her child, punish his/her child, or act in a certain way if he/she is angry or upset with his/her child. Here, a parent refers to a primary caregiver; it is the person who was responsible for taking care of you and raised you while growing up. Has your parent ever thrown something at you, pushed, shoved, grabbed, slapped, pinched, or spanked you?

Yes		No*				
<i>*If you answered No, please go to Question #11B; if you answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

11B. Has your parent ever punched or hit you with a fist, kicked or choked you, slammed you against a wall, beat you up, bit or burned you, or threatened to use or actually use a knife or gun against you?

Yes		No*				
<i>If answered Yes, please continue with the box below. (*If you answered No to BOTH Questions #11A AND #11B, please go to Question #12A. If you answered Yes to Question #11A but No to Question #11B, please go to Question #12A).</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

12A. Has your parent ever touched you in a sexually inappropriate way?

Yes		No*				
<i>* If answered No, skip to Question #12B; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

12B. Has your parent ever used force or threats to make you have oral, vaginal, or anal sexual intercourse with him/her?

Yes		No*				
<i>* If answered No, skip to Question #13; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

13.

Were the acts from Questions #11A, #11B, #12A, or #12B perpetrated by a male or female parent or both?	male	female	Both male and female
--------------------------------------------------------------------------------------------------------	------	--------	----------------------

14A. Have YOU ever thrown something at your parent, pushed, shoved, grabbed, slapped, or pinched your parent?

Yes		No*				
<i>*If you answered No, please go to Question #14B; if you answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

14B. Have YOU ever punched or hit your parent with a fist, kicked or choked your parent, slammed your parent against a wall, beat your parent up, bit or burned your parent, or threatened to use or actually use a knife or gun against your parent?

Yes		No*				
<i>*If you answered No, please go to Question #15A; if you answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

## 15A. Have YOU ever touched your parent in a sexually inappropriate way?

Yes		No*				
<i>* If answered No, skip to Question #15B; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

## 15B. Have YOU ever used force or threats to make your parent have oral, vaginal, or anal sexual intercourse?

Yes		No*				
<i>* If answered No, skip to Question #16; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

## 16.

Were any of the acts from Questions #14A, #14B, #15A, or #15B perpetrated against a male or female parent or both?	male	female	both
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17A. Sometimes, parents get into fights or arguments with their partner. Have you ever witnessed your parent throw something at a partner, push, shove, grab, or slap a partner?

Yes		No*				
<i>*If you answered No, please go to Question #17B; if you answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

17B. Have you ever witnessed your parent punch or hit a partner with a fist, kick or choke a partner, slam a partner against a wall, beat up, bite, or burn a partner, or threaten to use or actually use a knife or gun against a partner?

Yes		No*				
<i>*If you answered No, please go to Question #18A; if you answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

18A. Have you ever witnessed your parent touched his/her partner in a sexually inappropriate way?

Yes		No*				
<i>* If answered No, skip to Question #18B; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

18B. Have you ever witnessed your parent used force or threats against a partner to make him/her have oral, vaginal, or anal sexual intercourse?

Yes		No*				
<i>* If answered No, skip to Question #19; if answered Yes, please continue with the box below.</i>						
When did this first occur?	before elementary school	elementary school	middle school	high school	after high school	don't know
When did this end?	before elementary school	sometime in elementary school	sometime in middle school	sometime in high school	after high school or did not end	don't know
How often did the act/acts happen?	almost never	not often	neutral	somewhat frequently	very frequently	don't know
How severe would you rate the act/acts?	not severe at all	not really that severe	neutral	somewhat severe	very severe	don't know

19.

Were any of the acts from Questions #17A, #17B, #18A, or #18B perpetrated by a male or female parent or both?	male	female	both
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- Now you will be asked some basic questions about ACTIVITIES that YOU may have engaged in. I want you to think about the PAST YEAR (twelve months) and use that as a reference point.

