THE RELATION BETWEEN EXPOSURE TO INTIMATE PARTNER VIOLENCE AND DATING VIOLENCE IN A SOCIAL INFORMATION PROCESSING MODEL AMONG YOUNG ADULTS

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Dating violence (DV) among young adults, specifically in college settings, is a serious issue with potential severe repercussions – both physically and psychologically – for victims of DV (DV victimization), and even financially on societal institutions as a whole. Exposure to parental intimate partner violence (IPV) has been associated with DV in young adults. Such violent behaviors appear to be associated with a recurrent pattern of aggressive thought processes, content, and arousing emotions. This study investigated the mediating effects of explicit socio-cognitive processes, through the reformulated social information processing (SIP) model, and implicit cognitive processes for exposure to parental IPV on DV perpetration and victimization, as well as the moderating effects of identification with parental figures and emotional arousal for exposure to parental IPV on predicting DV perpetration and victimization. 85 college students (men $n = 23$, $M$ age = 22.29) were recruited for the study and results revealed that exposure to father-to-mother IPV predicted DV victimization, and that the interaction between exposure to father-to-mother IPV and identification with maternal figure predicted DV victimization. Conversely, identification with a parental figure negatively predicted DV victimization. The results revealed that SIP processes did not mediate the relationship for exposure to parental IPV on DV perpetration, however, SIP process of aggressive responding was positively associated with exposure to father-to-mother IPV and DV perpetration. Next, interaction of exposure to mother-to-father IPV and positive affective arousal is associated with less severe SIP hostile attributions and less positive evaluations of aggression responses. Finally, implicit cognition did not mediate exposure to parental IPV and DV perpetration.
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CHAPTER 1
INTRODUCTION

Dating violence (DV) among college students is a pervasive problem that has far-reaching consequences on society, with up to 22% of college students estimated to be victims of dating violence each year (Straus, 2004). 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). 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). In more recent years, 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, or derogatory verbal terms) – and sexual abuse that includes, but is not limited to, sexual coercion, rape, and molestation (Carr & VanDeusen, 2002).

Intimate relationship violence has detrimental effects on the victims’ physical and mental health. Physical violence from intimate partner violence (IPV) 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). 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 IPV (Gibb, Abramson, & Alloy, 2004). The present study investigated the effects of childhood exposure to IPV on DV victimization and perpetration by studying the reflective, deliberative socio-cognitive processes (also known as explicit
processing) involved in the reformulated social information processing (SIP) model (Crick & Dodge, 1994), and the automatic and implicit cognitive processes that are associated with aggressive thoughts (Jouriles, Mueller, Rosenfield, McDonald, & Dodson, 2012; Richetin & Richardson, 2008). In addition, the study examined the role of emotional arousal during SIP processes and the effects of DV on the participants’ identification with parents who instigated IPV.

Overview of Dating Violence

One research study that analyzed data from the National Violence Against Women Survey (NVAWS) showed that psychological abuse alone was detrimental to physical health outcomes (Coker et. al., 2002). Likewise, victims of DV engaged in more health-risk behaviors; college men who were DV victims often consumed alcohol before age of 15, 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 in high school, and suffered assaults from peers while under the influence of alcohol (DuRant et. al, 2007). DV was found to be a strong predictor of marital violence in a navy recruit sample (White, Merrill, & Koss, 2001). Violent behaviors that surfaced in dating relationships were often present in later marital relationships (O’Leary, et. al, 1989).

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.
At least one out of three college couples have experienced violence in their dating relationships (Lewis & Fremouw, 2001), and 10 – 50 % of young adults have been victims of DV (Harned, 2002; Mulford & Giordano, 2008). 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.

The varying nature of romantic relationships (casual dating, in a committed relationship, cohabiting, married, etc.) in a college student sample may make it difficult to clearly delineate between violence between dating couples (DV), and violence between long-term or married couples (IPV). The current study focused on studying intimate relationship violence (DV) with college students who also identified as emerging adults, as it is hypothesized that most college students are in casual dating relationships, or in the beginning stages of committed relationships. Moreover, it is important that research address the issue of DV among college students, as violent behavioral patterns in current intimate relationships may become enduring features in future romantic relationships (Murphy & O’ Leary, 1989; Straus, 2004).

