
The effects of childhood exposure to parental intimate partner violence (EPIPV) on dating violence (DV) were examined through two layers of mediations. Based on attachment theory, individuals who are exposed to parental intimate partner violence are less likely to experience secure parent-child attachment, which in turn transfers to insecure adult attachment that is prone to perceive significant others as less trustworthy and less reliable as well as higher likelihood of over-reacting and/or staying in an unhealthy relationship. In the second layer of mediation, insecure adult attachment would lead to biased SIP which in turn, would result in an increase of DV. A total of 327 university students participated in the study by voluntarily completing the research questionnaires. Among them, 253 reported having experienced mild to severe DV and were included in the final data set. The data analyses procedures included examinations of the measurement models and structural equation modeling (SEM) analyses. Findings from the final models best supported by the data indicated that EPIPV predicted both dating violence perpetration and victimization and that EPIPV predicted adult attachment anxiety and avoidance, both of which are consistent with existing literature. However, findings revealed that EPIPV did not predict SIP and SIP was not predictive of DV perpetration. In addition, neither adult attachment anxiety nor attachment avoidance was predictive of DV perpetration and victimization. For DV victimization SEM model, adult attachment anxiety predicted SIP, however, SIP did not predict DV victimization. Findings are discussed based on DV literature and attachment theory. Limitations, clinical implications, and future research directions are also outlined.
Copyright 2017

by

Chu Chian Suzanne Chong
ACKNOWLEDGEMENTS

I want to thank my parents, Fuel Yuen and Sau Hong, for their unwavering support throughout my academic journey here in UNT. Their confidence and faith in me, even during moments when I have none, have sustained me immeasurably. My younger sister, Wei Chian Stephanie, has had to represent my spirit on the many occasions I could not be home for major life celebrations. My primary advisor, DC, and committee members, Randy and Sharon, thank you for their wisdom and guidance in facilitating my knowledge in developing this manuscript and in my personal and professional growth. Friends, near and far, for always being willing to lend an empathetic ear. Last but definitely not least, Terence for standing, sitting, sleeping, eating, crying, and sweating, by me through thick and thin.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vi</td>
</tr>
<tr>
<td>CHAPTER 1 OVERVIEW OF STUDY</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Adult Attachment, Exposure to Parental Intimate Partner Violence, and Dating Violence</td>
<td>3</td>
</tr>
<tr>
<td>1.2 Social Information Processing, Adult Attachment Insecurity, and Dating Violence</td>
<td>4</td>
</tr>
<tr>
<td>1.3 Present Study</td>
<td>6</td>
</tr>
<tr>
<td>CHAPTER 2 LITERATURE REVIEW</td>
<td>8</td>
</tr>
<tr>
<td>2.1 Defining Dating Violence in College Populations</td>
<td>8</td>
</tr>
<tr>
<td>2.2 Prevalence of Dating Violence (DV) in College Populations</td>
<td>9</td>
</tr>
<tr>
<td>2.3 The Negative Impacts of Intimate Relationship Violence</td>
<td>12</td>
</tr>
<tr>
<td>2.4 Exposure to Parental Intimate Partner Violence</td>
<td>14</td>
</tr>
<tr>
<td>2.5 Research Literature on EPIPV-DV Link</td>
<td>15</td>
</tr>
<tr>
<td>2.6 Adult Attachment</td>
<td>17</td>
</tr>
<tr>
<td>2.7 Adult Attachment and Intimate Relationship Violence/DV/IPV</td>
<td>21</td>
</tr>
<tr>
<td>2.8 Social Information Processing Model</td>
<td>28</td>
</tr>
<tr>
<td>2.9 SIP and Relationship Violence</td>
<td>33</td>
</tr>
</tbody>
</table>
REFERENCES
LIST OF TABLES

Table 1: Demographic Distribution of Racial Composition........................................46
Table 2: Descriptive Statistics..........................................................................................53
Table 3: Descriptive Statistics of Transformed Variables Using Square-root Transformation.....54
Table 4: Intercorrelations of Measures in Path Models....................................................55
Table 5: Intercorrelations of Measures in Path Models by Gender, Male Correlations above the line........................................................................................................................................58
Table 6: Pairs of Indicators with Significant Gender Differences in Correlations Transformed with Fischer’s r-to-z.................................................................................................59
Table 7: Items in ECR (Brennan et al, 1998) for Adult Attachment Anxiety and Avoidance that were Parceled into Indicators for SEM Fit Indices for Measurement Models on Victimization from Dating Violence.........................................................................................................................61
Table 8: Fit Indices for Measurement Models on Dating Violence Victimization.................64
Table 9: Fit Indices for Measurement Models on Dating Violence Perpetration...................67
Table 10: Fit Indices for Models on Victimization from DV and Variance Accounted in DV....72
Table 11: Fit Indices for Models on DV Perpetration and Variance Accounted in DV ..........76
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Model of Attachment (Bartholomew &amp; Horowitz, 1991)</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>Structural model of exposure to parental intimate partner violence (EPIPV) on dating violence (DV) as mediated by adult attachment and social information processing (SIP)</td>
<td>62</td>
</tr>
<tr>
<td>3</td>
<td>Proposed measurement model for victimization from dating violence with coefficient loadings</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>Modification of the measurement model for victimization from dating violence</td>
<td>65</td>
</tr>
<tr>
<td>5</td>
<td>Proposed measurement model for perpetration of dating violence</td>
<td>67</td>
</tr>
<tr>
<td>6</td>
<td>Modification of the measurement model for perpetration of dating violence</td>
<td>68</td>
</tr>
<tr>
<td>7</td>
<td>Proposed SEM model for examine dating violence victimization</td>
<td>68</td>
</tr>
<tr>
<td>8</td>
<td>SEM model of DV victimization with coefficients</td>
<td>70</td>
</tr>
<tr>
<td>9</td>
<td>Modified SEM Model of DV Victimization with Coefficients</td>
<td>71</td>
</tr>
<tr>
<td>10</td>
<td>SEM modeling of victimization from DV with the SIP variable removed from the model</td>
<td>71</td>
</tr>
<tr>
<td>11</td>
<td>SEM Model of EPIPV and DV Victimization</td>
<td>72</td>
</tr>
<tr>
<td>12</td>
<td>Proposed SEM Mediational Model for Dating Violence Perpetration</td>
<td>73</td>
</tr>
<tr>
<td>13</td>
<td>SEM model of DV perpetration with path coefficients</td>
<td>74</td>
</tr>
<tr>
<td>14</td>
<td>SEM model of DV perpetration with path coefficients</td>
<td>75</td>
</tr>
<tr>
<td>15</td>
<td>SEM Model of EPIPV and DV Perpetration</td>
<td>75</td>
</tr>
</tbody>
</table>
CHAPTER 1

OVERVIEW

Dating is defined as a relationship in which two individuals share an emotional, romantic, and/or sexual connection beyond a platonic friendship, but are not married, engaged, or in a similarly committed relationship (Murray & Kardatzke, 2007). Unfortunately, research findings suggest that between 17% and 45% individuals reported engaging in physical violence toward dating partners at least once in the duration of their relationships (Amar & Gennaro, 2005; Gover, Kaukinen, & Fox, 2008; Makepeace, 1981). Dating violence (DV), and/or dating abuse, was originally defined as the use of physical force, or the threat of physical force or restraint, within a dating relationship (Sugarman & Hotaling, 1989). In recent years, the scope of DV has been broadened to include psychological abuse – defined as verbal assaults between partners or from one partner to another (demeaning, degrading, or derogatory verbal terms), stalking behaviors, damaging of property or intentionally causing hurt to pets – and sexual abuse that includes, but is not limited to, sexual coercion, rape, and molestation (e.g., Burke, Stets, & Pirog-Good, 1988; Carr & VanDeusen, 2002; Straus, Hamby, Boney-McCoy & et al., 1996).

Issues and prevalence of DV among college students are concerning. A pioneering study on DV in the college student population discovered that one-fifth of the 202 participants reported experiencing some forms of intimate relationship violence (Makepeace, 1981). Similarly, Rouse, Breen, and Howell (1988) discovered significant results in their college sample of 585 never-married students; 28.2% self-reported minor forms of physical violence such as being pushed, grabbed or shoved roughly by a dating partner, and 17.4% had been struck, slapped, or punched with another 11% needing medical attention or police intervention due to severe physical
coercion. In another study, up to 22% of college students were estimated to be victims of dating violence each year (Straus, 2004), whereas another study estimated that one out of three college couples have experienced violence in their dating relationships (Lewis & Fremouw, 2001).

Several theoretical perspectives have been proposed to explain what contribute to DV. Among them, Steinmetz and Straus (1974) identified witnessing interparental violence during childhood or adolescence, or known as exposure to parental intimate partner violence (EPIPV), as a risk factor. The definition of EPIPV is not limited to children physically witnessing acts of intimate partner violence (IPV), but also includes children being within earshot of the acts of IPV while in a separate room, harboring awareness that IPV has happened even though they were not present or within vicinity, as well as seeing the aftermath of the acts of IPV (i.e., bruises on a primary caretaker’s face and body, furniture strewn around the room, etc.) (Edleson, 1999). Rouse (1991) described this as an “intergenerational transmission of violence”.

A remarkable number of empirical studies have demonstrated strong evidence supporting the relationship between EPIPV during childhood and involvement in DV during young adulthood (e.g., Bernard & Bernard, 1983; Gover, Kaukinen, & Fox, 2008; Jouriles, Mueller, Rosenfield, McDonald, & Dodson, 2012; Milletich, Kelley, Doane, & Pearson, 2010; Murrell, Christoff, & Henning, 2007). Although relevant literature highlights the importance of environmental influences and the subsequent cognitive processes that are crystallized from the exposure to family violence between primary caregivers, the specific mechanisms that explain how the EPIPV affects DV remain unclear. Guided by attachment theory (Bowlby, 1973) and reformulated social information processing model (SIP, Crick & Dodge, 1994), the present study examined the effects of EPIPV on DV by two layers of mediations: insecure adult attachment and distorted social information processing. The study utilized structural equation modeling (SEM) to examine the developed mediational model that depicts the relationships between
EPIPV and young adult DV using a college student sample. The conceptual rationales of the mediational model predict that individuals who have experienced EPIPV are more likely to develop insecure adult attachment which includes internalizations of others as unreliable and less dependable, with the internalization of insecure adult attachment leading to biased SIP which in turn would result in an increase of DV.

1.1 Adult Attachment, Exposure to Parental Intimate Partner Violence, and Dating Violence

Adult attachment theory (Hazan & Shaver, 1987) is aptly suited to the study of DV because it provides a useful framework in understanding individual differences regarding people’s internal beliefs and expectations, affect regulation strategies, and overt behaviors within romantic relationships. Following directly from Bowlby’s (1973) theoretical view, contemporary adult attachment researchers conceptualize adult attachment using a two-dimension model: *attachment anxiety* and *attachment avoidance*. The dimension of attachment anxiety reflects internal working models of self, characterized by the degree of emotional dependence on others for self-validation, whereas the attachment avoidance dimension refers to the internal working model of other, defined as expectations of others’ availability (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998). Individuals with insecure attachments usually score high in either or both dimensions and securely attached individuals tend to score low on both dimensions.

The theory of adult attachment has been widely used to identify possible risk factors and explain the integrating effects of various psychosocial factors for violence in romantic relationships (e.g., Doumas, Pearson, Elgin, & Mckinley, 2008; Gormley, 2005). Secure adult attachment orientation is associated with relationship stability and negatively correlated with conflictual interactions or violence. Insecure adult attachment styles have been found to be
associated with men’s and women’s DV and/or intimate relationship violence (e.g., Gormley, 2005; Gormley & Lopez, 2003; Mahalik et al., 2005).

From the attachment theory perspective, there are increased odds that individuals who had experienced EPIPV during their formative years, are likely to develop the insecure internal working models that reflect relationships salient with aggression and violence. When a real or imagined threat of abandonment or rejection by the attachment figure is perceived, insecurely attached individuals become alarmed and the resulting anxiety leads to insecure attachment responses (Bowlby, 1990). The insecure adult attachment responses and behaviors is a potential mediator between the predictive relationship of EPIPV and college student DV.

1.2 Social Information Processing, Adult Attachment Insecurity, and Dating Violence

Since a critical component of the attachment system is the internalized expectations of a set of postulates about close relationships, we further hypothesized that insecure adult attachment predicts biased reformulated SIP processing which in turn, would lead to the increased DV. The main characteristics of SIP is based upon the notion that individuals’ actions and behaviors are the result of selective processing of social cues, external information, and internal biases that leads to actions and behaviors that predicts goal attainment, even if the actions and behaviors are aggressive (Crick & Dodge, 1994; Dodge, 1980; Huesmann, 1988). Specifically, the theory of reformulated SIP explained that individuals are prone to aggressive acts when cue interpretations of the social environment are selectively biased and internal regulation of affect is deregulated. In other words, individuals with biased SIP processing are more likely to perceive aggressive actions as appropriate goal attaining behaviors to desired outcome, and as a way to manage negative affect. The reformulated SIP was developed originally to explain grade school children’s reactive and proactive aggression (Crick & Dodge, 1996), school children with
chronic aggressive and assaultive behaviors (Dodge, Lochman, Harnish, Bates, & Pettit, 1997), and the development of child psychopathology (Dodge, 1993).

Over the years, studies of adult attachment on intimate relationship quality attempted to define the construct “internal working model” through several information processing dimensions, such as openness to (or inhibition of) exploration of information (Hazan & Shaver, 1987), situational or dispositional curiosity on cognitive, behavioral, and internal experiences, and the ability to manage perceived social threats in an adaptive manner (Collins & Read, 1990; Shaver & Hazan, 1993). A review of an integrative life-span attachment-related studies explained the following patterns of results that have emerged from these studies; firstly, the central proposition is that individuals who possess secure experience-based internal working models of attachment will process, in a relatively open and disinhibited manner, a broad and normative range of positive and negative attachment-relevant social information.

Specifically, secure individuals will draw on their positive attachment-related knowledge to process this information in a *positively biased schematic* way. In contrast, individuals who possess insecure internal working models of attachment will process attachment-relevant social information in one of two ways, depending on whether the information could cause the individual psychological pain. If processing the information is likely to lead to psychological pain, insecure individuals will defensively exclude this information from further processing (e.g., these individuals will shift attention away from the focus of a question and instead show off-topic angry and confused preoccupation with other aspects of their childhood experiences that contain no specific or genuine details on the negative attachment-related information). If, however, the information is unlikely to lead to psychological pain, then insecure individuals will process this information in a *negatively biased schematic* fashion that is congruent with their negative attachment-related experiences (for a review, see Dykas & Cassidy, 2011).
Although Bowlby did not use the term schematic (or similar terminologies) when discussing this particular information processing pathway, he suggested a conceptual link between individuals’ internal working models of attachment and their tendencies to perceive their worlds in a positive light if they possessed positive attachment-related knowledge or in a negative light if such knowledge was negative (e.g., Bowlby, 1973). The belief that individuals process certain types of attachment relevant social information in a schematic fashion is based on the notion that internal working models of attachment function to process social information in the most rapid and efficient ways possible (Bowlby, 1973; Bretherton & Munholland, 1999, 2008; see also Baldwin, 1992). By tapping into experience-based knowledge, internal working models of attachment provide individuals with the capacity to interpret and evaluate attachment-relevant social information relatively quickly, a capacity that is highly adaptive for individuals considering that such interpretations and evaluations often need to be made in real-time. Moreover, it is efficient for individuals to draw on stored knowledge when processing new information so that they do not have to spend valuable time (and limited mental resources) processing this information from scratch (see Bowlby, 1973; Bretherton & Munholland, 1999).

1.3 Present Study

The above studies and explanations has mostly focused on demonstrating the link between parent-child attachment on adult attachment through various dimensions and structures of studying the internal working model construct. The study investigated a specific conceptual model that has not appeared in any professional literature search and may be one of the first investigation in this specific area. It is hypothesized that individuals with insecure adult attachments are more likely to have biased SIP processing, and thus more likely to perceive social/relational threats and hostiles cues in ambiguous relationship scenarios. Biased SIP processes comprised of three components; (1) hostile attributional biases which comprised of
selectively attending to ambiguous or hostile cues, (2) selection of aggressive responding goals or behaviors, followed by (3) positive evaluations of responding with behaviorally aggressive acts. The study aims to investigate the second layer of the mediation model by studying if individuals with insecure adult attachment do predict biased SIP processing, which are defined by the reformulated SIP model as operating based on biased attributions, aggressive responding, and positive evaluations of aggressive responses.