20. *In the past year, have you had 5 or more alcoholic drinks in one sitting?*

Yes*			No		
*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)					
1	2	3-5	6-10	11-20	20+

21. *In the past year, have you used any drugs/narcotics, excluding those obtained from a doctor's prescription?*

Yes*			No		
*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)					
1	2	3-5	6-10	11-20	20+

22. *In the past year, have you cursed, swore, put down or yelled at someone in a negative way?*

Yes*			No		
*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)					
1	2	3-5	6-10	11-20	20+

23. *In the past year, have you threatened to physically hurt or inflict injury upon someone?*

Yes*			No		
*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)					
1	2	3-5	6-10	11-20	20+

- Please note that the next two questions contain an additional category.

24. *In the past year, have you thrown something at someone, pushed, shoved, grabbed, or slapped someone?*

Yes*			No		
<i>*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)</i>					
1	2	3-5	6-10	11-20	20+
<i>*If Yes, was it against (circle ALL that apply):</i>					
someone close to you	someone you know		someone you don't know		rather not say

25. In the past year, have you punched or hit someone, kicked or choked someone, slammed someone against a wall, beaten up, bit, or burned someone?

Yes*			No		
<i>*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)</i>					
1	2	3-5	6-10	11-20	20+
<i>*If Yes, was it against (circle ALL that apply):</i>					
someone close to you	someone you know	someone you don't know	rather not say		

26. In the past year, have you touched someone in a sexually inappropriate way?

Yes*			No		
<i>*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)</i>					
1	2	3-5	6-10	11-20	20+
<i>*If Yes, was it against (circle ALL that apply):</i>					
someone close to you	someone you know	someone you don't know	rather not say		

27. In the past year, have you used force or threats to make someone have oral, vaginal, or anal sexual intercourse?

Yes*			No		
<i>*If Yes, about how many times? (please circle your answer or provide and answer in the following line _____)</i>					
1	2	3-5	6-10	11-20	20+
<i>*If Yes, was it against (circle ALL that apply):</i>					
someone close to you	someone you know	someone you don't know	rather not say		

28. In the past year, have you engaged in any of the following acts? (circle ALL boxes that apply):

stole or tried to steal something worth less than \$50	stole or tried to steal something worth \$50 or more	destroyed any property (whether it was someone's personal property or public property)	broken into a car, home, or building that was not yours
been paid for having sexual relations with someone	sold any drugs (marijuana, cocaine, heroin, etc.)	carried a hidden weapon on you (brass knuckles, knife, gun)	any type of illegal activity

- Now you will be asked some simple basic demographic questions. Please circle your answer or fill it in on the line provided.

29. Are you:	Male			Female	
31. What is your age?	_____ years old				
32. What is your current marital status?	married	engaged	single	separated	divorced
33. What is your race/ethnic background?	White/Caucasian	Black/African-American	Hispanic/Latino	Asian	Other
34. Which best describes your current financial status?	poor	below average	average	good	extremely well-off
35. In the past year, how well have you done academically?	F student	D student	C student	B student	A student

Thank you for your time and participation in this survey. All information submitted will be anonymous. If you have any questions about this survey or the study, or are want to speak to someone, please contact me, Alison Marganski, at [amargans@andromeda.rutgers.edu](mailto:amargans@andromeda.rutgers.edu).

## VITA

Alison J. Marganski

1983	Born February 8 in Passaic, NJ.
2001	Graduated from Pequannock Township High School, Pompton Plains, NJ.
2001-2005	Attended The College of New Jersey, Ewing, NJ; Criminology & Justice studies.
2005	B.S., The College of New Jersey.
2005-2007	Attended Rutgers University, Newark, NJ; graduate program in Criminal Justice
2007	M.A., Rutgers University.
2007	Employed by Faloni & LaRusso, West Caldwell, NJ as a summer assistant for a legal office.
2007-2008	Employed by William Paterson University, Wayne, NJ as adjunct instructor.
2007-2010	Employed by Rutgers University as part-time lecturer.
2007-2009	Employed by the Center for Problem-Oriented Policing, Madison, WI as a research assistant/consultant.
2007-2010	Attended Rutgers University, Newark, NJ; doctoral program in Criminal Justice.
2009	Article: Domestic Violence, Native Americans. In Greene, H.T. & Gabbidon, S.L. (Eds.). <i>Encyclopedia of Race and Crime</i> , 1, pp. 218-219. Thousand Oaks, CA: Sage Publications.
2010	Ph.D. in Criminal Justice, Rutgers University.