Aggression and Violence

To further explicate and elaborate on the definition of aggression and the actions associated with aggression, acts of aggression are generally classified into two categories; acts of aggression that are considered deliberative and controlled, versus acts of aggression that are more automatic and impulsive (Anderson & Bushman, 2002; Berkowitz, 1993; Caprara, Perugini, & Barbaranelli, 1994; Richetin & Richardson, 2008). Violence is inevitably linked to aggression, and human aggression is any behavior directed towards another individual that is
carried out with the *proximate* (immediate) intent to cause harm. In addition, the perpetrator must believe that the behavior will harm the target, and that the target is motivated to avoid the behavior (Anderson & Bushman, 2002; Baron & Richardson, 1994; Berkowitz 1993; Geen, 2001). *Violence* is aggression that has extreme harm as its goal (e.g., death). Violence is considered aggressive, but in many instances, acts of aggression are not necessarily violent. For example, one child pushing another off a tricycle is an act of aggression but might not be considered an act of violence (Anderson & Bushman, 2002).

Through the theory of cognitive neoassociationist model, Berkowitz (1993) distinctively classified aggression as instrumental versus hostile. *Hostile aggression* has been historically conceived as impulsive, thoughtless (i.e., unplanned), and driven by anger acts, with the ultimate motive of harming the target, and occurring as a reaction to some perceived provocation. It is sometimes called affective, impulsive, or reactive aggression. Subsequently, it has been theorized that exposure to family violence may activate psychological responses to react in perceived hostility in an impulsive and aggressive manner (Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004). *Instrumental aggression* is conceived as a premeditated means of obtaining some goal other than purely on harming the victim, and being proactive rather than reactive (Berkowitz, 1993; Geen, 2001). Although acts of violence from both types of aggression involve harm to recipients, instrumental aggression is not usually reactive but action-oriented to achieve a desired outcome. For example, an individual reacting out of pure anger with the intention of hurting another person is different from an individual who reacts in anger in order to intimidate and ultimately control another person through coercion. The following section examines the impact of witnessing aggression at an early age, and the relation between exposure to parental IPV and development of current DV.
Exposure to Intimate Partner Violence (IPV) and Dating Violence (DV)

Varying theoretical perspectives on violence, such as 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 Bandura’s social learning theory (1971) emphasized overt aggressive behaviors as a result of modeling aggressive behaviors from other individuals. Subsequently, Anderson & 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. For instance, Steinmetz and Straus (1974) predicted parental IPV was an environment that promoted violence for its offspring, and speculated that exposure to violence between parents is a primary factor for their offspring’s relationship violence. Rouse (1991) further described this as an intergenerational transmission of violence; children who endured severe IPV are at an increased risk of inflicting violence on their dating partners as adults.

All 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 IPV between primary caregivers. Attachment theory (Bretherton, 2005) and coercion theory (Snyder, Reid, & Patterson, 2003) likewise emphasize the centrality of family experiences in children’s development of general styles of interacting with others. Research studies demonstrated strong associations between exposure to parental/caregivers’ IPV as children and involvement in DV during young adulthood (Bernard & Bernard, 1983; Gover, Kaukinen, & Fox, 2008; Jouriles,
Similarly, Carr and VanDeusen (2002) reported exposure to interparental conflict a strong precursor to college DV. In their pioneering work on spousal abuse and family violence, Steinmetz and Straus (1974) had college freshmen answer questionnaires about bearing witness to interparental violence during their high school senior year. The results indicated that at least 16% of the students reported witnessing intimate partner violence (IPV) at home in that one year alone. In another study, over half the high school students who reported witnessing interparental violence were involved in conflictual and violent relationships (O’keeffe et al., 1986). The definition of exposure to interparental IPV is not limited to children physically witnessing acts of 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).

Exposure to parental IPV appeared to be significantly associated with teen DV perpetration (Jouriles et al., 2012). Stith et. al. (2000, for a review) examined the relationship between family of origin violence and intimate partner violence in a meta-analytical study. The authors reported significant findings from various studies on children witnessing or experiencing family violence/IPV and subsequent involvement in intimate relationship violence. Additionally, significant associations were found between childhood exposure to parental IPV threat of weapons and actual witnessing of weapons and subsequent weapon use in adulthood intimate relationship violence (Murrell, Merwin, Christoff, & Henning, 2005).