Specifically, this conceptual model is developed to determine whether adult attachment would be a significant mediating effect on EPIPV – DV link, and on the second layer of mediation, to determine whether distorted SIP processing mediates adult attachment – DV relationship. Although EPIPV, insecure attachment, and SIP have been identified in separate studies to be associated with DV in young adults, empirical studies in this area tend to be limited in that the influences of the selected variables were examined independently through the frame of a single theoretical perspective. The study may be one of the first to examine simultaneously the relationships of four interrelated variables: EPIPV, adult attachment, and biased SIP processing, and young adults’ DV. The findings of this study may further advance the literature on the mechanisms and implications of exposure to IPV and young adult DV. This study will focus on the college student population for most university students fall into the age range of emerging adulthood that coincides with the developmental timing and beginning stages of stable, long-term, romantic partners. Please refer to Figure 2 for a diagram of the structural model.
CHAPTER 2
LITERATURE REVIEW

The phenomenon of college DV has been examined from the perspective of several theoretical deductions and a number of factors have been identified as having significant associations with college DV. This chapter presents literature review on relevant theoretical models and empirical studies. The following sections, in chronological order, outline research literature and explanations detailing dating violence (DV) in college populations, exposure to parental intimate partner violence (EPIPV) and its impact on DV, adult attachment (AA) and its role and application in DV, social information processing (SIP) and the implications with DV, and the final concluding paragraphs detailing the research objectives of the study involving the predictors and relationships of EPIPV, AA, and SIP on the outcome of college DV.

2.1 Defining Dating Violence in College Populations

As described in the introductory chapter, dating is defined as a relationship between two individuals sharing an emotional, romantic, and/or sexual connection beyond a platonic friendship, but are not necessarily married, engaged to be married, or in a similarly committed relationship (e.g., living in a domestic partnership) (Murray & Kardatzke, 2007). The definition of DV (and/or dating abuse) is the use of physical force, or the threat of physical force or restraint, within a dating relationship (Sugarman & Hotaling, 1989). The scope of dating violence has been broadened to include psychological abuse – defined as verbal assaults between partners or from one partner to another (demeaning, degrading, derogatory verbal terms, isolating from friends and family, controlling and monitoring whereabouts, or destroying sentimental items belonging to a dating partner) – and sexual abuse that includes, but is not limited to, sexual coercion, rape, and molestation (e.g., Burke, Stets, & Pirog-Good, 1988; Carr & VanDeusen, 2002; Straus et al., 1996).
The gradual expansion of the definition of DV to include psychological abuse and sexual assault by an intimate partner since the landmark study by Makepeace (1981) on physical assault between partners is important to the advancement of DV literature as it appears that physical violence alone is not sufficient to describe the effects of DV on the well-being of victims of DV. For example, a research study that analyzed data from the National Violence Against Women Survey (NVAWS) showed that psychological abuse was detrimental to physical health outcomes (Coker et al., 2002).

2.2 Prevalence of Dating Violence (DV) in College Populations

Dating violence (DV) among college students is a pervasive problem that has far-reaching consequences on society. A pioneering study on DV among college students discovered that one-fifth of the 202 participants had endorsed experiencing some form of intimate relationship violence (Makepeace, 1981). Rouse, Breen, and Howell (1988) discovered similarly significant results in their college sample of 585 never-married students; 28.2% self-reported minor forms of physical violence such as being pushed, grabbed or shoved roughly by a dating partner, while 17.4% had been struck, slapped, or punched, with another 11% needing medical attention or police intervention due to more severe physical coercion.

In other studies, at least one out of three college couples have experienced violence in their dating relationships (Jackson, 1999; Lewis & Fremouw, 2001), and 10 – 50 % of young adults have been victims of DV (Amar & Gennaro, 2005; Barrick, Krebs, & Lindquist, 2013; Harned, 2002; Kaukinen, Gover, & Hartman, 2012; Mulford & Giordano, 2008; Nabors, Dietz, & Jasinski, 2006). Among college students, between 17% and 45% reported engaging in physical violence toward a dating partner (Amar & Gennaro, 2005; Gover, Kaukinen, & Fox, 2008; Makepeace, 1986). In addition, Coker et al. (2002) analyzed data from the National Violence Against Women Survey (NVAWS) and discovered that a total of 28.9% of 6790 women and
22.9% of 7122 men between the ages of 18 – 56 years had experienced physical, psychological, or sexual aggression during their lifetimes. In a cross-country study spanning 31 tertiary institutions across 16 countries, college or university students reported physical assault victimization of up to a median rate of 29% (17 – 45 %) (Straus, 2004). The aforementioned study, known as the International Dating Violence Study, was conducted by members of a research consortium located at universities in every major world region. 31 tertiary educational sites participated in this research study that entailed members of the project administering online questionnaires tapping into DV (e.g., Conflict Tactics Scale – 2nd Edition, CTS2) to college/university students ($N = 8,666$).

The participating tertiary institutions included five sites from the Asian and Middle East region, two from Australia and New Zealand respectively, six from the European region, two from the Latin American region, and 16 sites from the North American region. Most of the assaults on dating partners by students are relatively minor, such as slapping and shoving a partner in anger. The rate of more dangerous assaults, such as punching, strangling, and attacks with weapons, at approximately 10%, would still be considered a significant figure. There were large differences between universities, with the percentage of perpetration ranging from 17% to 45%. Even the lowest of these rates indicated that in all these diverse cultural settings, a substantial percentage of university students were physically abusive to their partners. Male and female students were remarkably similar in the proportion who physically assaulted a partner (25% of men and 28% of women at the median level). The similarity in rates also applied to perpetration of severe assaults (9% of both male and female students at the median university). Thus, with respect to both minor and severe assaults, women assaulted their partners at about the same rate as did male students. The study (Straus, 2004) confirmed, internationally, a result of many studies (Archer, 2000; Felson, 2002; Moffitt, Caspi, Rutter, & Silva, 2001; Straus, 1999),
in which DV perpetration in college student populations are similar across genders, except for sexual assaults, in which women are overwhelmingly the victims (Hines & Saudino, 2003; Zweig, Barber, & Eccles, 1997).

In a National Intimate Partner and Sexual Violence Survey (NISVS) study by Centers for Disease Control and Prevention (CDC) under the Division of Violence Prevention, National Center for Injury Prevention and Control (Breiding et al., 2014), the study aimed to update the statistics on the prevalence of intimate partner violence in the United States population. The study by CDC, with a sampling of 12,727 phone interviews through NISVS, is a national random-digit–dial telephone survey of the noninstitutionalized English- and Spanish-speaking U.S. population aged 18 years and above. NISVS gathers data on experiences of sexual violence, stalking, and intimate partner violence among adult women and men in the United States by using a dual-frame sampling strategy that includes both landline and cellular telephones. The survey was conducted in 50 states and the District of Columbia.

The lifetime and 12-month prevalence of rape by an intimate partner for women were an estimated 8.8% and 0.8%, respectively. The study discovered that an estimated 0.5% of men experienced rape by an intimate partner during their lifetimes, although the case count for men reporting rape by an intimate partner in the preceding 12 months was too small to produce a statistically reliable prevalence estimate. An estimated 15.8% of women and 9.5% of men experienced other forms of sexual violence by an intimate partner during their lifetimes, whereas an estimated 2.1% of both men and women experienced these forms of sexual violence by a partner in the 12 months before taking the survey. Severe physical violence by an intimate partner (including acts such as being hit with something hard, being kicked or beaten, or being burned on purpose) was experienced by an estimated 22.3% of women and 14.0% of men during their lifetimes and by an estimated 2.3% of women and 2.1% of men in the 12 months before
taking the survey. Finally, the lifetime and 12-month prevalence of stalking by an intimate partner for women was an estimated 9.2% and 2.4%, respectively, while the lifetime and 12-month prevalence for men was an estimated 2.5% and 0.8%, respectively.

2.3 The Negative Impacts of Intimate Relationship Violence

Victims of DV engaged in more health-risk behaviors. College men who were DV victims were at increased odds of abusing alcohol and/or engaged in amphetamine and nicotine usage, while college women who were DV victims were vulnerable to risky sexual encounters with two or more individuals, consumed alcohol at an earlier age, and suffered assaults from peers while under the influence of alcohol (DuRant et al., 2007).

Data from the National Violence Against Women Survey (NVAWS) showed that psychological abuse was detrimental to physical health outcomes (Coker et al., 2002). Physical violence from DV could lead to traumatic brain injuries, which increase risks of enduring negative complications such as residual scar tissue in the brain, memory loss, psychological scarring, and fatalities, amongst other consequences (Banks, 2007).

In a report by the U.S. Department of Justice (Tjaden & Thoennes, 1998), about half of the female victims of violence by an intimate partner were physically injured. However, only one in ten female victims of intimate relationship violence sought treatment at a medical care facility for physical injuries despite indications that at least half of victims of physical violence by intimate partners need medical attention. In addition, among murder victims for every age group, female victims of intimate relationship violence are much more likely than male victims to have been murdered by an intimate partner. The difference between men and women was the largest in the 18-to-24 age bracket: intimate relationship offenders were responsible for the deaths of 2.5% of the male murder victims but 28.5% of the female victims. Based on the reports of female victims of nonlethal intimate violence, medical expenses from the physical trauma, broken or
stolen property, and lost pay cost these victims nearly $150 million a year (Tjaden & Thoennes, U.S. Department of Justice, 1998).

Victims of violent intimate relationships have increased risks of poor mental health outcomes such as increased anxiety, higher rates of depressive symptomology, reduced self-esteem, and higher perceived stress (Gibb, Abramson, & Alloy, 2004). In addition, increased concerns of poor health outcomes, substance abuse, and development of chronic illnesses were found to be associated with survivors of relationship violence (Gibb et al., 2004).

Post-traumatic stress disorder (PTSD) is one of the most prevalent and documented mental-health consequences of relationship violence victimization (Chan, Tiwari, Fong, & Ho, 2010). Research revealed that the mean prevalence of PTSD was at 63.8% in populations of women who have experienced intimate relationship violence, compared with lifetime-prevalence estimates of 1.3% to 12.3% for general women’s population (Golding, 1999). PTSD is a psychiatric condition described as exposure to life-threatening, traumatic events, with the symptoms clustering on three dimensions: persistent re-experiencing of the trauma, persistent avoidance of stimuli associated with the trauma, and persistent increased arousal (American Psychiatric Association, 2013). Levels of PTSD symptoms have been associated with characteristics of intimate relationship violence (e.g., the extent, severity, and the number of types of violence) (Dutton, 2009; Jones, Hughes, & Unterstaller, 2001).

When experienced singly or in combination with one another, all forms of relationship abuse (e.g., physical, psychological, and sexual violence) have been found to be associated with PTSD (Basile, Arias, Desai, & Thompson, 2004). Some studies have demonstrated that psychological abuse has at least as strong a relationship to PTSD as physical abuse does among help-seeking women (Arias & Pape, 1999; Mechanic, Weaver, & Resick, 2008). Another study examined the effects that young adults’ experience of dating-violence victimization on the
manifestation of posttraumatic stress disorder (PTSD) symptoms (Shen, 2014) among college students in Taiwan. The study used self-reporting measures to collect data from a nationally stratified random sample of 1,018 college students. Results demonstrated that college students who had experienced dating-violence victimization reported higher levels of PTSD symptoms than those who had not.

2.4 Exposure to Parental Intimate Partner Violence

The definitions of exposure to parental intimate partner violence (EPIPV) involve one or more of the following situations: children witnessing parental physical acts of aggression or verbal abuse from one parent/caregiver to another or between parents/caregivers, being within earshot of the acts of parental IPV while in a separate room, harboring awareness that parental IPV has happened even though they were not present or within vicinity, and seeing the aftermath of the acts of IPV (i.e., bruises on a primary caretaker’s face and body, verbal account from primary caregivers about the interparental IPV, emotional distress on parent/caregiver facial expressions and body language, and furniture strewn around the room, etc.) (Edleson, 1999).

Steinmetz and Straus (1974) explained that children exposed to parental IPV may learn violence as a problem-solving solution, and speculated that EPIPV is a primary factor for adult children’s relationship violence. Attachment theory (Ainsworth, 1976; Bowlby, 1973) likewise emphasize the centrality of family experiences in children’s development of general styles of interacting with others. Bandura’s social cognitive theory (1986) defined violent tendencies as a consequence of an interacting system of “reciprocal causation, action, cognitive, affective, and other personal factors, and environmental events that all operate as interacting determinants” (p. 1175), while an alternate of Bandura’s socialization theory, known as the social learning theory (1971), emphasized overt aggressive behaviors as a result of modeling aggressive behaviors from other individuals. Subsequently, Anderson and Bushman’s (2002) general aggression model
proposed that aggression is understood through an integrative model of knowledge structures (past experiences), affective states (high or low states of arousal), cognitive processes (beliefs and schemata), and personality/individual factors that interact and interlink with the situation or social encounter which result in acts of aggression. All of these theories point to the importance of environmental influences and the subsequent cognitive processes that are crystallized from specific and significant environmental influences, such as exposure to family violence, with particular significance placed on exposure to IPV between primary caregivers on recent incidents of college dating violence.

2.5 Research Literature on EPIPV-DV Link

In their pioneering work on spousal abuse and family violence, Straus (1974) distributed 583 questionnaires to college freshmen with questions on exposure to interparental violence during their high school senior year. The final tally of 385 responses indicated that at least 16% of the undergraduate students reported experiencing EPIPV at home in that one year alone. In another study with a sample of 265 junior and senior high school students, over half of the participants who reported witnessing interparental violence were involved in conflictual and violent relationships with their dating partners (O’keeffe et al., 1986).


Following the application of the hypothesis on intergenerational transmission of violence, Carr and VanDeusen (2002) surveyed 99 undergraduate men from a large Midwestern university
with an average age of 20 years and gave them questionnaires of family of origin violence and
dating violence. The researchers discovered that EPIPV is a significant correlate with college
DV. The findings indicated that family of origin violence is a risk factor for intimate partner
violence, however, further research is necessary to determine why EPIPV contributed to partner
violence in some young adults yet the cycle was broken for others.

Gover, Kaukinen, and Fox (2008) sampled 2,541 college students in two southeastern
universities and administered questionnaires tapping into violence in the family of origin,
attitudes toward women, dating relationship behaviors, and protective and risk factors for
perpetration and victimization. Findings showed that witnessing violence between parents,
whether it is father-on-mother perpetration or mother-on-father perpetration, does have a
significant impact on physical DV perpetration and experiences of physical DV for both male
and female college students, while being male reduces the odds of being victims of DV
perpetration. Witnessing paternally perpetrated abuse is significantly related to physical DV
victimization for female participants. Results also indicated that young college women reported
violence perpetration more often than do college men, and were also more likely to report
victimization. Additionally, female participants reported perpetrating psychological abuse more
often than male participants. However, the study did not report the demographics of participants’
dating partners which made it difficult to estimate if the DV victimization and perpetration
behaviors occurred differently between college students and non-college students.

Another study investigated the prevalence of witnessing parental violence during
careerhood and how it was related to experiences of adult relationship violence using a sample of
251 undergraduate and graduate female students (93 South Asian/Middle Easterners, 72 East
Asians, and 86 Latina) residing in the United States. Results showed that more than 50% of each
ethnic group witnessed parental and experienced adult relationship violence. For all three groups,
experiences of perpetration and victimization of adult psychological aggression were more prevalent than physical violence, which, in turn, was more prevalent than injury violence (Maker & deRoon-Cassini, 2007).

This study aimed to replicate findings that indicate a direct association between EPIPV on college DV. It is predicted that experiences of EPIPV will be significantly related with increased incidents of college DV experiences, and in contrast, participants with minimal or no experiences of EPIPV will not have a significant relationship with college DV experiences.

2.6 Adult Attachment

The theory of adult attachment has been used to identify possible risk factors and explain the integrating effects of various psychosocial factors for violence in romantic relationships (Doumas, Pearson, Elgin, & Mckinley, 2008; Gormley, 2005; Gormley & Lopez, 2002; Mahalik et al, 2005). Adult attachment theory (Hazan & Shaver, 1987) is aptly suited to the study of DV because it provides a useful framework in understanding individual differences regarding people’s internal beliefs and expectations, affect regulation strategies, and overt behaviors within romantic relationships. Most pertinent to the context of this study, insecure adult attachment styles have been found to be associated with men’s and women’s DV and/or intimate relationship violence (Babcock, Jacobson, Gottman, & Yerington, 2000; Bookwala & Zdaniuk, 1998; Dutton, Saunders, Starzomski, & Bartholomew, 1994; Gormley, 2005; Gormley & Lopez, 2003; Holtzworth-Munroe & Stuart, 1994, Mahalik et al., 2005; Murphy & Hoover, 1999; O’Hearn & Davis, 1997; Roberts & Noller, 1998; West & George, 1999). In the adult attachment literature, individuals in heterosexual relationships identified as having insecure-anxious attachment orientation are more prone to relationship conflict, while individuals with insecure-avoidant attachment report less levels of relationship satisfaction, intimacy, trust, and commitment (Feeney & Noller, 1990; Levy & Davis, 1988; Simpson, 1990).
According to attachment theory, the child develops an emotional bond to the primary care-giver and the development of specific types of parent-child attachment is dependent upon the consistency of parent’s emotional and physical availability in times the child’s need. In essence, the primary care-giver, often times the parents, becomes the attachment figure and *secure base*, for exploration of the environment and as a *safe haven* to which to return for reassurance (Ainsworth, 1967; Schaffer & Emerson, 1964). Over time, the parent-child attachment gradually becomes *mental representations*, or internal working models, of prototypic relationship structures (Main, Kaplan, & Cassidy, 1985). The internal working models become a guiding framework for the formation of self-concept and social relations outside the family (Bowlby, 1973). Specifically, the internal working models of self reflect the extent to which individuals believe themselves worthy of love and attention from others whereas and the internal working models of others relate to how much they believe that others will respond to them in a supportive way. Parent-child attachment has been identified as the antecedent to adult attachment orientations, with parallels between affectional bonds formed between children and caregivers and affectional bonds that are formed in romantic adult relationships (Hazan & Shaver, 1987).

For the consideration of this study, the impact of parent-child attachment on adult attachment as seen from the perspective of DV is elucidated from the findings of Gover et al. (2008)’s study on approximately 2,500 southwestern college students. The authors discovered that strong attachment to paternal figures reduced the odds in college DV perpetration as compared to college students with lower attachment to paternal figures.

Throughout development, changes are predicted to occur in the content and structure of individual’s attachment relationships, shifting from asymmetric complementary attachments (i.e., infant–caregiver relationship) to more symmetric or reciprocal attachments (i.e., adult romantic attachment relationships). Hazan and Zeifman (1994) found that the transfer of complementary
to reciprocal attachments is gradual, with early adulthood sexual partners ascending to the top of the attachment hierarchy and assuming positions as primary attachment figures.

The two-dimensional, four-category adult attachment model proposed by Bartholomew and Horowitz (1991) is widely used in the study of intimate partner violence. Following directly from Bowlby’s (1973) theoretical view, this model postulates that there are two underlying dimensions: internal working model of self, characterized by the degree of emotional dependence on others for self-validation, and internal working model of others, defined as expectations of others’ availability. When an individual's internal perception of self is dichotomized as either positive or negative (i.e., whether the self is worthy of love, acceptance, and support, or not), combined with the individual's image of the other that is dichotomized as positive or negative (i.e., whether others are seen as trustworthy and available, or unreliable and rejecting), it is proposed that four combinations, or quadrants, could be conceptualized. The four quadrants describe distinctive attachment patterns: secure, preoccupied, dismissing, and fearful. Figure 1 shows the four attachment patterns that are derived from a combination of the two dimensions.

**Figure 1. Model of adult attachment (Bartholomew & Horowitz, 1991)**
Quadrant I indicates a sense of worthiness (lovability) plus an expectation that other people are generally accepting and responsive, known as secure attachment (e.g., Hazan & Shaver, 1987; Main et al., 1985). Quadrant II indicates a sense of unworthiness combined with a positive evaluation of others, which predicts that individuals in this quadrant will strive for self-acceptance and self-validation by attempting to gain acceptance and support from others (Bartholomew & Horowitz, 1991). This pattern corresponds to being in ambivalent state (Hazan & Shaver, 1987), and to being in an enmeshed or preoccupied attachment pattern (Main et al., 1985) with individuals experiencing heightened anxiety and more “clinging” and “reaching out” attachment behaviors to adult partners.

Quadrant III indicates a sense of self that is undeserving of acceptance, love, and worthiness, combined with an expectation that others will also be untrustworthy, rejecting, and unattainable. Individuals perceived to be in this quadrant are predicted to avoid close engagement in order to enable emotional protection against anticipated, and expected, rejection from others (Bartholomew & Horowitz, 1991). This pattern correspond to the fearful attachment. Finally, quadrant IV indicates a sense of self love-worthiness combined with a negative disposition toward other people. Such people protect themselves against disappointment by avoiding close relationships and maintaining a sense of independence and invulnerability. This style corresponds conceptually to the detached or dismissing of attachment attitude described by Main et al. (1985), and thus labeled as dismissive-avoidant.

The dimensions of attachment anxiety and avoidance predict opposite ends in the dimensionality associated with intimacy and independence (Brennan & Shaver, 1995). To be specific, adult attachment anxiety is associated with difficulties being independent, including, for example, fear of abandonment, excessive help-seeking behaviors, affect escalation, impulsivity, depression, anger and resentment, displaced aggression, and low levels of self-control.
(Alexander & Anderson, 1994; Bartholomew, 1990; Bartholomew & Horowitz, 1991; Biringen, 1994; Mikulincer, 1998). In contrast, adult attachment avoidance is associated with difficulties being intimate, including fear of closeness, excessive self-sufficiency, affect restriction, high defensiveness, high levels of self-control, severe anxiety due to a lack of relatedness, limited emotional awareness and expression, and anger (Bartholomew, 1990; Bartholomew & Horowitz, 1991; Fuendeling, 1998; Mikulincer & Orbach, 1995).

The internal working models of attachment are believed to be both cognitive and affective constructs as they form the basis for action across many situations and, in principle, are open to revision as a function of significant attachment related experiences. The models are considered relatively stable and may operate outside awareness, guide behavior in relationships with parents, peers, and significant others, and influence expectations, strategies, and behavior in relationships (Bretherton, 1985; for a review, see Crowell & Treboux, 1995).

2.7 Adult Attachment and Intimate Relationship Violence/DV/IPV

Attachment theories implies intimate partner violence may be used as an attempt to manage conflict created by opposing needs for closeness or distance (Pistole, 1994). For example, an individual with high levels of attachment anxiety may respond to attachment-related cues with proximity-seeking behavior by using psychologically and/or physically hurtful actions, whereas an individual with high levels of attachment avoidance may respond with distance-seeking behavior that may be considered abusive (i.e., using derogatory words, aggressive behaviors, etc.). Bowlby (1969, 1973, 1980) proposed that the strength of attachment bonds is unrelated to relationship quality. Under conditions of threat, the activation of the attachment behavioral system prompts individuals to seek support, closeness, or security from their attachment figures. For recipients of intimate relationship abuse, this adds another layer of complexity to the situation as partners are typically the attachment figures, but are also the
source of threat. This attachment to the perpetrators of abuse makes it harder for recipients of abuse to leave the relationship and may even seek proximity to their abusers. Bowlby further added in that situations of threat and fear, the attachment system is activated and leads to formation of strong attachment bonds, despite the source of threat from the abusers.

For perpetrators of abuse, Bowlby (1982) theorized that intimate relationship violence arise from frustrated attachment needs and function as a way of regaining or maintaining contact and attachment bond with partners who are also seen as attachment figures. Such abusive behaviors might be precipitated by real or perceived threats of partners being unsupportive, rejecting, or a fear of abandonment from partners.

Multiple empirical studies have suggest the connection between insecure adult attachment and intimate relationship violence. Dutton, Saunders, Starzomski, and Bartholomew (1994) proposed that individuals with anxious (fearful and preoccupied) adult attachment have a greater propensity for intimate relationship abuse. The study recruited 120 North American men who were convicted on spousal assault charges from a court-referred and self-referred initiative from the Vancouver Assaultive Husbands Project, the Victoria Family Violence Institute, and the Burnaby Family Life Institute. A demographically matched control group of 40 union men was also assessed. Furthermore, 43 female partners of the assaultive group and 33 partners of the control group provided data relating to the men’s abusiveness. All participants completed self-report measures on assessing attachment patterns, negative emotions (anger and jealousy), borderline personality clusters, and trauma symptoms. The results indicated that the constellation of negative emotions (anger and jealousy), borderline personality clusters, and trauma symptoms, with the exception of attachment, has been found to represent a profile related significantly to the frequency of both verbal and physical abuse. In addition, secure attachment was found to be correlated significantly, but negatively, with the constellation measures. Fearful attachment was
correlated significantly and positively with the constellation while preoccupied attachment was
correlated with the constellation measures, although at a smaller magnitude than fearful
attachment. Avoidant attachment was not correlated with any constellation measures. The
authors discussed the indirect, but significant, relationship of anxiety attachment as a risk factor
on intimate relationship abuse, and how attachment anxiety contributes directly to predictive risk
factors that are strongly associated with assault in intimate adult relationships.

Around that period of time, Holtzworth-Munroe and Stuart (1994) attempted to develop a
typology model depicting the following three types of men who batter their wives: (1) generally
violent/antisocial batterers; (2) dysphoric/ borderline batterers; and (3) family-only batterers. The
authors reviewed 15 previous studies that attempted to build the typology models. According to
the review, the family-only batterers are likely to engage in the least severe marital violence and
emotional abuse and evidence the least psychopathology, accounting for approximately 50% of
the community samples in the studies reviewed. According to Holtzworth-Munroe and Stuart’s
(1994) typology, the family-only batterers are likely to be either secure or preoccupied with
respect to attachment classification. The dysphoric/ borderline batterers tend to engage in
moderate to severe physical and emotional spousal abuse, and experience high levels of anger.
These men are the most dysphoric, psychologically distressed, and emotionally volatile.
Holtzworth-Munroe and Stuart predict that the dysphoric/borderline type of batterer will
manifest preoccupied, anxious attachment patterns and represent 25% of batterer samples.
Finally, the generally violent/antisocial batterers, engage in moderate to severe marital violence,
including psychological and sexual abuse. These men are likely to engage in the most severe
familial violence and may manifest antisocial or narcissistic personality disorders and represent
25% of batterer samples. Although the generally violent/antisocial batterers experience moderate
levels of anger, they are likely to be the most hostile and disengaged and are most likely to be classified as dismissing, avoidant attachment.

Babcock et al. (2000), in an attempt to replicate and further enhance the findings from Holtzworth-Munroe and Stuart (1994) study on defining batterers’ typologies, investigated behavioral differences among nonviolent, unhappily married husbands and violent husbands with different attachment classifications using the Adult Attachment Interview (AAI; Main & Goldwyn, 1994). Twenty-three domestically violent husbands (as reported by their spouses) and 13 distressed but non-violent husbands were interviewed using the AAI. The male participants (husbands) were grouped into domestically violent group and non-domestically violent groups as reported by their wives. The participants were recruited through newspaper ads and radio public service announcements, and it was not known if the two samples were matched demographically. Violent husbands (74%) were more likely than the distressed/nonviolent husbands (38%) to be classified into one of the insecure categories on the AAI. As predicted, during laboratory arguments with their wives, dismissing, avoidant husbands were the most controlling and distancing, and preoccupied, anxious husbands showed the least distancing during marital interactions. Secure husbands were significantly more defensive than the two insecure types. Sequential analyses of reports of violent arguments at home revealed different patterns among different types of batterers. For the preoccupied batterers only, wife withdrawal was a significant predictor of husband violence. For the dismissing batterer only, wife defensiveness was a significant precursor to husband violence. It was theorized that preoccupied, anxiously attached batterers’ violence and emotional abuse is related to expressive violence in response to abandonment fears, whereas dismissing, avoidantly attached batterers use instrumental violence to assert their authority and to control their wives. In the sample, insecure violent husbands are equally likely to be classified as dismissing as they were preoccupied. It is likely that there are
many different pathways to becoming violent in intimate relationships, and a route involving insecure attachment and dysregulated affect may be one of the risk factors.

In a study investigating the relationship between attachment insecurity and IPV acceptance attitudes amongst male college students ($N = 419$), the researchers discovered that the attachment insecurity – IPV acceptance link was partially mediated by perceived stress due to violations of rigidly internalized traditional male role norms, which, in turn, predicted acceptance of IPV (McDermott & Lopez, 2013). The study focused specifically on understanding college male-on-female dating violence (DV), and this presented a limitation in addressing the concern of the reciprocal nature of DV amongst heterosexual young adults (Archer, 2000).

In another study by Gormley and Lopez (2010), attachment avoidance among college men and women ($N = 127$) was associated with higher levels of emotional abuse perpetration when self-reported stress levels were high. In this study, stress was a significant predictor of psychological abuse perpetration, and this effect was moderated by gender. As anticipated, attachment avoidance was a significant contributor to emotional abuse perpetration only when stress levels were high; however, attachment anxiety did not make a significant contribution to explaining emotional abuse. Generally speaking, men’s stress was a stronger indicator of emotional abuse perpetration than adult attachment orientations, and the authors explained that the unexpected findings was possibly due to a lack of variability in the relatively non-clinical sample who reported primary engagement in mild forms of psychological abuse (Gormley & Lopez, 2010).

Another study identified the “mispairing”, or the mismatch, of adult attachment styles between couples ($N = 70$ couples) as one of the main predictors of relationship violence (Doumas et al., 2008). The findings indicated that the mispairing of an avoidantly attached male partner with an anxiously attached female partner was associated with both male and female
violence. When controlling for partner-perpetrated violence (reports of violence by a significant other), the relationship between attachment and partner-perpetrated violence was significant for only the male participants. However, female attachment styles still contributed to the variance in partner-perpetrated violence after controlling for partner violence. When male-perpetrated violence was controlled, attachment styles no longer predicted female-perpetrated violence. An implication of this study’s finding is that attachment only accounts for some of the variation in violence, implying that other factors, such as gender, may be contributing to violence perpetration.

A telephone survey by Henderson, Bartholomew, Trinke, and Kwong (2005) assessed levels of psychological and physical abuse in 128 participants who completed attachment interviews that explored intimate relationships. Results revealed that attachment variables contributed significant variance in prediction of both receipt and perpetration of psychological and physical abuse, with preoccupied attachment acting as an independent predictor. The findings did not support the gender’s moderator effect on these associations; however, attachment preoccupation (high attachment anxiety and low attachment avoidance) in either partner may increase likelihood of abuse in couples.

In a longitudinal study by Weston (2008), a group of female participants were recruited from the Project Health Outcomes of Women (HOW) in a study of low-income community women in the Dallas, Texas metroplex. Participants’ ratings of their insecure attachment were hypothesized to mediate the relationship between partners’ abuse (emotional and physical) and relationship quality. The findings were tested with data from a sample of 574 African American, Euro-American, and Mexican American community women. Results indicated significant direct paths from emotional abuse to insecure attachment, but the direct effect of violence on relationship quality was significant only for insecurely attached women. For both groups,
partners’ emotionally abusive behaviors were associated with increased insecure attachment, which was associated with instability of women’s relationships. Surprisingly, the association between partners’ violence and women’s relational quality was positive for the insecure group. The author discussed that this unexpected finding might have been associated with attributional effects.

In another study by Allison, Bartholomew, Mayseless, and Dutton (2008), the relational dynamics of heterosexual couples identified for male partner violence were examined through in-depth interviews and qualitative analyses of the data gathered. The authors explored the possibility raised by Bowlby (1984) that anger and violence are sometimes means by which individuals try to coerce a less available partner to stay close and accessible, and the theoretical hypothesis that individuals use violent acts to distance themselves from partners and/or to gain greater control of their intimate partners. The data for this study consisted of in-depth interviews with both members of heterosexual \((N = 23\) heterosexual men and their partners) couples identified for male partner violence from the Vancouver Assaultive Husbands Program and the Victoria Family Violence Project. In the interviews, participants described their histories of close relationships and their experiences in the target relationship. The authors utilized History of Attachments Interview (HAI; Henderson et al., 2005), a semi-structured interview combining key components of the Family Attachment Interview (Bartholomew & Horowitz, 1991), which focuses on adult interpretations of childhood attachment experiences with parents and caregivers, and the Peer Attachment Interview (Bartholomew & Horowitz, 1991), which focuses on friendships and past and present romantic relationships. Next, they employed a technique known as the thematic analysis, a qualitative approach to data analysis, to analyze the interviews of both partners in a couple to uncover meaningful relationship dynamics associated with partner violence. The goal of this analysis was to identify any consistent patterns that would help explain
the occurrence of violence, with a particular focus on the relational dynamics associated with partner violence. Two strategies for regulating distance within these relationships were identified: pursuit and distancing. Partners’ abusive acts often appeared to serve one of these two general attachment strategies. As a pursuit strategy, violence forced one partner to focus on the other person, and as a distancing strategy, violence served to push a partner back when the perpetrator had been approached too closely and perceived no other means of escape or emotional self-protection.

The literature findings on adult attachment and DV revealed that attachment insecurity plays a significant role in DV perpetration and victimization. Different studies have discovered different findings of the impact of different types of insecure attachment on DV experience, and one of the components of this study is to investigate the influences of adult attachment on experiences of DV. Based on both of the theoretical predictions and the findings of empirical studies, it is hypothesized that insecure attachment is significantly associated with increased experiences of DV.