Researchers have described a wide range of developmental precursors to aggressive behavior, such as exposure to violence in familial environments or aggression from peers that
appeared to prompt young adults to display specific aggressive behaviors in certain social situations (Dodge, Coie, & Lynam, 2006, for a review). The underlying mechanism of childhood exposure to IPV and becoming violent perpetrators is an intricate process and involves multiple levels in a theoretical information processing model. 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 (DeMaris, 1990; Langhinrichsen-Rohling et al., 1995, MacEwen, 1994; Smith & Williams, 1992; Sugarman & Hotaling, 1989). Specifically, exposure to family aggression and violence is a strong predictor of later relationship abuse (Carter, Stacey, & Shupe, 1988; Forsstrom-Cohen & Rosenbaum, 1985; Kaufman & Zigler, 1987; Rosenbaum & O’Leary, 1981; Ulbrich & Huber, 1981).

Despite the findings from these studies that demonstrated a strong association between familial exposure to IPV and violence in later relationships, not all children who have been exposed to interparental violence end up being perpetrators or victims of violence in intimate relationships. Therefore, this study investigated the phenomenon of exposure to IPV and subsequent occurrences of DV through the reformulated model of social information processing (SIP).

Reformulated Model of Social Information Processing (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). A derivative of the social cognitive model, the reformulated social information processing (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, &
Based on the theory of 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, before a detailed elaboration and application of the model in relation to IPV and DV.

For this model, the authors explained that the maladjusted child processes the information in a social (possibly aggressive) situation 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 (see Figure 1), 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).

*Figure 1.* A reformulated social information processing model of children’s social adjustment.

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 (between the ages of 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 in an open-ended fashion reasons for their specified course of actions (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; 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 is measured by a longitudinal study of 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). For instance, one of the earliest SIP research 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 discovered 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 (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 research study discovered that biases and deficits were found in within-context social relationships, but not in between-context social situations. For instance, individuals 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).

Recent studies replicated the association between SIP processes and aggression by
studying adolescents’ relationship violence (Calvete & Orue, 2013; Jouriles, McDonald, Mueller,
& Grych, 2012) 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).

Exposure to violence is intricately linked with the development of aggressive social-
cognitive processes, hostile biases, and deficits in rational decision-making actions (Brendgen,
Vitaro, Tremblay, & Wanner, 2002). 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). For instance, 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 study was conceived within this conceptualization, applying a situation-specificity
perspective to understanding the role of antecedents and the underlying social-cognitive mechanisms of young adult dating violence. The premise of this study was based on investigating the context of violence within intimate relationships, and whether exposure to interparental IPV predicts DV. Therefore, participants who witnessed IPV from their parents are more likely to have experiences of DV if hostile attributional biases are present for the SIP vignettes on ambiguous cues in intimate relationships, but not necessarily other relationships.

Research studies conducted with young adults on relationship violence utilized similar research methodology by engaging participants in hypothetical situations with open-ended questions and questions with selected response options (Pettit et al., 2010). Subsequently, the component of emotional arousal was given a renewed emphasis emotional on the reformulated SIP model (Crick & Dodge, 1994; Lemerise & Arsenio, 2000). Namely, encoding and representing other people’s signs of emotions (e.g., interpreting that the other person is pleased about what happened), one’s own mood (e.g., feeling angry), and emotional regulation are considered important aspects of SIP (Nas, Castro, & Koops, 2005), and will be explained in the subsequent steps in the following paragraphs.

**Emotional Arousal in the Model of Social Information Processing (SIP)**

At Step 1 (encoding of cues), emotional arousal (e.g., as measured by an increase in heart rate) may serve as an internal cue that is encoded. At Step 2 (interpretation), the type of emotions present may influence the individual’s interpretation of a particular situation. For example, negative feelings (e.g., anger or anxiety) experienced when meeting a peer for the first time may lead to an immediate dislike of the peer. Likewise, prior-existing arousal states can alter accuracy in making social interpretations, such as when fatigue leads to errors. Also, the interpretation itself may lead to the experience of affect. For example, an interpretation of an individual’s intent as hostile may lead to feelings of fear or anger. At Step 3 (goal clarification), emotions
may enhance or inhibit a motivation to formulate or pursue particular goals. In fact, the reformulated model framed goal clarification as largely an arousal-regulating process. For example, feelings of anger toward a peer provocateur might serve as the impetus for a retaliatory goal, or feelings of anxiety might lead to the generation of an avoidant goal (i.e., to remove oneself from the anxiety-provoking stimulus) (Crick & Dodge, 1994; Nas et al., 2005).