2.8 Social Information Processing Model

As reviewed in previous sections, the literature has demonstrated that exposure to violence in familial environments is one of the prominent factors in young adults displaying specific aggressive behaviors in dating relationships. The underlying mechanism of childhood EPIPV and becoming violent perpetrators is an intricate process and the social information processing model have been found to mediate these effects. Early exposure to IPV is considered a distal risk factor (Petitt, Lansford, Malone, Dodge, & Bates, 2010). Studies have found support for the theory of social information processing (SIP) for explaining the more proximal processing of aggressive tendencies in the form of relationship violence (DeMaris, 1990; Langhinrichsen-Rohling et al., 1995, MacEwen, 1994; Smith & Williams, 1992; Sugarman &
Hotaling, 1989). However, since not all children who have been exposed to interparental violence end up being perpetrators or victims of violence in intimate relationships, the investigation of what contributed to the differential effects on the EPIPV and subsequent occurrences of DV links was taken place through the reformulated model of SIP.

Seminal work on the theory of reformulated SIP originated from studies on maladjusted children’s aggressive tendencies and responses (Crick & Dodge, 1994, for a review). The reformulated SIP explored a sequential and cyclical loop of cognitive processes that was developed originally to explain grade school children’s reactive and proactive aggression (Crick & Dodge, 1996), school children with chronic aggressive and assaultive behaviors (Dodge, Lochman, Harnish, Bates, & Pettit, 1997), and the development of child psychopathology (Dodge, 1993).

Based on the theory of reformulated SIP, individuals are prone to aggression when cue interpretations of the social environment are selectively biased and internal regulation of affect is deregulated. Individuals who have been exposed to inter-parental conflict might be more prone to selectively attend to certain cues when they are in romantic relationships, and interpret these cues in a hostile manner. This process of selectively attending to ambiguous or hostile cues is termed hostile attributional bias, and this process potentially triggers a heightened sense of aggression (e.g. fight-or-flight phenomenon), resulting in positive evaluations of behaviorally aggressive acts. In order to understand the model through the lens of the authors and originators of the model, the following paragraphs illustrate the application of the model for explaining aggression and social maladjustment in children, as described by the authors of the reformulated SIP, before a detailed elaboration and application of the model in relation to EPIPV and DV.

For this model, the authors explained that the maladjusted child processes the information in a social situation (possibly aggressive) through the following steps: (1) selectively encodes or
attends to signals associated with hostility, (2) infers that the other person acted with hostile intention (hostile attribution), (3) selects aggressive goals intended for retaliation, (4) generates aggressive responses, (5) evaluates these responses positively by anticipating positive consequences, and selects an aggressive response, and finally 6) responds aggressively.

For the first two steps of the model, the theory posits that individuals tend to focus on certain social cues in the situation, before encoding and interpreting the cues. For instance, children hone in on certain cues due to accessibility through past experiences and recalled memories. Correspondingly, past experiences and recalled memories are used to facilitate interpretation of the cues and are called schemata or scripts, which are essentially working memory structures that are utilized to in order to aid individuals in organizing information in an efficient manner (Gerrig, 1988; Nelson, 1978; Shank & Abelson, 1977).

Typically, the child will interpret information as either schema-appropriate or schema-inappropriate. Since schemata are formed through recalled memories or prior experiences, it has been found that aggressive children were more likely to access prior schemata to interpret social behaviors (Dodge & Tomlin, 1987). Correspondingly, some research studies have shown that aggressive boys attended to aggressive cues more often than nonaggressive cues when compared with their non-aggressive peers (Gouze, 1987).

In step two of the model, the interpretation of the social cues and events involves the processes of attributions of intent. Theoretically, children’s aggressive and retaliatory actions are impacted by intent attributions of peers’ actions (e.g. whether a child believes his or her peer has bad intentions). For instance, research studies on children (ranging from first to fifth graders) had demonstrated strong associations between hostile attributional biases and children’s social maladjustment (Dodge & Coie, 1987; Feldman & Dodge, 1987). In one experimental study, children were led to a staged situation in which another similarly-aged child knocked down a set
of blocks that the subjects had built. The situation was set up in a way in which the gesture was ambiguous; it could be interpreted as an intentional or an accidental act. Aggressive children, who were also rated as socially maladjusted, were more likely to attribute the action of the child confederate as hostile rather than accidental, demonstrating the presence of hostile attributional bias (Steinberg & Dodge, 1983).

Crick and Dodge (1994) theorized that in the third step of the reformulated SIP model, children formulate social goals that function as outcome-driven behaviors and actions. They described that “…goals are focused arousal states that function as orientations toward producing (or wanting to produce) particular outcomes” (p. 84). Social goals formed an impetus towards certain behaviors and reactions in order to elicit certain responses from peers. This notion might explain why children behave aggressively toward peers, or why aggressive partners behave in a violent manner, since it might reflect a calculated act to achieve a valued goal (i.e. to gain a toy, or to assert dominance, respectively). Researchers assess children’s social goals with hypothetical situations through asking an open-ended fashion reasons for their specified course of actions and found support for their hypotheses (Dodge, Asher, & Parkhurst, 1989).

In the fourth step, after formulating a mental representation of the social event and goals for the scenario, children select behavioral actions through recalled memory. Aggressive children, as rated by their teachers, were more likely to select aggressive actions and have fewer response actions to social situations than their peers (Asarnow & Callan, 1985). The fifth stage of the model is response decision in which children evaluate possible responses to social situations, the type of outcome expected, and their ability in executing the selected actions. Studies confirmed that maladjusted children tend to evaluate aggressive responses more favorably (Crick & Ladd, 1990), have a more positive evaluation of aggressive responses, and feel more efficacious in executing aggressive actions (Crick & Dodge, 1996).
Moreover, one of the tenets of SIP is the notion of *situation specificity* which refers to whether children who aggressed toward their peers are more likely to express aggression to specific individuals, or present a more global form of aggression when they become young adults (Petit et al., 2010). One of the earliest SIP studies on children with maladjustment discovered that children who experienced difficulties in one social situation may not necessarily experience difficulties across all social situations (Dodge, McClaskey, & Feldman, 1985). The study’s procedures consisted of having each of 23 teachers (3 of whom were male) complete the 44-item Taxonomy of Problematic Social Situations for Children (TOPS) instrument for each of the target children in his or her classroom, once in the fall (October) and once again 6 months later (April). This survey was administered to teachers of 45 socially rejected children and 39 adaptive children. The survey was found to have high internal consistency and high test-retest reliability. Six situation types emerged as factors in analyses: Peer Group Entry; Response to Peer Provocations; Response to Failure; Response to Success; Social Expectations; and Teacher Expectations. Teachers were not aware of the outcome of the sociometric screening. For each item, teachers were asked to rate on a 1-5 scale how much of a problem this situation was for the target child and how likely the child would be to respond in an inappropriate manner in this situation. The findings revealed that children who displayed SIP deficits in the perceived peer provocation scenario were rated to be less competent in actual peer provocation situations, while children who displayed deficits in a perceived peer-group entry scenario (e.g., rejection by peer groups) were rated to be less competent in actual peer-group entry situations, but these social deficits occurred within specific domain scenarios and did not show overlapping behaviors between domains.

A more recent finding by Pettit, Lansford, Malone, Dodge, and Bates (2010) discovered that biases and deficits were found in within-context social relationships, but not in between-
context social situations. The participants were children of 585 families that were participating in an ongoing, multisite longitudinal study of child development. Individuals of the present study were initially recruited when they were entering elementary school and is currently aged 22 years old. The findings revealed that participants who were exposed to acts of peer bullying at a younger age period were more likely to have higher levels of SIP biases when they were administered vignettes about ambiguous peer-to-peer interactions and are more likely to attribute perceived provocations by peers as intentional. In contrast, experiences of being bullied did not necessarily reflect SIP biases in vignettes about ambiguous romantic relationships (Pettit et al., 2010). Other studies based on this premise have also discovered situation-specific SIP biases in different types of social provocation scenarios (Dirks, Treat, & Weersing, 2007), different forms of aggression expressions (Dodge et al., 1997), and relational partner violence (Halligan, Cooper, Healy, & Murray, 2007).

2.9 SIP and Relationship Violence

Recent studies replicated the association between SIP processes and aggression by studying adolescents’ relationship violence (Calvete & Orue, 2013; Jouriles, McDonald, Mueller, & Grych, 2011) and discovered that SIP was a significant mediator between childhood exposure to inter-parental conflict and relationship violence (Fite, Bates, Holtzworth-Munroe, Dodge, Nay, & Pettit, 2008; Jouriles et al., 2012), and exposure to community violence and subsequent aggressive behavioral developments (Shahinfar, Kupersmidt, & Matza, 2001).

In this longitudinal study on understanding the implications of EPIPV on young adult DV, Fite et al. (2008) analyzed data collected from 585 participants and their parents as part of the longitudinal Child Development Project (Dodge, Bates, & Pettit, 1990; Pettit, Bates, & Dodge, 1997). Families from Nashville and Knoxville, Tennessee, and Bloomington, Indiana, were recruited as their children were entering kindergarten. Due to attrition or
missing/incomplete data, sample sizes at each point of data collection ranged from 237 to 410.

At Year 1 (when participants were aged 5), mothers and fathers were interviewed separately and were asked how often they had engaged in physical violence toward their spouse. SIP constructs were assessed at ages 13 and 16; adolescent participants were presented with a series of vignettes that depicted social interactions with a peer or adult that ended in an ambiguous provocation directed toward an adolescent protagonist (e.g., you want to sit at a lunch table with a group of kids, but they say “You can’t sit there”). Participants were asked to imagine themselves as the protagonist of each situation. When participants turned 18, participants reported on conflict in their romantic relationships annually from age 18 through age 21. The results indicated evidence of significant mediation for both the response generation and response evaluation stages of the SIP model. Results suggest that the ability of the participants to generate varied social responses and effectively evaluate the potential outcome of their responses partially mediates EIPPV and young adult DV.

In a conceptual paper detailing the cognitive and emotional mediators on EIPPV on adolescent DV, Jouriles et al. (2012) explained that repeated observation of violent behaviors demonstrated by parents is likely to lead children to view violence as normative or acceptable in relationships, which in turn contributes to the likelihood of violent behavior (Bandura, 1986, 2001; Huesmann, 1988, 1998; Riggs & O’Leary, 1989). Certain explicit beliefs are proposed to be especially pertinent to dating violence perpetration and may be especially likely to develop among youth in violent families; for example, if a child concludes from observing his or her own family that violence is justifiable in certain circumstances and in certain relationships (i.e., between romantic partners), that child will presumably have a more accepting attitude about using violence in his or her own relationships. Similarly, beliefs about outcomes of violence may be important influences in the perpetration of teen dating violence; for example, the belief that
violence generally fosters positive outcomes may facilitate its use.

In Jouriles et al. (2001) study on adolescent DV, the authors recruited 88 (45 females) adolescents and their mothers to examine the impact of EPIPV on adolescent DV and discovered that exposure to severe interparental IPV, as defined by utilizing indices of a subscale of the Revised Conflict Tactic Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) known as Severe Physical Assault, was significantly related with adolescent DV perpetration as compared to the control group that reported no exposure to severe IPV.

Exposure to violence is intricately linked with the development of aggressive social-cognitive processes, hostile biases, and deficits in rational decision-making actions, as found in this study involving 336 16–17 years-old male adolescents, who were initially recruited at age 12 for a longitudinal study on the study of juvenile delinquency and aggression (Brendgen, Vitaro, Tremblay, & Wanner, 2002). The participants were initially assessed at age 12 on their own aggression through classmate peer reports. Parental aggression was assessed through the boys’ reports on interparental aggression. In addition, participants’ attitude towards violence, such as the acceptance of violence to resolve disputes, was also assessed. At age 16–17 years old, participants were assessed on physical violence toward dating partners. Results indicated significant associations between peer report of aggression, positive evaluations of violence, and EPIPV on adolescent DV.

Distortions and biases in SIP processes are considered proximal mechanisms that are directly associated with aggressive behaviors in specific situations and contexts, through which earlier socialization experiences (e.g. exposure to IPV) are considered distal mechanisms and serve as antecedents that exert an impact on aggressive behavior (Dodge & Pettit, 2003). Empirical evidence indicates that adult participants who perpetrated DV and were found to have witnessed IPV during childhood were more likely to generate aggressive response options during
SIP processes and to evaluate aggressive options as positive behavioral outcomes (Fite et al., 2008). Consequently, aggressive behaviors may become easily accessible in individuals’ repertoire of possible behavioral responses in a social situation that was perceived as hostile. These cognitive processes then increase the likelihood that these individuals may behave aggressively in future social situations (Dodge et al., 1990).

This present study aimed to understand the role of antecedents (EPIPV) and the underlying psycho-cognitive mechanisms that affect the outcome of young college adult DV. The premise of this study was based on investigating the context of violence within intimate relationships, and whether exposure to EPIPV predicts DV. Therefore, participants who witnessed IPV from their parents are more likely to have experiences of DV if hostile attributional biases are present, aggressive responses are selected, and positive evaluations of aggressive responses were given in the SIP vignettes on ambiguous scenarios in intimate relationships. Most existing literature on SIP focuses on biased SIP processing and aggressive tendencies and violent behavioral outcomes. It appeared that the current research literature contains little to no finding on the role of SIP processing among recipients/victims of DV. Therefore, this study aimed to be one of the first studies to examine the role of biased SIP processing in victims and recipients of DV by exploring whether SIP processes in victims of DV parallels SIP findings of perpetrators of DV.
CHAPTER 3
METHODOLOGY

3.1 Participants

Three hundred and thirty two undergraduate participants took part in this research study. Among them, 243 participants were included in the final analyses. Participants who did not endorse experiences of dating violence or were never involved in intimate relationships were excluded from analyses. In the final sample, 183 participants identified as women and 60 identified as men. The racial demographic breakdown of the final sample comprised of 81 participants identifying as White, 56 as Hispanic/Latino(a)/Chicano(a), 51 as Black, 15 as Asian, four as Middle-Eastern, one as Native, one as international student, and 34 as biracial/multiracial. Participants’ average age was 20.75 (SD = 2.97), ranging between 18 to 33 years, with 1.7% having earned an associate’s degree, 25.2% identified as freshmen, 12.8% as sophomore, 27.7% as junior, 31.4% as senior, less than 1% as graduate student.

According to reviews by Breckler (1990) and Goldstein (2006), the minimal sample size in studies involving structural equation modeling (SEM) is typically around 200 cases. The sample size of 243 meets the assumption that maximum likelihood estimation method has been engaged.

Table 1

Demographic Distribution of Racial Composition

<table>
<thead>
<tr>
<th>White</th>
<th>Hispanic/Latino(a)/Chicano(a)</th>
<th>Black</th>
<th>Asian</th>
<th>Middle Eastern</th>
<th>Native</th>
<th>International Student</th>
<th>Multiracial/Biracial</th>
</tr>
</thead>
<tbody>
<tr>
<td>81(33.3%)</td>
<td>56(23%)</td>
<td>51(21%)</td>
<td>15(6%)</td>
<td>4(2%)</td>
<td>1(0.5%)</td>
<td>1(0.5%)</td>
<td>34(14%)</td>
</tr>
</tbody>
</table>
3.2 Procedure and Recruitment Methods

Participants were recruited through an online recruitment system on UNT known as SONA during long academic semesters, and were recruited via in-class announcement during summer semesters when SONA was not utilized. The study was described on SONA and in class announcements as a study exploring intimate relationship dynamics. The selection criteria for participant recruitment were non-married undergraduate students with experiences of romantic relationship/intimacy within the past year. Participants were asked to show up at a designated research room on a self-selected date and time to complete the research questionnaires. Before the study commenced, participants were given paper copies of the informed consent form and briefed by a research proctor. Signed informed consent forms were obtained from all participants before beginning to complete the questionnaire.

Each participant was given an additional paper copy of the informed consent that contained contact information of the Internal Review Board (IRB) board, primary investigators, and mental health services on and off-campus. Extra credit points were awarded to each participant upon completion of the study. No part of the research questionnaire asked for identifying information and responses were completely anonymous. Participants’ names were verified at the beginning of the research sessions for lab proctors to assign extra credit points to the participations, however, names were not linked to the completed questionnaires.

3.3 Ethical Considerations

To ensure a certain level of privacy and confidentiality, participants completed the research questionnaire independently in a small group format (no more than 6 at any hour) in a designated location in Terrill Hall. In addition, participants were briefed thoroughly about rights as research participants. Specifically, participants were informed that they have the right to withdraw from the study at any point during the research process without any impact to
academic standing. Contact information of the primary investigator, supervising faculty, and IRB were listed in the informed consent form should participants feel the need to report conduct of impropriety. Participants’ responses were stored in a secured location with no identifying information attached to the responses. Additionally, participants were provided with information of on-campus and off-campus mental health services should they become distressed from the nature of the study.

3.4 Instruments

3.4.1 Social information process (SIP) pattern. Five vignettes describing challenging situations in romantic/intimate relationships were utilized to measure participants’ SIP. The vignettes were first developed by Coccaro, Noblett, and McCloskey (2009) and then revised and adapted by Pettit, Lansford, Malone, Dodge, and Bates (2010) for their study. The vignettes describe five ambiguous and challenging situations in romantic relationships and participants will be asked to imagine that they were the person in the vignette who had been provoked. Following each vignette, participants were asked a series of questions to assess their SIP related to the vignette. First, participants were asked their opinions of how they would have responded in the situation in an open-ended response format. Then, they were asked questions such as, how likely it was that the other actor in the vignette was being mean to them (1 = not at all likely, 5 = very likely). Responses to these items were averaged across vignettes to create an index of hostile attributions in romantic relationships. Second, participants were asked how aggressively they would respond if they were in that situation (1 = not at all, 5 = very aggressively). These responses were averaged across vignettes to create an index of aggressive responding in romantic relationships. Third, participants were asked to evaluate their hypothetical aggressive responses that were presented as possible reactions to each vignette. Responses were averaged within and across vignettes to create an index of aggressive response evaluations in romantic relationships.
The internal consistencies for across vignettes’ responses were reported from $\alpha = .68$ to $.89$ (Pettit et al., 2010). As Petit et al. (2010) has adapted the vignettes from Coccaro et al. (2009), and currently, there are no other published studies in the literature that have adopted the current vignettes to test SIP processes. Therefore, no forms of validity scores were reported in previous literature on the present vignettes. For the present study, internal consistencies ranged from $\alpha = .61$ to $\alpha = .88$.

3.4.2 Dating violence. The frequency of relationship violence that occurred with the current or former partners in the past 12 months will be measured with the Conflict Tactics Scale—Revised (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The scale consists of 39 item pairs, assessing both positive (i.e., negotiation skills) and negative relationship behaviors (i.e., physical assault) that may occur in the context of relationship conflict. The paired items required respondents to report acts that they have committed towards a partner (perpetration), as well as acts committed by a partner towards them (victimization). The CTS2 includes five subscales: Psychological Aggression, Physical Assault, Sexual Coercion, Injury, and Negotiation. For the present study, only the subscales of Psychological Aggression, Physical Assault, and Sexual Coercion were used, which resulted in 26 item pairs for the administration of the measure. Items were rated on a scale of 0 to 7 ($0 = \text{has never happened}$, $1 = \text{happened 1 time}$, $2 = \text{2 times}$, $3–5 \text{ times}$, $4 = \text{6–10 times}$, $5 = \text{11–20 times}$, $6 = \text{more than 20 times}$, or $7 = \text{has happened very frequently}$). Sample items include “How often did your partner choke you?” and “How often did you slam a partner against a wall?” Mean scores for the different subscales for different aspects of relationship violence were averaged. The higher the mean scores, the higher frequency of relationship violence. Internal consistencies for the subscales reported in a previous study ranged from $\alpha = .79$ to $\alpha = .95$ (Straus et al., 1996), and using variety of scores, stability of report was strong for Psychological Aggression ($r = 0.69$), physical assault ($r = 0.76$), injury ($r =$
0.70), and negotiation ($r = 0.60$), but weaker for sexual coercion ($r = 0.30$) (Vega & O’Leary, 2007). Internal consistencies for present study ranged from $\alpha = .71$ to $\alpha = .93$.

3.4.3 Adult attachment. Adult attachment style will be measured with the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998). The ECR scale is a 36-item self-report measure and respondents are asked to rate each item based on their general experiences toward their romantic partners using a 7-point Likert-type scale, ranging from 1 (disagree strongly) to 7 (strongly agree). The results of a factor analysis by Brennan et al. (1998) identified two relatively orthogonal continuous attachment dimensions labeled as Anxiety and Avoidance. Eighteen items measured attachment anxiety (e.g., “I worry about being abandoned”), and 18 items measured avoidance (e.g., “I prefer not to show a partner how I feel deep down”). Higher scores on the Anxiety and Avoidant subscales indicate higher levels of attachment anxiety and attachment avoidance, respectively. The original authors constructed the two 18-item subscales following an exploratory factor analysis of 323 items derived from virtually all of the available self-report adult romantic attachment measures, supporting the construct validity of the measure. Brennan and colleagues explain that the four clusters found in the original EFA revealed four distinct groups, representing patterns similar to the model of attachment described by Bartholomew and Horowitz (1991). The two scales were found to be nearly uncorrelated ($r = .11$), suggesting that the measure captures two separate, underlying dimensions of adult attachment. Original alpha scores for both the avoidance ($\alpha = .94$) and anxiety ($\alpha = .91$) subscales indicate high reliability of the measure (Brennan et al.). Internal consistency scores for present study ranged from $\alpha = .91$ to $\alpha = .93$.

3.4.4 Exposure to interparental violence. The adult recall Conflict Tactics Scale 2 (CTS2-CA; Straus, Hamby, Finkelhor, Boney-McCoy, & Sugarman, 1996) is a 36-pair, 78-item instrument that will be used to measure mother-to-father violence (36 items) and father-to-
mother violence (36 items) as experienced by participants. Sample items include: “Father slapped mother” and “Mother pushed or shoved father.” Respondents are asked to indicate how often their parents performed the specific types of aggression toward each other using a rating scale of 0 = has never happened, 1 = happened 1 time, 2 = 2 times, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–20 times, 6 = more than 20 times, or 7 = very frequently. Higher scores represent greater exposure to parental violence. Although any retrospective, self-report measure may involve memory biases, the CTS is a widely used, well-validated measure of conflict frequency and intensity (Straus, 1990), and the recent revision has improved its ability to assess psychological aggression (Straus et al., 1996). The CTS was developed to assess conflict within the respondents’ relationship. However, its authors provided an adapted scale for use as a retrospective measure of interparental conflict (Straus et al., 1996), and numerous other researchers have used the CTS effectively in this manner (e.g., Duggan et al., 2001; O’Brien et al., 1995; O’Brien & Chin, 1998). For instance, Cronbach’s α for the CTS2-CA physical violence were .90 for mother-to-father violence and .93 for father-to-mother violence (Milletich, Kelley, Doane, & Pearson, 2010). Alpha coefficients for psychological aggression scales for mother-to-father and father-to-mother were .85 and .83, respectively (Kennedy, Bolger, & Shrout, 2002).

For the purpose of the proposed study, only the subscales of psychological aggression and physical aggression will be utilized in the final administration to participants, resulting in a final tally of 19 item pairs (38 items). Internal consistencies for the present study ranged from α = .84 to α = .91.

3.4.5 Attitudes on relationship violence. The Intimate Partner Violence Attitude Scale-Revised (IPVAS-Revised; Fincham, Cui, Braithwaite, & Pasley, 2008), originally known as Intimate Partner Violence Attitude Scale (IPVAS), was created by Smith, Thompson, Tomaka, & Buchanan (2005) to measure young adults’ attitudes about relationship violence. The IPVAS-
Revised is a 17-item, three-factor questionnaire that measures attitude and perception about violence in intimate relationships; including abuse (e.g., “As long as my partner doesn’t hurt me, ‘threats’ are excused”), control (e.g., “It is okay for me to tell my partner not to talk to someone of the opposite sex”), and physical violence (e.g., “It would not be appropriate to ever kick, bite, or hit a partner with one’s fist”). All items were answered on a 5-point scale, ranging from 1 = strongly disagree to 5 = strongly agree. Fincham et al. (2008) reported that internal consistency coefficients for IPVAS–R subscale scores ranged from .68 to .91. In the same study, test–retest reliability over a 14-week period ranged from .39 to .58. Fincham et al. (2008) also demonstrated that the Abuse and Violence subscales correlated with self-reported use of psychological and physical violence in relationships. Internal consistency for current study is $\alpha = .75$. 
CHAPTER 4
RESULTS AND FINDINGS

4.1 Preliminary Analyses and Descriptive Statistics

Participants’ responses were entered into the Statistical Package for Social Sciences (SPSS) software program. Demographic details were appropriately coded and labelled for the descriptive data analyses. The dataset was visually inspected for data entry errors and negative responses were recoded. Responses that did not meet validity check screening due to possible random or careless responding were also screened out of the final analyses. Missing data were replaced with multiple imputation method (Schlomer et al., 2010). Bivariate associations between the hypothesized variables were examined for redundancy and multicollinearity.

According to George and Mallery (2010), the values for asymmetry between -2 and +2 are considered acceptable in order to prove normal univariate distribution. Several variables were transformed due to extreme positive skewness (> 2); specifically, variables father-to-mother physical violence, mother-to-father physical violence, perpetration of physical violence, victimization from physical violence, and victimization from sexual violence underwent square root transformations to help equate group variances and to make positively skewed distributions more nearly normal in shape. Please refer to Table 2 for a representation of descriptive statistics and Table 3 for a representation of variables that underwent square root transformations due to positively skewed data.
### Table 2

**Descriptive Statistics**

<table>
<thead>
<tr>
<th>Measures</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>α</th>
<th>Skewness</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exposure to Parental Intimate Partner Violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father-to-Mother Psychological Aggression</td>
<td>12.77</td>
<td>11.36</td>
<td>0 – 49</td>
<td>.84</td>
<td>.93</td>
<td>.16</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence</td>
<td>4.86</td>
<td>10.02</td>
<td>0 – 57</td>
<td>.91</td>
<td>3.11</td>
<td>.16</td>
</tr>
<tr>
<td>Mother-to-Father Psychological Aggression</td>
<td>13.49</td>
<td>11.85</td>
<td>0 – 49</td>
<td>.86</td>
<td>.87</td>
<td>.16</td>
</tr>
<tr>
<td>Mother-to-Father Physical Violence</td>
<td>4.74</td>
<td>9.58</td>
<td>0 – 63</td>
<td>.91</td>
<td>3.00</td>
<td>.16</td>
</tr>
<tr>
<td><strong>Adult Attachment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious Adult Attachment</td>
<td>4.09</td>
<td>1.15</td>
<td>1.11 – 6.83</td>
<td>.91</td>
<td>-.03</td>
<td>.16</td>
</tr>
<tr>
<td>Avoidant Adult Attachment</td>
<td>3.00</td>
<td>1.21</td>
<td>1 – 6.22</td>
<td>.93</td>
<td>.36</td>
<td>.16</td>
</tr>
<tr>
<td><strong>Social Information Processing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostile Attribution</td>
<td>2.65</td>
<td>0.68</td>
<td>1 – 4.61</td>
<td>.61</td>
<td>1.5</td>
<td>.16</td>
</tr>
<tr>
<td>Aggressive Response</td>
<td>1.98</td>
<td>0.78</td>
<td>1 – 3.21</td>
<td>.73</td>
<td>.58</td>
<td>.16</td>
</tr>
<tr>
<td>Aggressive Responsive Evaluation</td>
<td>1.86</td>
<td>0.52</td>
<td>1 – 3.45</td>
<td>.88</td>
<td>.49</td>
<td>.16</td>
</tr>
<tr>
<td><strong>Dating Violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude about Dating Violence</td>
<td>1.68</td>
<td>0.49</td>
<td>1.19 – 2.13</td>
<td>.75</td>
<td>1.78</td>
<td>.16</td>
</tr>
<tr>
<td>Perpetration of Psychological Aggression</td>
<td>9.15</td>
<td>7.49</td>
<td>0 – 39</td>
<td>.79</td>
<td>1.26</td>
<td>.16</td>
</tr>
<tr>
<td>Perpetration of Physical Violence</td>
<td>2.27</td>
<td>4.23</td>
<td>0 – 27</td>
<td>.88</td>
<td>2.97</td>
<td>.16</td>
</tr>
<tr>
<td>Perpetration of Sexual Violence</td>
<td>1.20</td>
<td>2.19</td>
<td>0 – 9</td>
<td>.71</td>
<td>2.00</td>
<td>.16</td>
</tr>
<tr>
<td>Victimization from Psychological Aggression</td>
<td>9.12</td>
<td>9.10</td>
<td>0 – 45</td>
<td>.85</td>
<td>1.79</td>
<td>.16</td>
</tr>
<tr>
<td>Victimization from Physical Violence</td>
<td>3.23</td>
<td>7.36</td>
<td>0 – 48</td>
<td>.93</td>
<td>3.78</td>
<td>.16</td>
</tr>
<tr>
<td>Victimization from Sexual Violence</td>
<td>2.28</td>
<td>4.65</td>
<td>0 – 38</td>
<td>.83</td>
<td>4.68</td>
<td>.16</td>
</tr>
</tbody>
</table>

### Table 3

**Descriptive Statistics of Transformed Variables Using Square root Transformation**

<table>
<thead>
<tr>
<th>Measures</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>α</th>
<th>Skewness</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exposure to Parental Intimate Partner Violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence</td>
<td>1.25</td>
<td>1.79</td>
<td>0 – 7.55</td>
<td>.91</td>
<td>1.52</td>
<td>.16</td>
</tr>
<tr>
<td>Mother-to-Father Physical Violence</td>
<td>1.27</td>
<td>1.75</td>
<td>0 – 7.94</td>
<td>.91</td>
<td>1.44</td>
<td>.16</td>
</tr>
<tr>
<td><strong>Dating Violence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpetration of Physical Violence</td>
<td>.92</td>
<td>1.20</td>
<td>0 – 5.20</td>
<td>.88</td>
<td>1.20</td>
<td>.16</td>
</tr>
<tr>
<td>Victimization from Physical Violence</td>
<td>1.02</td>
<td>1.48</td>
<td>0 – 6.93</td>
<td>.93</td>
<td>1.69</td>
<td>.16</td>
</tr>
<tr>
<td>Victimization from Sexual Violence</td>
<td>.93</td>
<td>1.19</td>
<td>0 – 6.16</td>
<td>.83</td>
<td>1.36</td>
<td>.16</td>
</tr>
</tbody>
</table>
### Table 4

**Intercorrelations of Measures in Path Models**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Father-to-Mother Psychological Aggression</td>
<td></td>
<td>.650**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Father-to-Mother Physical Violence</td>
<td></td>
<td></td>
<td>.763**</td>
<td>.484**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Mother-to-Father Psychological Aggression</td>
<td>.534**</td>
<td>.707**</td>
<td>.640**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mother-to-Father Physical Violence</td>
<td></td>
<td></td>
<td></td>
<td>.154*</td>
<td>.051</td>
<td>.210**</td>
<td>.131*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Anxious Adult Attachment</td>
<td>.125</td>
<td>.071</td>
<td>.193**</td>
<td>.122</td>
<td>.126*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Avoidant Adult Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.148*</td>
<td>.089</td>
<td>.158*</td>
<td>.093</td>
<td>.188**</td>
<td>.125</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Hostile Attribution</td>
<td>.173**</td>
<td>.019</td>
<td>.154*</td>
<td>.039</td>
<td>.228**</td>
<td>.049</td>
<td>.397**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Aggressive Response Evaluation</td>
<td>.040</td>
<td>.089</td>
<td>.046</td>
<td>.068</td>
<td>.057</td>
<td>.140*</td>
<td>.324**</td>
<td>.370**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Attitude about Dating Violence</td>
<td>.028</td>
<td>.099</td>
<td>.027</td>
<td>.082</td>
<td>.101</td>
<td>.033</td>
<td>.229**</td>
<td>.156*</td>
<td>.305**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Perpetration of Psychological Aggression</td>
<td>.322**</td>
<td>.389**</td>
<td>.313**</td>
<td>.349**</td>
<td>.166**</td>
<td>.008</td>
<td>.100</td>
<td>.134*</td>
<td>.068</td>
<td>.085</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Perpetration of Physical Violence</td>
<td>.289**</td>
<td>.502**</td>
<td>.254**</td>
<td>.472**</td>
<td>.125</td>
<td>.053</td>
<td>.100</td>
<td>.011</td>
<td>.045</td>
<td>.111</td>
<td>.711**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Perpetration of Sexual Violence</td>
<td>.254**</td>
<td>.439**</td>
<td>.200**</td>
<td>.442**</td>
<td>.176**</td>
<td>.106</td>
<td>.049</td>
<td>.013</td>
<td>.036</td>
<td>.080</td>
<td>.497**</td>
<td>.683**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Victimization from Psychological Aggression</td>
<td>.252**</td>
<td>.376**</td>
<td>.154**</td>
<td>.260**</td>
<td>.132**</td>
<td>.083</td>
<td>.084</td>
<td>.053</td>
<td>.032</td>
<td>.017</td>
<td>.737**</td>
<td>.525**</td>
<td>.400**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Victimization from Physical Violence</td>
<td>.229**</td>
<td>.405**</td>
<td>.164**</td>
<td>.355**</td>
<td>.122</td>
<td>.064</td>
<td>.004</td>
<td>.017</td>
<td>.001</td>
<td>.029</td>
<td>.608**</td>
<td>.740**</td>
<td>.561**</td>
<td>.737**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Victimization from Sexual Violence</td>
<td>.210**</td>
<td>.374**</td>
<td>.126*</td>
<td>.305**</td>
<td>.174**</td>
<td>.077</td>
<td>.012</td>
<td>.048</td>
<td>.035</td>
<td>.031</td>
<td>.460**</td>
<td>.494**</td>
<td>.635**</td>
<td>.572**</td>
<td>.689**</td>
<td></td>
</tr>
</tbody>
</table>

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

*Correlation is significant at the .05 level (2-tailed)
As displayed in Table 4, findings of the bivariate associations showed that all forms of exposure to parental intimate partner violence (EPIPV) were significantly and positively correlated. Victimization and perpetration of dating violence (DV) were also positively and significantly correlated. The findings also showed that all forms of EPIPV were positively correlated with all forms of victimization and perpetration of DV.