Conversely, it is also possible for goals to influence affect. For example, the formulation of an avoidant goal might itself function to reduce anxiety (i.e., by decreasing emotional arousal). At Step 4 (response access), accessing particular behaviors may lead to changes in an emotional state. For example, accessing the response to retaliate might result in feelings of relief for a child who is being victimized by a peer. Specifically, emotions may influence the types of responses that individuals accessed. For example, feelings of fear may result in individuals accessing behavioral responses that involve either getting help or running away. Next, at Step 5 (response decision), one’s perceived emotional reactions to one’s behavior may serve as outcome expectations, and these expectations may be used to evaluate accessed responses. For example, expecting a confrontational behavior to result in an angry response from one’s boss may result in a negative evaluation of that behavior, or expecting an altruistic response to make one feel good may result in a relatively positive evaluation of that behavior.

One of the working hypotheses of this study evaluated the role of emotional arousal (or lack of) during the SIP vignette task in the research study. Participants recruited in the study will be asked to rate specific emotions (anger and embarrassment) immediately after they read ambiguously hostile relationship scenarios, and also complete a brief self-report measure on their current emotional states during the study. We hypothesized that the presence of negative emotional arousal states from the participants during the study will moderate the relationship between exposure to IPV and SIP deficits and biases.
Automatic (Implicit) Social Information Processing of Aggression

Although the SIP model explained aspects of *instrumental aggression* in DV (e.g. a DV perpetrator using intimidating techniques and violence to exert control over partner because as a child, one has observed a primary caregiver using aggression to subdue intimate partners), this theory may not fully explicate the processes of *instrumental aggression* in dating relationships when the benefits/reinforcements of aggressive acts are not in place, and which in fact the violence in dating relationships could bring more harmful consequences than benefits (e.g. partner terminating the relationship due to violence, or threatening to call authorities to arrest or subdue perpetrator).

In relation to the explanations of aggression and violence, the majority of SIP research tapped into controlled, conscious and reflective thought processing while neglecting the fact that many processes of social information in real life are automatic, below conscious thoughts, and reflexive in nature (Linder, Werner, & Lyle, 2010).

Metcalfe & Mischel (1999) suggested the existence of two interrelated memory and cognitions systems, “hot and cool” systems, are involved with aggression. Specifically, information stored in the cool system is typically narrative and episodic (e.g., autobiographical events) and is associated with a neutral mood. The cool system is also responsible for other cognitive processes such as problem solving, metacognition, planning, and comprehension that are crucial for non-impulsive and self-controlled behaviors (Metcalfe & Mischel, 1999). Therefore, responses initiated by the cool system are generally reflective and planned.

The hot system stores the emotionally salient aspects of events that involve less elaborated memories. The hot system is important for rapid automatic responses that are more inflexible, stereotyped, and primarily affective. The two systems do not directly lead to actions or responses, but rather lead to the mobilization of a response program of approach or avoidance
behavior by the hot system or to the elaboration of a response program by the cool system. Moreover, the hot and cool systems work in parallel but are not independent. For example, the activation of emotional memories would activate hot nodes and lead to readiness to aggress. But the activation of facts and metacognition would lead to more self-control and less impulsive behavior (Metcalf & Mischel, 1999).

Hence, a research study looking into both automatic (implicit) and controlled (explicit) SIP discovered that these are two distinct processes that contributed to aggressive tendencies (Linder et al., 2010). One methodology for measuring implicit social information processing was reading speed on target sentences in vignettes that contained ambiguous scenarios. These vignettes contained scenarios that are meant to invoke discomforting emotions in participants on matters related to intimate romantic relationships (e.g. partners behaving flirtatiously with another individual). Faster reading speed, which taps into implicit processing, was associated with higher scores on relationship aggression, while acceptance of normative beliefs about relationship aggression taps into explicit SIP processing. The study discovered that both the implicit and explicit measures predicted relational aggression tendencies. Similarly, another study documented that aggressors of emotionally abusive intimate relationships were found to have increased implicit aggression levels, particularly for female perpetrators (Ireland & Birch, 2013).

Another study that investigated implicit cognitions of aggressive tendencies utilized another implicit test: the word fragment completion task. In this study, the level of aggression in automatic cognitions, as measured through the number of aggressive words generated, was positively associated with dating violence perpetration after accounting for teens’ self-reported explicit attitudes about dating violence (Jouriles et al., 2011). In the word fragment completion task (Anderson et al., 2004; Jouriles et al., 2011; Roediger III, Weldon, Stadler, & Riegler, 1992),
participants were exposed to a list of incomplete words (i.e. KN_ _ _, R_PE, ANG_ _) which contained strategically placed missing letters that could be completed to make more than one word. They were then told to complete the task as soon as possible and were given a time limit in which it was impossible to complete the entire list. The entire list contains 98 word fragments, 49 of the items can yield an aggressive word when completed. An accessibility of aggressive thoughts score is then calculated by dividing the number of aggressive word completions with the total number of completions (Anderson et al., 2004). Results have indicated that individuals who were exposed to aggressive content, such as violent video games, were more likely to produce aggressive words, that indicated a higher accessibility of aggressive thoughts through implicit association priming, as compared to individuals who were not exposed to violent content (Anderson et al., 2004; Anderson, Carnagey, & Eubanks, 2003).

The utilizations of both explicit and implicit measures in this study may allow for alternative ways to measure the same underlying construct (e.g. cognitions of aggression; Vargas, Sekaquaptewa, & von Hippel, 2007). The importance of measuring implicit processing and aggression is well documented (Bluemke, Friedrich, & Zumbach, 2010; Richetin, Richardson, & Mason, 2010; Todorov & Bargh, 2002). Such processing reflects automatic cognitions that influences behaviors (Hofmann & Friese, 2008; Ireland & Birch, 2013) that may be considered subtle, and generally occur outside of conscious awareness (Faulkner & Foster, 2002; Richetin et al., 2010).

The Integration of Explicit and Implicit Cognitions and Emotional Arousal in the SIP Model

The importance of considering both implicit and explicit cognitions in understanding elevated aggression levels is also well documented at a theoretical level. The integrated model of information processing (Huesmann, 1998), for example, argues for a range of cognitions, such as normative beliefs (i.e., beliefs an individual has which he or she believe others hold as
acceptable), as being essential in increasing propensity to aggress. This model also touches on how the role of implicit cognition parallels explicit cognitions by outlining how cognitions can occur at an automatic level and may not be immediately evident to the individual concerned. They can prime aggressive scripts that, if enacted, increase aggression potential. For instance, Costanzo and Dix (1983) discovered that in some circumstances, qualities of the situational stimulus may prompt “preemptive” or script-based processing, which does not follow rules of formal information analysis. Rather, this processing is rapid, automatic, irrational, and probably classically conditioned. It is processing “without thinking.”

Correspondingly, the cognitive domains that stimulate preemptive processing are hypothesized to be associated with highly emotionally arousing states, such as individuals in intimate relationships experiencing conflicts also tend to experience intense emotionality. Therefore, it is highly likely that elevated aggressions occur under conditions of negative emotional arousal (Dodge & Somberg, 1987), conditions in which a hostile interpretation of a situation has been made (Crick & Dodge, 1992). Therefore, the current research study investigated the impact of emotionality in socio-cognitive processes on aggressive thoughts and behaviors.

Proponents of the reformulated social information processing theory believed that behaviors such as aggression within intimate relationships are influenced by higher-order emotional processing that develops into an internalized pattern of cognitive schema leading to personality trait-like behavioral patterns (Cervone, 1997; Losel et al., 2007; Zelli & Dodge, 1999). For example, a child who has experienced initiating and maintaining relationships will show higher consistency in sustaining meaningful relationships throughout the years, while a child who has been exposed to peer rejection, or family violence, might acquire maladaptive social-cognitive skills (Crick & Dodge, 1994). Theoretically, frequent exposure to IPV will
quicken access to selected cues (e.g. hostility and aggression) in situation-specific domains (e.g. intimate relationships) that develop into a rigid and deep-set pattern of processing information, leading to higher occurrences of DV in adult romantic relationships.

Exposure to IPV during early years could lead to automatic cognitive processing of aggression in which individuals are more likely to process ambiguity in situations by responding to ambiguities with hostility and aggression, hence increasing the likelihood of perpetrating violence against others (Anderson & Bushman, 2002; Crick & Dodge, 1994).

The following section addressed another question of this paper: when children witness IPV, what are the probabilities that they either become perpetrators or victims (or not at all) of intimate relationship violence? Would participants’ increased or decreased identification with parental figures who perpetrate violence predict the likelihood of violence in their intimate relationships? Therefore, the paper studied participants’ relationship with their parental figures and to ascertain the strength and direction of witnessing IPV and DV.