Next, anxious adult attachment was found to be significantly correlated with avoidant adult attachment, father-to-mother psychological aggression, mother-to-father psychological aggression, and mother-to-father physical violence. Anxious attachment was also significantly associated with hostile attribution, aggressive responding, perpetration of psychological aggression and sexual violence, and victimization from psychological aggression and sexual violence.

Avoidant attachment was found to be significantly associated with mother-to-father psychological aggression and aggressive response revaluation. Hostile attribution was found to be significantly associated with aggressive responding and aggressive response evaluation, father-to-mother and mother-to-father psychological aggression, anxious attachment, and attitude about DV. Aggressive responding was found to be significantly associated with father-to-mother and mother-to-father psychological aggression, anxious attachment, positive attitude about DV, and perpetration of psychological aggression. Aggressive response evaluation was found to be associated with avoidant attachment and positive attitude about DV.

However, the findings also revealed some unexpected non-significant associations. Father-to-mother physical violence was not significantly associated with either anxious or avoidant attachment, all three indicators of social information processing, or attitudes about dating violence. Mother-to-father physical violence was also not significantly associated with
avoidant attachment, the three indicators of social information processing, or attitude about
dating violence. In addition, the three indicators of social information processing were not
significantly associated with indicators of dating violence perpetration and victimization (except
the correlation between Aggressive Response and Perpetration of Psychological Aggression).

The bi-variate correlations of all measured variables were examined again separated by
gender and the results are displayed in Table 5. Then, Fischer’s r-to-z transformation was used to
examine significantly correlated pairs to explore gender differences. Table 6 displays the
Fischer’s r-to-z results for gender differences among the correlated indicators. The findings
indicated significant differences between genders in correlation coefficients related to types of
dating violence, perpetration and victimization, and between forms of exposure to parental
violence.
Table 5

Intercorrelations of Measures in Path Models by Gender, Male Correlations above the Line

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Father-to-Mother Psychological Aggression</td>
<td>-</td>
<td>.736**</td>
<td>.808**</td>
<td>.630**</td>
<td>.069</td>
<td>.045</td>
<td>.123</td>
<td>.036</td>
<td>.213</td>
<td>.602**</td>
<td>.548**</td>
<td>.576**</td>
<td>.594**</td>
<td>.557**</td>
<td>.518**</td>
<td></td>
</tr>
<tr>
<td>2. Father-to-Mother Physical Violence</td>
<td>.628**</td>
<td>-</td>
<td>.696**</td>
<td>.912**</td>
<td>.076</td>
<td>.118</td>
<td>.113</td>
<td>.137</td>
<td>.071</td>
<td>.093</td>
<td>.673**</td>
<td>.853**</td>
<td>.843**</td>
<td>.739**</td>
<td>.844**</td>
<td>.840**</td>
</tr>
<tr>
<td>3. Mother-to-Father Psychological Aggression</td>
<td>.744**</td>
<td>.423**</td>
<td>-</td>
<td>.710**</td>
<td>.018</td>
<td>.155</td>
<td>.215</td>
<td>.062</td>
<td>.115</td>
<td>.097</td>
<td>.568**</td>
<td>.534**</td>
<td>.569**</td>
<td>.555**</td>
<td>.544**</td>
<td>.501**</td>
</tr>
<tr>
<td>4. Mother-to-Father Physical Violence</td>
<td>.507**</td>
<td>.609**</td>
<td>.636**</td>
<td>-</td>
<td>.060</td>
<td>.026</td>
<td>.112</td>
<td>.080</td>
<td>.064</td>
<td>.058</td>
<td>.640**</td>
<td>.797**</td>
<td>.810**</td>
<td>.671**</td>
<td>.820**</td>
<td>.806**</td>
</tr>
<tr>
<td>5. Anxious Attachment</td>
<td>.154*</td>
<td>.033</td>
<td>.236**</td>
<td>.154*</td>
<td>-</td>
<td>-</td>
<td>.091</td>
<td>.302**</td>
<td>.175</td>
<td>.036</td>
<td>.082</td>
<td>.209</td>
<td>.201</td>
<td>.219</td>
<td>.097</td>
<td>.158</td>
</tr>
<tr>
<td>6. Avoidant Attachment</td>
<td>.138</td>
<td>.126</td>
<td>.193**</td>
<td>.176**</td>
<td>.181*</td>
<td>-</td>
<td>.098</td>
<td>.260**</td>
<td>.138</td>
<td>.146</td>
<td>.045</td>
<td>-.123</td>
<td>-.115</td>
<td>-.013</td>
<td>-.096</td>
<td>-.142</td>
</tr>
<tr>
<td>7. Hostile Attribution</td>
<td>.117</td>
<td>.069</td>
<td>.102</td>
<td>.075</td>
<td>.125</td>
<td>.124</td>
<td>-</td>
<td>.403**</td>
<td>.099</td>
<td>.081</td>
<td>.226</td>
<td>.071</td>
<td>.131</td>
<td>.271*</td>
<td>.081</td>
<td>.033</td>
</tr>
<tr>
<td>8. Aggressive Response</td>
<td>.164*</td>
<td>.048</td>
<td>.124</td>
<td>.064</td>
<td>.210**</td>
<td>.011</td>
<td>.357**</td>
<td>-</td>
<td>.322*</td>
<td>.414**</td>
<td>.069</td>
<td>-.100</td>
<td>-.049</td>
<td>-.009</td>
<td>-.092</td>
<td>-.063</td>
</tr>
<tr>
<td>9. Aggressive Response Evaluation</td>
<td>-.046</td>
<td>.101</td>
<td>-.071</td>
<td>.060</td>
<td>.054</td>
<td>.135</td>
<td>.347**</td>
<td>.351**</td>
<td>-</td>
<td>.599**</td>
<td>-.041</td>
<td>-.044</td>
<td>-.039</td>
<td>-.127</td>
<td>-.031</td>
<td>-.012</td>
</tr>
<tr>
<td>10. Attitude about Dating Violence</td>
<td>.077</td>
<td>.151*</td>
<td>.051</td>
<td>.094</td>
<td>.108</td>
<td>.011</td>
<td>.264**</td>
<td>.113</td>
<td>.255**</td>
<td>-</td>
<td>-.049</td>
<td>-.020</td>
<td>-.100</td>
<td>-.061</td>
<td>-.040</td>
<td>-.065</td>
</tr>
<tr>
<td>11. Perpetration of Psychological Aggression</td>
<td>.215**</td>
<td>.269**</td>
<td>.218**</td>
<td>.206**</td>
<td>.131</td>
<td>.018</td>
<td>.031</td>
<td>-.122</td>
<td>.076</td>
<td>.122</td>
<td>-</td>
<td>.791**</td>
<td>.811**</td>
<td>.887**</td>
<td>.814**</td>
<td>.733**</td>
</tr>
<tr>
<td>12. Perpetration of Physical Violence</td>
<td>.174*</td>
<td>.275**</td>
<td>.134</td>
<td>.196**</td>
<td>.083</td>
<td>-.022</td>
<td>.132</td>
<td>.028</td>
<td>.100</td>
<td>.199**</td>
<td>-.723**</td>
<td>-</td>
<td>.936**</td>
<td>.730**</td>
<td>.969**</td>
<td>.922**</td>
</tr>
<tr>
<td>13. Perpetration of Sexual Violence</td>
<td>.135</td>
<td>.152*</td>
<td>.057</td>
<td>.097</td>
<td>.236**</td>
<td>.124</td>
<td>.071</td>
<td>.141</td>
<td>-.055</td>
<td>.101</td>
<td>.348**</td>
<td>.230**</td>
<td>-</td>
<td>.762**</td>
<td>.923**</td>
<td>.913**</td>
</tr>
<tr>
<td>14. Victimization from Psychological Aggression</td>
<td>.156*</td>
<td>.253**</td>
<td>.046</td>
<td>.098</td>
<td>.137</td>
<td>.105</td>
<td>.026</td>
<td>.058</td>
<td>.064</td>
<td>.034</td>
<td>.691**</td>
<td>.465**</td>
<td>.231**</td>
<td>-</td>
<td>.792**</td>
<td>.702**</td>
</tr>
<tr>
<td>15. Victimization from Physical Violence</td>
<td>.111</td>
<td>.200**</td>
<td>.034</td>
<td>.096</td>
<td>.106</td>
<td>.121</td>
<td>-.029</td>
<td>.002</td>
<td>.009</td>
<td>.027</td>
<td>.518**</td>
<td>.579**</td>
<td>.246**</td>
<td>.727**</td>
<td>-</td>
<td>.917**</td>
</tr>
<tr>
<td>16. Victimization from Sexual Violence</td>
<td>.116</td>
<td>.187*</td>
<td>.018</td>
<td>.068</td>
<td>.190*</td>
<td>.144</td>
<td>.006</td>
<td>.083</td>
<td>-.050</td>
<td>.023</td>
<td>.369**</td>
<td>.211**</td>
<td>.511**</td>
<td>.532**</td>
<td>.583**</td>
<td>-</td>
</tr>
</tbody>
</table>

**Correlation is significant at the .01 level (2-tailed)
*Correlation is significant at the .05 level (2-tail)
Table 6

**Pairs of Indicators with Significant Gender Differences in Correlations Transformed with Fischer’s r-to-z**

<table>
<thead>
<tr>
<th>Indicators with significant gender differences in correlations (Male $n = 60$; Female $n = 183$)</th>
<th>Z-Score ($r_1 =$ male; $r_2 =$ female)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father-to-Mother Psychological Aggression Perpetration of Psychological Aggression</td>
<td>-3.14</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Psychological Aggression Perpetration of Physical Violence</td>
<td>-2.89</td>
<td>= .002</td>
</tr>
<tr>
<td>Father-to-Mother Psychological Aggression Victimization from Psychological Aggression</td>
<td>-3.46</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Mother-to-Father Psychological Aggression</td>
<td>-2.71</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Mother-to-Father Physical Violence</td>
<td>-5.47</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Perpetration of Psychological Aggression</td>
<td>-3.56</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Perpetration of Physical Violence</td>
<td>-6.43</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Perpetration of Sexual Violence</td>
<td>-7.09</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Victimization from Psychological Aggression</td>
<td>-4.54</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Victimization from Physical Violence</td>
<td>-6.79</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Father-to-Mother Physical Violence Victimization from Sexual Violence</td>
<td>-6.79</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Mother-to-Father Psychological Aggression Perpetration of Psychological Aggression</td>
<td>-2.78</td>
<td>= .003</td>
</tr>
<tr>
<td>Mother-to-Father Physical Violence Perpetration of Psychological Aggression</td>
<td>-3.61</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Mother-to-Father Physical Violence Perpetration of Physical Violence</td>
<td>-5.87</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Aggressive Response Evaluation Attitude of Dating Violence</td>
<td>-2.83</td>
<td>=.002</td>
</tr>
<tr>
<td>Perpetration of Psychological Aggression Perpetration of Sexual Violence</td>
<td>-5.05</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Perpetration of Psychological Aggression Victimization from Psychological Aggression</td>
<td>-3.67</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Perpetration of Psychological Aggression Victimization from Physical Violence</td>
<td>-3.72</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
4.2 Measurement Model Analyses

The hypotheses of the study were analyzed through structural equation modeling (SEM) following the procedures described in Kline (2011). The data was analyzed through a computerized statistical tool known as Analysis of Moment Structures (AMOS). Since the instrument (i.e., CTS2) used to assess dating violence yielded two separate sets of scores: one for perpetration and another for victimization, all of the SEM analyses described in the following sections were conducted twice with the CTS2 perpetration and victimization scores respectively as the dependent variables in the models.

Item parceling was conducted on variables that did not have at least three subscales (i.e., avoidant attachment and anxious attachment) to ensure that all latent variables have multiple indicators with similar item loadings (Little et al., 2002). Item parceling was conducted through item-to-construct balance method (Little et al., 2002).
Table 7
*Items in ECR (Brennan et al, 1998) for Adult Attachment Anxiety and Avoidance that were Parceled into Indicators for SEM (refer to Appendix D for the instrument)*

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Anxiety 1 (AX1)</th>
<th>Anxiety 2 (AX2)</th>
<th>Anxiety 3 (AX3)</th>
<th>Avoidance 1 (AV1)</th>
<th>Avoidance 2 (AV2)</th>
<th>Avoidance 3 (AV3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items</td>
<td>22, 23, 16, 27, 31, 33, 25, 35, 29, 22, 21, 19, 15, 24, 7, 28, 1, 30, 20, 10, 14, 2, 18, 6, 12, 8, 4, 26, 17, 9, 34, 32, 11, 13, 5, 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exploratory factor analysis (EFA) with maximum likelihood extraction and oblique rotation was engaged and factor loadings of each item were ranked. According to the size of item loading, item pairings of the highest and lowest factor loadings were evenly distributed to each item parcel in order to form the constructs with each item parcel having similar averages of item loadings.

As part of a two-step process, a confirmatory factor analysis (CFA) was first conducted as an a priori measurement (Anderson & Gerbing, 1988). Specifically, the first procedure entailed testing the measurement model by using CFA, followed by examining the structural model after the measurement model is accepted. This study employed the maximum likelihood method in the AMOS 18.0 program to examine the measurement and structural models. The goodness-of-fit of the models used five indices recommended by Hu and Bentler (1999): higher comparative fit index (CFI; close to or above .95), higher Tucker-Lewis Index (TLI; close to or above .95), lower root-mean-squared error of approximation (RMSEA; close to or below .06), lower standardized root-mean-square residual (SRMR; .08 or less), and Chi-square/Degrees of freedom ($\chi^2/df$; close to or less than 3) to reflect good model fit.

4.3 Measurement Model for Victimization from Dating Violence

Figure 3 is a representation of the proposed measurement model for victimization from
dating violence (as shown on the following page). The findings of the measurement model indicated that all the latent variables are significantly correlated with each other. For the exposure to parental intimate partner violence (EPIPV) factor, the four indicators (Father-to-Mother Psychological Aggression [FMPA], Father-to-Mother Physical Violence [FMPV], Mother-to-Father Psychological Aggression [MFPA], and Mother-to-Father Physical Violence [MFPV]) loaded on EPIPV with standardized factor loadings (i.e., estimated correlations between factor and indicator) of .75 and above, respectively. For anxious attachment (AAAnxiety), all three indicators loaded on AAAnxiety with estimated correlations of .87 and above. For avoidant attachment (AAvoid), all three indicators loaded on AAvoid with estimated correlations of .92 and above. Overall, EPIPV, AAAnxiety, and AAavoid appeared to have indicators with moderate to high factor loadings which suggest adequate representation of the constructs. Two of the indicators for the latent variable of dating violence (DV): attitude about dating violence (AttDV) and victimization from sexual violence (sqrt_VictSV), and an indicator of aggressive response evaluation (Story_ARE) for latent variable of SIP, had .13, .50, and .52 factor loadings respectively which suggest inadequate loadings. Indicators with loadings < .55 were removed one at a time and each new model was re-analyzed in a sequential manner during the modification process in order to improve model fit (Kline, 2013).

Figure 3 is a representation of the final modified measurement model with the improved factor loadings after the removal of three indicators with weak (> .55) factor loadings. Table 6 displays the fit indexes of all models examined which shows the final measurement model (model 4) demonstrating the following fit index values: comparative fit index (CFI = .96), Tucker-Lewis Index (TLI = .94), standardized root-mean-square residual (SRMR = .04), root-mean-squared error of approximation (RMSEA = .07), and Chi-square/Degrees of freedom.
Taken together, the results suggest that the model has adequate model fit.