When women are exposed to mother-to-father violence, women’s reports of physical aggression toward their partners increased, while men’s exposure to father-to-mother violence appeared to be a significant risk factor for men’s perpetration of DV (Milletich et al., 2010). Women who had experienced family violence may be more likely to become victims of partner violence (Cappell & Heiner, 1990; Doumas, Margolin, & John, 1994). Jankowski, Leitenberg, Henning, & Coffey (1999) reported that exposure to same-sex parents committing physical aggression toward an opposite-sex parent increased the risk of physical abuse perpetration towards a partner, though Luthra and Gidycz (2006) found that women who were exposed to paternal-to-maternal IPV were three times more likely to perpetrate DV. In contrast, Gover et al. (2008) found that college women who were exposed to childhood paternal IPV were at a greater risk of being physically victimized in dating relationships. Milletich et al. (2010) indicated that
exposure to same-sex parents’ IPV increased the risk for young men’s and women’s DV perpetration, though research literature remains inconclusive on gender-specific modeling of IPV (i.e. Luthra & Gidycz, 2006).

A common perception is that women are typically victims in abusive heterosexual relationships, while men are predominantly perpetrators. Correspondingly, the National Violence Against Women Survey (NVAWS) indicated that women were more likely to report physical, sexual, and power abuse/control from their partners, while men were more likely to report verbal abuse from their partners (Coker, et. al., 2002). However, despite the perception that women are typically victims and that perpetrators tend to be males, research studies have shown that women, especially younger women, could be just as aggressive as men (Harned, 2001; for review, see Hickman, Jaycox, & Aronoff, 2004).

When violence is present in a dating relationship, there is a possibility that relationship violence is mutual; that women are both the perpetrators, and the receiving end, of violence (Arias & Johnson, 1989; Kaukinen et al., 2011; Straus & Gelles, 1990; Whitaker, Haileyesus, Swahn, & Saltzman, 2007). More importantly, within these mutually violent relationships, one research indicated that women reported higher rates of perpetration than victimization (Kaukinen et al., 2011). Another study has discovered that in 70% of individuals of non-reciprocal violence (violence perpetrated by one partner in a relationship) were women (Whitaker et al., 2007). However, men were more likely to inflict injury than women, and reciprocal IPV was associated with greater injury than nonreciprocal IPV regardless of gender of the perpetrator (Whitaker et al., 2007).

Studies have also confirmed that women physically assault their partners at rates that are comparable or higher than their male partners (Archer, 2000; Jenkins & Aubé, 2002; Luthra & Gidycz, 2006). For instance, Luthra and Gidycz (2006) found that 25% of women and 10% of
men from a sample of 200 college students self-reported physical aggression toward a dating partner. Similarly, DuRant et. al. (2007) discovered a higher percentage of young college women reporting DV perpetration than men. In addition, studies of community samples found that a relatively low percentage of women endorsed self-defense as primary motive for aggression (DeKeseredy & Schwartz, 1998; Follingstad, Wright, Lloyd, & Sebastian, 1991). When the variable of self-defense was controlled for, Foshee (1996) discovered that women were still more likely to report DV perpetration. In contrast to popular belief, there are indications that not all female violence is self-defensive (Harned, 2001). Moffitt, Caspi, Rutter, & Silva, (2001) indicated that aggressive women are more likely to select aggressive men and are more likely to use IPV independent of the partners’ response or levels of aggressive tendencies.

Likewise, women’s violent behaviors may have evolved from exposure to intimate partner violence, instead of a stereotypical assumption that men are natural aggressors in intimate relationship violence (Milletich et al., 2010).

Identification with Parent-Perpetrator in Dating Violence

Chapple (2003) proposed that a strong attachment to a parental figure who perpetrates violence predicts DV through the concept of role-modeling theory. The results of the study revealed no interaction between exposure to IPV, parental attachment, and actual offending behavior, but yielded unexpected and intriguing findings: participants who are attached to a violent parent are less likely to perceive themselves perpetrating DV. The surprising results of the afore-mentioned study are crucial for further investigation on the role that parent-child dynamics have on DV.

While Chapple (2003) studied the concept of parent-child attachment in her study, she did not investigate the theory of child-to-parent identification. Specifically, the concept explores the idea of how much alike the participant is with the parent. This study incorporated the concept
of parent-child identification in order to investigate the suggestions that identification with violent parents predict violent behavior, particularly in the context of violence within intimate relationships. This study aimed to understand the social cognitive process that differentiates college students who commit violence in dating relationships and those who do not by studying the effects of exposure to parental IPV and specific identification with the parental figure who perpetrates violence or with the parental figure who is the victim of the IPV.

The Current Study

The current study was guided by several research questions. First, does exposure to IPV between primary caregivers predict perpetration of DV in young adults, and if it appears to, would the frequency of exposure and intensity of the violence exposure be risk factors in the development of DV perpetration? Second, does identification with parents/primary caregivers who perpetrate IPV play a role in their child’s DV perpetration or victimization? Third, do explicit cognitive processes, such as SIP biases in hostile attributions and biases in response evaluation shown on ambiguous dating relationship scenarios, mediate the relationship between exposure to parental IPV and DV perpetration? Fourth, would the presence of emotional arousal moderate the impact of exposure to IPV on SIP processes? Fifth, do implicit knowledge structures that operate automatically and outside conscious awareness mediate exposure to IPV and DV perpetration?

It is hypothesized that exposure to parental IPV will be a significant predictor of DV perpetration. This hypothesis will replicate empirical studies on family violence reinforcing the cycle of violence (Carr & VanDeusen, 2002). Exposure to IPV appeared to increase the strength of association with teen DV perpetration (Jouriles et al., 2012). Stith et al. (2000, for a review) examined the relationship between family of origin violence and intimate partner violence in a meta-analytical study and reported significant findings from various studies on children.
witnessing or experiencing family violence/IPV and subsequent involvement in intimate relationship violence. Levine (2003) found reports of father’s physical aggression and mother’s physical aggression were positively correlated with violence among court-ordered males in outpatient treatment for domestic violence.

In attempting to understand the role, processes, and mechanisms of exposure to parental IPV, parent-child identification, and DV perpetration, we hypothesized that individuals who identified most with the primary caregivers who perpetrate IPV are more likely to be perpetrators of DV, while participants who identified with primary care-givers who were aggressed against have increased risks of being victims of DV. This hypothesis aims to incorporate the concept of parent-child identification in order to investigate the suggestions that identification with violent parents predicts violent behavior, particularly in the context of violence within intimate relationships. For specificity, this study predicts high identification with IPV perpetrator will strengthen the relationship between exposure to IPV and DV perpetration, while low identification with perpetrator will weaken the association between IPV and DV perpetration. In addition, high identification with victims of IPV will strengthen the relationship between exposure to IPV and DV victimization, while low identification with victims of IPV weakens the association between exposure to IPV and DV victimization.

Given the centrality of SIP biases in association with aggressive behavioral outcomes, we hypothesized that exposure to parental IPV predicts SIP hostile attributions and aggressive responses, which in turn predict DV perpetration. Based on the theory of SIP, individuals are more likely to have aggressive responses when interpretations of social environmental cues are selectively biased (Crick & Dodge, 1994; Dodge & Petit, 2003). Individuals who were exposed to IPV might selectively attend to certain cues when they are in romantic relationships, and interpret these cues in a hostile manner.
In addition, the presence of negative affect and emotional reactions are predicted to impact SIP processes (Crick & Dodge, 1994; Nas, et al., 2005). Due to the fact that this study might inadvertently lead to some form of negative emotional response, we included a measure of affect ratings in order to measure the possible influences of emotional arousal during the study. We hypothesized that negative emotional arousal will moderate the relationship between exposure to IPV and SIP processes of hostile attributional biases, aggressive responding, and aggressive response evaluations. We predict that the presence of negative emotional reactions during the SIP vignette task will strengthen the relationship between exposure to IPV and SIP processes.

Similarly, due to the fact that aggressive behaviors may occur without the presence of explicit, controlled, and reflective thought processes (e.g. “heat of the moment” responses), we hypothesized that the association between exposure to IPV and DV perpetration is mediated by implicit knowledge structures (automatic cognitions) that are aggressive in nature.

In summary, the following hypotheses were tested:

1. Exposure to parental IPV is related to more frequent experiences of young adult DV.
2. Identification with the parental figure who is either a perpetrator or victim of IPV moderates the relationship between exposure to IPV and DV perpetration/victimization.
3. Explicit cognitive processes of SIP hostile attributional biases, aggressive responding, and aggressive response evaluations shown during ambiguous dating relationship scenarios will mediate the relationship between exposure to IPV and DV perpetration.
4. Next, we predict that there is a relationship between exposure to IPV and SIP processes of hostile attribution biases, aggressive responding, and aggressive response evaluations. The presence of negative emotional arousal will moderate the relationship between
exposure to IPV and SIP processes of hostile attributional biases, aggressive responding, and aggressive response evaluations on the ambiguous dating vignettes.