Figure 2. Proposed measurement model for victimization from dating violence with coefficient loadings

- sqrt_FMPV = father-to-mother physical violence, FMPA = father-to-mother psychological aggression, sqrt_MFPV = mother-to-father physical violence, MFPA = mother-to-father psychological aggression
- AX1 AX2 AX3 = attachment anxiety, AV1 AV2 AV3 = attachment avoidance
- Story_HA = hostile attributional bias, Story_AR = aggressive responding, Story_ARE = positive evaluation of aggressive responses
- sqrt_VictPV = physical violence, Vic_PsyAgg = psychological aggression, sqrt_VictSV = sexual violence, AttDV = attitudes of dating violence
Figure 3. Modification of the measurement model for victimization from dating violence

*sqrt_FMPV = father-to-mother physical violence, FMPA = father-to-mother psychological aggression, sqrt_MFPV = mother-to-father physical violence, MFPA = mother-to-father psychological aggression
* AX1 AX2 AX3 = attachment anxiety, AV1 AV2 AV3 = attachment avoidance
* Story_HA = hostile attributional bias, Story_AR = aggressive responding
* sqrt_VictPV = physical violence, Vic_PsyAgg = psychological aggression

Table 8

<table>
<thead>
<tr>
<th>Measurement Models</th>
<th>χ²/df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA (90% CI)</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>2.24</td>
<td>.92</td>
<td>.93</td>
<td>.07</td>
<td>.06</td>
</tr>
<tr>
<td>Model 2</td>
<td>2.05</td>
<td>.94</td>
<td>.95</td>
<td>.07</td>
<td>.05</td>
</tr>
<tr>
<td>Model 3</td>
<td>2.20</td>
<td>.93</td>
<td>.95</td>
<td>.07</td>
<td>.05</td>
</tr>
<tr>
<td>Model 4 (final)</td>
<td>2.19</td>
<td>.94</td>
<td>.96</td>
<td>.07</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note: χ²/df = Chi-square/degrees of freedom; TLI = Tucker–Lewis index; CFI = comparative fit of index; RMSEA = root-mean-squared error of approximation; SRMR = standardized root-mean-residual
4.4 Measurement Model for Perpetration from Dating Violence

Next, the measurement model for perpetration of dating violence was created to examine the model fit of the proposed structural equation model for perpetration of dating violence. Figure 5 is a representation of the proposed measurement model of perpetration of dating violence.

\[ \text{sqrt}_{-}\text{FMPV} = \text{fat} - \text{mother physical violence, } \text{FMPA} = \text{father} - \text{mother psychological aggression, } \text{sqrt}_{-}\text{MFPV} = \text{mother} - \text{father physical violence, } \text{MFPA} = \text{mother} - \text{father psychological aggression} \]

\[ \text{AX}_1 \text{AX}_2 \text{AX}_3 = \text{attachment anxiety, } \text{AV}_1 \text{AV}_2 \text{AV}_3 = \text{attachment avoidance} \]

\[ \text{Story}_\text{HA} = \text{hostile attributional bias, } \text{Story}_\text{AR} = \text{aggressive responding, } \text{Story}_\text{ARE} = \text{positive evaluation of aggressive responses} \]

\[ \text{sqrt}_{-}\text{PerpPV} = \text{physical violence, } \text{Perp}_\text{PsyAgg} = \text{psychological aggression, } \text{Perp}_\text{SexViol} = \text{sexual violence, } \text{AttDV} = \text{attitudes of dating violence} \]
The measurement model showed that the latent variables are significantly correlated with each other, and the indicators for latent variables of EPIPV, anxious attachment, and avoidant, had adequate factor loadings ranging from .77 to .93. Two of the indicators for the latent variable of dating violence (DV): attitude about dating violence (AttDV) and perpetration of sexual violence (Perp_SexViol), and an indicator of aggressive response evaluation (Story_ARE) for the latent variable of SIP, presented with .18, .39, and .52 factor loadings respectively which indicated weak loadings. Indicators with loadings < .55 were removed one at a time and each new model was re-analyzed in a sequential manner during the modification process in order to improve model fit (Kline, 2013).

Figure 5 is a representation of the final modified measurement model with the improved factor loadings after the removal of three indicators with weak (> .55) factor loadings. Table 7 displays the fit indexes of all models examined which shows the final measurement model (model 4) demonstrating the following fit index values: comparative fit index (CFI = .96), standardized RMR (SRMR = .06), and Chi-square/Degrees of freedom ($\chi^2$/df = 2.30), all of which suggest acceptable model fit. However, Tucker-Lewis Index (TLI = .94) and root-mean-squared error of approximation (RMSEA = .08) suggested a marginally acceptable model fit. Taken together, this the model is regarded to have acceptable model fit.
Figure 5. Modification of the measurement model for perpetration of dating violence

*sqrt_FMPV = father-to-mother physical violence, FMPA = father-to-mother psychological aggression, sqrt_MFPV = mother-to-father physical violence, MFPA = mother-to-father psychological aggression

* AX1 AX2 AX3 = attachment anxiety, AV1 AV2 AV3 = attachment avoidance

* Story_HA = hostile attributional bias, Story_AR = aggressive responding

* sqrt_PerpPV = physical violence, Perp_PsyAgg = psychological aggression

Table 9

Fit indices for measurement models on dating violence perpetration

<table>
<thead>
<tr>
<th>Measurement Models</th>
<th>$\chi^2$/df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA (90% CI)</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>2.29</td>
<td>.92</td>
<td>.93</td>
<td>.07</td>
<td>.06</td>
</tr>
<tr>
<td>Model 2</td>
<td>2.27</td>
<td>.93</td>
<td>.94</td>
<td>.07</td>
<td>.06</td>
</tr>
<tr>
<td>Model 3</td>
<td>2.31</td>
<td>.93</td>
<td>.95</td>
<td>.08</td>
<td>.05</td>
</tr>
<tr>
<td>Model 4 (final)</td>
<td>2.30</td>
<td>.94</td>
<td>.96</td>
<td>.08</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note: $\chi^2$/df = Chi-square/degrees of freedom; TLI = Tucker–Lewis index; CFI = comparative fit of index; RMSEA = root-mean-squared error of approximation; SRMR = standardized root-mean-residual

4.5 SEM Model for Dating Violence Victimization

The following section presents the findings of the SEM test with adult attachment and
SIP as mediators in the links between EPIPVI and DV victimization. Figure 6 is the proposed SEM mediational model of dating violence victimization.

Figure 6. Proposed SEM model for examine dating violence victimization

Significance level: * $p < .05$, ** $p \leq .01$, *** $p \leq .001$

Figure 7. SEM model of DV victimization with coefficients
Figure 7 is the result from AMOS for the proposed SEM model with the coefficients listed on the paths between the latent variables. An examination of goodness-of-fit indices revealed the following results: CFI = .96, TLI = .94, RMSEA = .07, SRMR = .05, and $\chi^2$/df = 2.19, suggesting adequate model fit. The model showed that EPIPV has significant associations with AAvoid ($R^2 = .06, p = .001$) and AAnxiety ($R^2 = .03, p = .028$), and AAnxiety is significantly associated with SIP ($R^2 = .10, p = .003$). EPIPV is not significantly associated with SIP and DV, AAvoid is not significantly associated with SIP and DV, and SIP is not significantly associated with DV. The total variance in DV explained by the model is 7%.

Next, the paths between AAvoid – SIP and SIP – DV were removed from the model due to the non-significant paths and low regression coefficients. An examination of goodness-of-fit indices revealed the following: CFI = .96, TLI = .94, RMSEA = .07, SRMR = .05, and $\chi^2$/df = 2.14, suggesting adequate model fit. The model showed that significant associations between EPIPV with AAvoid ($R^2 = .06, p = .001$) and AAnxiety ($R^2 = .03, p = .028$), AAnxiety is significantly associated with SIP ($R^2 = .10, p = .003$), and significant association between SIP and EPIPV ($R^2 = .04, p = .046$). Conversely, the results revealed no significant associations between EPIPV and AAvoid with DV. The total variance in DV victimization as explained by the model is 6%.
Significance level: * $p < .05$, ** $p \leq .01$, *** $p \leq .001$

Figure 8. Modified SEM model of DV victimization with coefficients

The latent variable of SIP was removed from the model due to non-significant correlations between the variables and model fit was examined after the modification. Figure 9 (below) is a representation of a modification of the model. An examination of goodness-of-fit indices revealed the following results: CFI = .96, TLI = .94, RMSEA = .07, SRMR = .05, and $\chi^2$/df = 2.69, suggested adequate model fit. EPIPV correlated significantly with AAVoid ($R^2 = .06, p = .001$) and AAnxiety ($R^2 = .03, p = .028$), however, both forms of attachment styles were not correlated with DV victimization. The total variance in DV as explained by the model is 6%.
Next, a representation of the EPIPV – DV independent – dependent prediction model was examined as post-hoc analysis. An examination of goodness-of-fit indices revealed the following: CFI = .89, TLI = .81, RMSEA = .19, SRMR = .05, and $\chi^2/df = 9.73$ suggesting poor model fit. The direct relationship between the predictor EPIPV and criterion DV victimization was examined, and revealed a significant and direct relationship between the variables of exposure to parental intimate partner violence and dating violence victimization ($R^2 = .036$, $p = .011$). The total variance in DV as explained by the model is 3.6%. Table 8 is a representation of fit indices for the measurement model and various models of the DV victimization.

Significance level: * $p < .05$, ** $p < .01$, *** $p < .001$
Table 10
Fit Indices for Models on Victimization from DV and Variance Accounted in DV

<table>
<thead>
<tr>
<th></th>
<th>χ²/df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA (90% CI)</th>
<th>SRMR</th>
<th>Variance in DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement Model</td>
<td>2.19</td>
<td>.94</td>
<td>.96</td>
<td>.07 (.06 - .09)</td>
<td>.04</td>
<td>-</td>
</tr>
<tr>
<td>Model 1</td>
<td>2.19</td>
<td>.94</td>
<td>.96</td>
<td>.07 (.06 - .09)</td>
<td>.05</td>
<td>7%</td>
</tr>
<tr>
<td>Modified Model</td>
<td>2.14</td>
<td>.94</td>
<td>.96</td>
<td>.07 (.06 - .09)</td>
<td>.05</td>
<td>6%</td>
</tr>
<tr>
<td>Nested Model</td>
<td>2.69</td>
<td>.94</td>
<td>.96</td>
<td>.07 (.06 - .09)</td>
<td>.05</td>
<td>6%</td>
</tr>
<tr>
<td>EPIPV – DV Victimization</td>
<td>9.73</td>
<td>.81</td>
<td>.89</td>
<td>.19 (.15 - .24)</td>
<td>.05</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Note: χ²/df = Chi-square/degrees of freedom; TLI = Tucker–Lewis index; CFI = comparative fit of index; RMSEA = root-mean-squared error of approximation; SRMR = standardized root-mean-residual

4.6 SEM Analyses for Dating Violence Perpetration

The following section presents the findings of the SEM test with adult attachment and SIP as mediators in the links between EPIPV and DV perpetration. Figure 11 is a proposed SEM mediational model of dating violence perpetration.

![Figure 11](image-url)

*Figure 11. Proposed SEM mediational model for dating violence perpetration*
Figure 12. SEM model of DV perpetration with path coefficients

Figure 12 is a representation of the model’s path coefficients and significance levels. Close examinations of goodness-of-fit indices for the DV perpetration model revealed the following results: CFI = .96, TLI = .94, RMSEA = .08, SRMR = .04, and $\chi^2$/df = 2.30, all of which suggested adequate model fit. The model showed that EPIPV has significant associations with DV Perp ($R^2 = .10$, $p < .001$), AAVoid ($R^2 = .05$, $p = .002$), AAnxiety ($R^2 = .02$, $p = .038$), and SIP ($R^2 = .044$, $p = .036$). AAnxiety is significantly associated with SIP ($R^2 = .08$, $p = .005$). AAVoid is not significantly associated with SIP and DV Perp, and SIP is not significantly associated with DV Perp. The total variance in DV as explained by the model is 15%.

A modification of the model was conducted with the removal of AAVoid – SIP and AAVoid – DV Perp paths due to non-significant pathways and low correlation coefficients. Figure 14 (below) is a representation of the modified model. Close examinations of goodness-of-fit indices for the modified model revealed the following results: CFI = .96, TLI = .94, RMSEA = .08, SRMR = .04, and $\chi^2$/df = 2.30, all of which suggested adequate model fit.
fit indices for the DV perpetration model revealed the following results: CFI = .96, TLI = .94, RMSEA = .07, SRMR = .05, and $\chi^2$/df = 2.24, all of which suggested adequate model fit. The model showed that EPIPV has significant associations with DV Perp ($R^2 = .09, p < .001$), AAVoid ($R^2 = .05, p = .002$), AAnxiety ($R^2 = .02, p = .038$), and SIP ($R^2 = .05, p = .030$). AAnxiety is significantly associated with SIP ($R^2 = .08, p = .006$). AAnxiety and SIP are not significantly associated with DV Perp. The total variance in DV as explained by the model is 15%.

![SEM model of DV perpetration with path coefficients](image)

Significance level: * $p < .05$, ** $p < .01$, *** $p < .001$

*Figure 13. SEM model of DV perpetration with path coefficients*

Next, a modification of the model was conducted with the variable SIP removed from the model due to non-significant correlations between the variables and model fit was examined after the modification. Examinations of goodness-of-fit indices indicated the following findings: CFI = .96, TLI = .94, and SRMR = .05 reflected adequate fit, however, RMSEA = .08 and $\chi^2$/df = 2.70 reflected marginal fit. When examined collectively, the model reflected acceptable model fit. The total variance in DV as explained by the model is 13%.
Figure 14. Modified SEM model of DV perpetration with variable SIP removed

The direct relationship between the predictor EPIPV and criterion DV perpetration was examined through a post-hoc analysis. An examination of goodness-of-fit indices that included CFI = .91, TLI = .83, RMSEA = .19, and $\chi^2$/df = 9.73 reflected poor model fit with the exception of SRMR = .04 which demonstrated acceptable fit index. The results revealed a significant, positive, and direct relationship between the variables of EPIPV and DV perpetration ($R^2 = .34$, $p < .001$). The total variance in DV as explained by the model is 12%. Table 9 is a representation of fit indices for the measurement model and various models of the DV victimization.

Figure 15. SEM Model of EPIPV and DV Perpetration
Table 11

*Fit Indices for Models on Victimization from DV and Variance Accounted in DV*

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$/df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA (90% CI)</th>
<th>SRMR</th>
<th>Variance in DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement Model</td>
<td>2.30</td>
<td>.92</td>
<td>.93</td>
<td>.07 (.06 - .09)</td>
<td>.06</td>
<td>-</td>
</tr>
<tr>
<td>Model 1</td>
<td>2.30</td>
<td>.94</td>
<td>.96</td>
<td>.09 (.06 - .09)</td>
<td>.05</td>
<td>15%</td>
</tr>
<tr>
<td>Modified Model</td>
<td>2.24</td>
<td>.94</td>
<td>.96</td>
<td>.07 (.06 - .09)</td>
<td>.05</td>
<td>15%</td>
</tr>
<tr>
<td>Nested Model</td>
<td>2.70</td>
<td>.94</td>
<td>.96</td>
<td>.09 (.06 - .09)</td>
<td>.05</td>
<td>13%</td>
</tr>
<tr>
<td>EPIPV – DV Perpetration</td>
<td>9.36</td>
<td>.83</td>
<td>.91</td>
<td>.19 (.16 - .24)</td>
<td>.04</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note: $\chi^2$/df = Chi-square/degrees of freedom; TLI = Tucker–Lewis index; CFI = comparative fit of index; RMSEA = root-mean-squared error of approximation; SRMR = standardized root-mean-residual
CHAPTER 5
DISCUSSION

The present study seeks to investigate the mediating factors of adult attachment and social information processing (SIP) on the impact of exposure to parental intimate partner violence (EPIPV) on college dating violence. Although EPIPV, insecure attachment, and SIP have been identified in separate studies to be associated with DV in young adults, empirical studies in this area tend to be limited in that the influences of the selected variables were examined independently through the frame of a single theoretical perspective. This study may be one of the first to examine simultaneously the relationships of four interrelated variables: EPIPV, adult attachment, and biased SIP processing, and young adults’ DV. The focus on college student population coincides with the developmental timing of the beginning stages of stable, long-term, romantic partners for most young adults. The findings of the current study showed that EPIPV predicted dating violence perpetration and victimization and that EPIPV predicted adult attachment anxiety and avoidance, both of which are consistent with existing literature (e.g., Doumas et al., 2008; Jouriles et al., 2012). However, findings revealed that EPIPV did not predict SIP and SIP was not predictive of DV perpetration. In addition, adult attachment anxiety and avoidance was not predictive of DV perpetration and victimization. For DV victimization SEM model, adult attachment anxiety predicted SIP, however, SIP did not predict DV victimization.

Preliminary analyses via bivariate associations showed that that all forms of exposure to parental intimate partner violence (EPIPV), mother-to-father psychological aggression, mother-to-father physical violence, father-to-mother psychological aggression, and father-to-mother physical violence, were significantly and positively correlated. Victimization and perpetration of
dating violence (DV), in the forms of physical victimization, psychological aggression, and sexual violence, were also positively and significantly correlated. These findings were potentially indicative that the presence of one form of intimate relationship violence were typically associated with other forms of intimate relationship violence (Smith, White, & Holland, 2003). Findings from the bivariate analysis also suggest that the presence of victimization from intimate relationship violence is significantly correlated with acts of intimate relationship perpetration (Luthra & Gidycz, 2006).

Several variables were transformed due to extreme positive skewness (> 2). For instance, majority of the participants reported minimal exposure to intimate partner violence or experiences of dating violence. Although the low average scores and positive skewness in dating violence variables may be representative of normally functioning college students, they may also result from participants’ tendency to provide inhibited responses due to social desirability effect. If so, these characteristics might have limited model rigor and affected validity in the findings with the DV victimization and perpetration models. Subsequent CFA analyses confirmed the poor fit and low coefficients of several indicators resulting in the removal of several non-performing indicators, including aggressive responding evaluation from SIP, attitude about DV, and DV sexual victimization and perpetration. The SIP vignettes, attitudes about dating violence, and sexual victimization and perpetration include many items that have high face validity and connotations of wrongful conduct, which might have led to participants’ tendency to respond in a less-than-genuine manner in order to preserve image of self.

5.1 Dating Violence Victimization

The findings from the nested model indicated that EPIPV predicted attachment anxiety and attachment avoidance, however, EPIPV, attachment avoidance and anxiety, did not predict
the DV outcome variable. This findings were unexpected as existing literature have indicated the probability of increased odds of abuse in intimate relationships when insecure attachment was present (Allison, Bartholomew, Mayseless, & Dutton, 2008; Gormley and Lopez, 2010; Henderson, Bartholomew, Trinke, & Kwong, 2005; McDermott & Lopez, 2013). A possible explanation for the non-significant findings may be due to methodological differences in the approach of data gathering that the current study used in comparison with the methodology engaged by other researchers. For example, Allison, Bartholomew, Mayseless, and Dutton (2008) recruited participants known to be perpetrators and their partners to participate in in-depth interviews and data were analyzed with qualitative analysis. Henderson, Bartholomew, Trinke, and Kwong (2005) conducted large-scale phone interviews/surveys polled from different geographical regions. Most researchers adopted extensive semi-structured interviews (i.e., AAI) to derive information and interpretations of insecure attachment and relationship violence and focus recruitment on known offenders and/or survivors of intimate relationship violence. However, the current study employed self-report questionnaires which might have resulted in systematic measurement error variance, encompassing concerns of participants providing socially desirable responses, along with the structure of questionnaires that resulted in set response format/style.

When the direct relationship between EPIPV – DV victimization was examined, a significant but relatively weak relationship was discovered with the model explaining 3.6% variance in the DV. Although supporting the basic premise of the study that exposure to parental intimate partner violence leads to victimization from psychological and physical aggression in dating relationships (e.g., Jouriles et al., 2012). However, the low percentage of variance in DV victimization explained by EPIPV is puzzling. In the research conducted by Jouriles et al. (2012),
findings indicated lifetime exposure to severe intimate partner violence predicted teen dating violence perpetration ($R^2 = .069, p < .05$) but not teen dating violence victimization. Conversely, Gover et al. (2008) reported that respondents who witnessed their mom hit their dad during childhood are significantly more likely to be victims of physical violence ($B = 0.429, p < .05$). Furthermore, the gender-specific model for females indicates a significant relationship between witnessing paternally perpetrated violence and violence victimization ($B = 0.545, p < .05$). Females who witnessed paternally perpetrated violence are 72% more likely to experience physical violence victimization compared to females who did not witness paternally perpetrated violence.

The weak association between EPIPV – DV victimization may be due to issues with instrumentation. Specifically, most items of the Conflict Tactic Scales-2 (CTS-2) are presented in a manner with high face validity and connotations of shame if endorsed in a positive manner which might have resulted in under-reporting issues due to participants’ social desirability. Another possibility would be the reluctance of individuals who experience victimization in dating relationships to come forward in participating in the current study. On the other hand, this finding may also be reflecting a truth that exposure to parental intimate partner violence might not be a strong predictor of being victimized in intimate relationships. More research to examine the relationship between EPIPV and DV victimization is needed before a solid conclusion can be drawn.

Findings of the modified SEM model of DV victimization suggest that exposure to parental intimate partner violence during formative years may lead to tendencies to be overly dependent on significant others for validation, or be overly self-reliant and mistrustful of intimate partners for support, which is consistent with existing literature (Doumas, Pearson, Elgin, &
Based on attachment theory, parent-child attachment gradually becomes mental representations, or internal working models, of prototypic relationship structures (Main, Kaplan, & Cassidy, 1985). Parent-child attachment generally transfers into internal working models of self that reflect the extent to which individuals believe themselves worthy of love and attention from others. Internal working models might become impaired due to exposure to parental intimate partner violence, resulting in problematic affectional bonds formed in romantic adult relationships (Hazan & Shaver, 1987). For the consideration of this study, the impact of parent-child attachment on adult attachment and their joint effects on the dating violence DVs are elucidated from the findings of Gover et al. (2008)’s study on approximately 2,500 southwestern college students. The authors discovered that strong attachment to paternal figures with little to no exposure of domestic violence reduced the odds in college DV perpetration as compared to college students with poor attachment to paternal figures. The model also suggests the likelihood of exposure to parental intimate partner violence predicting internalization of biased hostile attributions in ambiguous and possible socially threatening situations which is consistent with the previous findings (for a review, see Dykas & Cassidy, 2011).

5.2 Dating Violence Perpetration

The modified model, which explained 15% variance in DV, showed EPIPV predicting attachment anxiety, attachment avoidance, SIP, and DV perpetration. Again, this partially supports the study’s premise that EPIPV during formative years may be one of the variables that leads to DV perpetration (e.g., Jouriles et al., 2012). SIP had a weak and non-significant link with DV perpetration in the model which is not consistent with the hypothesis. It may be due to instrumentation concerns. The SIP vignettes were first developed by Coccaro, Noblett, and McCloskey (2009) and then revised and adapted by Pettit, Lansford, Malone, Dodge, and Bates...
(2010) for their study on romantic relationship violence. The vignettes describe five ambiguous and challenging situations in romantic relationships and participants were asked to imagine that they were the person in the vignette who had been provoked. Following each vignette, participants were asked a series of questions to assess their SIP related to the vignette. The vignettes were designed to specifically tracked hostile attributional biases, aggressive responding, and aggressive responding evaluation that were originally conceptualized by Crick and Dodge (1994) as part of the social information processing model. The vignettes were devised in a manner for respondents to hypothesize and predict their potential responses and reactions, which may produce responses that might not be fully accurate or forthcoming. In addition, the SIP vignettes and follow-up questions were all presented in a manner with high face validity which might have limited effectiveness in capturing the nuances of automatic cognitive processes associated with hostile attributional processes, aggressive responding, and evaluations of aggressive responding. Future research might consider utilizing implicit tracking measures, semi-structured interviews, or observing in-the-field behaviors.

In the nested model, the findings indicated that EPIPV predicted DV perpetration, attachment anxiety and attachment avoidance, however, attachment avoidance and anxiety did not predict DV perpetration. Again, this is not consistent with the predictions of attachment theory and previous findings of attachment research on intimate relationship violence (e.g., McDermott & Lopez, 2013). Possible reasons for the unexpected non-significant relationships may be due to methodological differences in data collection and sampling process, as discussed in the model for DV victimization.

When the direct relationship between EPIPV – DV perpetration was examined, a significant relationship was discovered which explained 12% variance in the DV, supporting the
basic premise of the study that exposure to parental intimate partner violence is significantly associated with psychological and physical aggression in dating relationships. This finding suggests that EPIPV is a significant predictor of DV perpetration in the current college student sample despite suggestions of limitations in the sampling approach, instrumentation concerns, and tendency to inhibit non-desirable responses. This is consistent with existing literature (e.g., Jouriles et al., 2012) that demonstrated a direct association between EPIPV on DV perpetration. This elucidated a need to further explore the phenomenon of DV perpetration amongst college students as the tendency to under-report DV perpetration is a notable concern.

Findings from model suggest that childhood exposure to parental intimate partner violence during formative years may lead to psychological aggression and physical violence perpetration in dating relationships. In addition, the findings also predicted tendencies to be overly dependent on significant others for validation, or excessive self-reliance and avoidance of intimate partners for support. The model also suggests the likelihood of exposure to parental intimate partner violence predicting internalization of biased hostile attributions in ambiguous and possible socially threatening situations. However, the current study failed to prove a significant connection between adult attachment and SIP processes, leading to some of the current study’s hypotheses unproved at present moment.

In comparing the models of DV perpetration and victimization, findings suggest that the one with DV perpetration appears to receive better empirical support based on the current sample, as evidenced by better model fit and a greater amount of variance in DV accounted for by the model but both models did provide evidence to support the hypothesis of EPIPV predicting anxious and avoidant adult attachment. These findings suggest that for college students, exposure to interparental violence is a greater risk factor for dating violence
perpetration. More research is needed before a solid conclusion could be solidified in the area of discussing predictive factors for perpetration of dating violence.

5.3 Limitations and Future Directions

The sample of the present study is a convenient college student sample which is not representative of clinical populations or even the general population. Concerns with instrumentation in which some of the indicators might not be tapping into the latent variables should be considered. Specifically, the vignettes used to measure social information processing, first developed by Coccaro, Noblett, and McCloskey (2009), and then revised and adapted by Pettit, Lansford, Malone, Dodge, and Bates (2010), and attitude about dating violence, Intimate Partner Violence Attitude Scale-Revised (IPVAS-Revised; Fincham, Cui, Braithwaite, & Pasley, 2008), may not be tapping into the intricacies of the latent variables as described in present study. The instruments used to measure dating violence may need to be updated with items that tap into popular culture, such as tendencies of perpetrators to stalk prospective victims on social media, or leaving threatening messages with digital traces, which are becoming increasingly common due to accessibility of modern digitization technology (Logan, 2010). In addition, the concerns of self-report biases due to high face validity and the negative connotations/social stigma associated with the themes of the current study may have been factors that impacted validity and reliability of the present study. It is also possible that individuals who are directly impacted by experiences of exposure to parental violence and past/recent/current experiences of dating violence would be less willing to participate in the current study, hence, limiting the scope of the study to investigate the phenomenon of college dating violence.

Future research should engage with a larger and more representative sample of college students by exploring college students’ experiences across the nation or in different regions.
Factors such as socio-cultural differences in varied geographical locations may have significant influences in rates and occurrences of exposure to interparental violence and dating violence since most social sciences are rarely conducted in rural/less-populated areas. Additionally, preliminary analyses in the current study indicated significant gender differences in the forms of dating violence and exposure to parental violence. Gender-specific analyses in heteronormative relationships should be addressed in future studies as some literature (e.g., Gover et al., 2008) has suggested different outcomes in victimization and perpetration for participants exposed to either paternal or maternal perpetrated abuse. In relation to that, the impact of parental intimate partner violence on non-heteronormative relationship violence should be examined to investigate similar or unique behavioral outcomes for men and women in DV perpetration and victimization.

Inclusion of non-college participants in young adulthood, with focused interests on clinical and/or forensic samples (i.e., community groups seeking services from community mental health services for intimate partner violence and perpetrators of intimate partner that were indicted for the offenses), may provide a better representation and understanding of dating violence. Instruments to measure SIP processes should be explored and investigated to better measure hostile attributional biases, aggressive responding, and aggressive responding evaluation. Inclusion of implicit measures and instruments that could limit concerns of response validity and mitigate self-reporting and self-selective biases due to high face validity may be considered in future approaches.

Instruments to measure cognitions, behaviors, and affective responses about dating violence should be updated with new piloting and sampling from young adults. This could include engaging trained interviewing methods and utilizing modern technology such as video
web-conferencing to provide greater coverage and expansion of participation in far-reaching areas for the interviewing process.

5.4 Clinical Implications

The present study suggests that childhood exposure to parental intimate partner violence may lead to long-term consequences in forming insecure attachments in young adulthood and dating violence perpetration and victimization. Based on the findings that showed a strong connection between exposure to interparental violence and DV perpetration, family variables should be conceptualized and assessed broadly by practitioners who are attempting to identify risk factors (or potential causal agents) for college student clients’ presenting concerns that involve dating violence perpetration and victimization. The present findings highlight the fact that prior exposure to severe IPV appears to leave lasting psychological, cognitive, and behavioral impacts on young adults. It seems plausible that adolescents or young adults who had been exposed to parental violence are provided with ongoing support and/or long-term counseling services to adequately address the internal issues related to early family experiences (Wekerle et al., 2001). In addition, the idea of adopting nation-wide awareness training for elementary, junior, and high school administrators, teachers, school counselors, and social workers to screen for potential family violence and providing mental health services to at-risk students could be advantageous in minimizing and/or mitigating the impact of exposure to family violence. The specificity of how exposure to interparental violence lead to college dating violence perpetration and victimization are not yet clear. Nevertheless, the convergence across studies suggests the importance of addressing exposure to interparental violence in clinical efforts directed at high-risk college students. Mental health service providers on college campuses, faculty members, and college administrators should be mindful of the impact of
dating violence on campus as it may mimic symptoms of poor adjustment to college (Gibb et al., 2004). College campuses should be able to provide services that range from psychotherapy to legal counsel to students to address the implications of dating violence, as well as campus-wide training to students and employees to promote awareness of signs of dating violence and to have available and immediate (i.e., safety plans, shelter, legal advice, etc.) resources to at-risk students. Development and implantation of programs that prevent or eliminate children’s exposure to parental violence, such as provision of pre-marital counseling/seminars and on-going support for families and children exposed to interparental intimate partner violence, might be fruitful in preventing future cycles/generations of intimate partner violence. In order to fully address the negative impacts of interparental intimate partner violence on children and young adults, it would be necessary to be targeting at policy and legislative changes in emphasizing the need to take a closer examination of how current federal and state policies might view exposure to interparental violence as having less severe mental health and social impact on children and society as a whole.
REFERENCES


Banks, M. E. (2007). Overlooked but critical: Traumatic brain injury as a consequence of
interpersonal violence. *Trauma, Violence, & Abuse, 8*(3), 290-298.

doi:10.1177/1524838007303503


DeKeseredy, W.S., & Schwartz, M.D. (1998). Woman Abuse on Campus: Results


doi:10.1037/a0021367


Jankowski, M. K., Leitenberg, H., Henning, K., & Coffey, P. (1999). Intergenerational transmission of dating aggression as a function of witnessing only same sex parents
vs. opposite sex parents vs. both parents as perpetrators of domestic violence. *Journal of Family Violence, 14*(3), 267–279. doi: 0885-7482/99/0900.267


doi:10.2105/AJPH.2009.169730


doi:10.1037/a0025157


doi:10.1037/a0027264


doi:10.1037/a0021092


MacEwen, K. E. (1994). Refining the intergenerational transmission hypothesis. *Journal of*
Interpersonal Violence, 9, 350–365. Retrieved from
ite
attachment and gender role stress in predicting controlling behaviors in men who batter.
Makepeace, J. M. (1981). Courtship violence among college students. Family Relations, 30, 97-
=true&db=pbh&AN=19211141&site=ehost-live&scope=site
Family Relations, 35, 383–388.
witnessing parental violence and adult dating violence in Latina, East Asian, South Asian,
Marchand-Reilly, J. (2009). Depressive symptoms in young adults: The role of attachment
orientations and romantic relationship conflict. Journal of Adult Development, 16(1), 31-
38. doi:10.1007/s10804-009-9049-z
cognitions, and child aggression: A test of a mediational model. Journal of Family
Psychology, 15(2), 315-333. doi:10.1037/0893-3200.15.2.315
partner abuse: A multidimensional assessment of four different forms of abuse. Violence
Against Women, 14(6), 634-654. doi: 10.1177/1077801208319283


Schwartz, R. C. (2007). Concurrent validity of the global assessment of functioning scale for clients with schizophrenia. *Psychological Reports, 100*(2), 571-574. doi:10.2466/PR0.100.2.571-574