5. Implicit knowledge structures that operate automatically and outside of conscious awareness will mediate the relationship between exposure to IPV and DV perpetration.
CHAPTER 2

METHOD

Participants

The necessary sample for detecting a medium effect size with a power of 0.80 at $\alpha = .05$ is 91 (Cohen, 1992). Ninety-four college students from UNT were recruited from undergraduate classes for this study. Only those respondents who have dated/been in a relationship in the past year, or are currently dating/in a relationship were included in the study. Four participants’ responses were excluded from the final analyses after the discovery of invalid responses on validity-check items that were situated strategically within the research items to control for careless responding, and a further five participants’ responses were excluded due to them exceeding the age restriction of the study (participants under the age of 35 were classified as young adults). A total of 85 participants’ responses included in the final analyses (61 women, 23 men, and one identifying as ‘Other’) with ages between 19-31 years ($M = 22.29, SD = 2.60$). Thirty-six participants identified as White/Caucasian Americans, twenty-three as Hispanic/Latino/a, sixteen as African Americans, seven as Asian American/Pacific Islander, and three identified as international students. Three participants identified as from high socio-economic status (SES) background, twenty-four identified as upper-middle class, forty-one identified as middle class, twelve identified as lower middle class, and five identified as lower/welfare class. Thirty-seven participants claimed that their biological parents were still married, there were thirty-one sets of divorced parents, four separated, four reported that their fathers are deceased, three reported that their mothers are deceased, and one reported that both parents are deceased. Additionally, 66 of the participants stated they are attracted to individuals from the opposite sex, ten of them stated that they are sexually attracted to both sexes, eight of them explained that they are primarily attracted to same-sex individuals, and one participant
identified as asexual.

Procedure

Participants were recruited between May to July 2014 from UNT undergraduate classes through in-class announcements and written fliers. As compensation for their efforts, participants were given the option of receiving extra credit from their respective instructors or be entered into raffle draw for monetary compensation ($50). None selected the raffle draw as compensation for their participation. Interested participants were instructed to show up at a designated research room during selected dates and times and completed a word-completion task on paper and answered questionnaires using an online survey platform (Qualtrics). Research assistants and lab proctors were present to inform participants of their rights and to receive signed informed consent forms. Additionally, lab proctors facilitated the procedures during the on-going study.

The order of the task and measures administered to the participants are as listed:

1. Word Completion Task - Aggression in automatic cognitions (Anderson et al., 2003; Jouriles et al., 2011)
2. Social-Information Processing (SIP) vignettes in Young Adults for Ambiguous and Challenging Situations in Romantic Relationships (Pettit et al., 2010)
3. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988)
4. Parental Environmental Questionnaire (PEQ; Elkins, McGue, & Iacono, 1997)
5. Conflict Tactics Scale—Revised (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996).
6. Adult-Recalled Version of Conflict Tactics Scales Form (CTS2-CA; Straus, Hamby, Finkelhor, Boney-McCoy, & Sugarman, 1995)

Word Completion Task - Aggression in automatic cognitions (Anderson, Flanagan, Carnagey, Benjamin & Eubanks, 2002) (Refer to Appendix A for a copy of the task)
Implicit knowledge structures in aggressive tendencies were measured by an implicit cognition word-completion task. Participants were instructed to work as quickly as possible in filling in missing letters for 98 word fragments. The following instructions were presented: “I will give you a list of 98 words. Each word will be missing 1 or more letters. Your job is to fill in the missing letters to make a complete word. You will have 5 minutes; try to do as many as you can in the 5 minutes. You probably won’t get all 98 done. The idea is just to do as many as you can, so don’t spend too much time on any one word”.

Each item consist of a word that was missing one or more letters (e.g., “h __ t”) and could be correctly completed in multiple ways (e.g., “hat”, “hit”, “hot”, or “hut”). The task was designed so that participants would complete the task in a speeded manner. Due to the time constraint, participants have little time for reflection and their responses were interpreted as a measure of automatic cognition and implicit knowledge structures about aggressive tendencies. The responses were coded with the Word Count Task coding guide (Anderson, Carnagey, & Eubanks, 2003), and each response was coded as neutral, ambiguous, aggressive, or non-word. Two trained raters coded the responses on this task, with high inter-rater consistency (κ = .98). An accessibility of aggressive thoughts score is then calculated by the aggregate of total number of aggressive words over total completed words.

**SIP in Young Adults for Ambiguous and Challenging Situations in Romantic Relationships (Pettit, Lansford, Malone, Dodge, and Bates, 2010)** (Refer to Appendix B for a copy of the vignettes) Explicit knowledge structures of violence in intimate relationships were measured by five vignettes describing challenging situations in romantic relationships (e.g., You are at a gathering with a group of friends and learn that your girlfriend or boyfriend and one of the people at the gathering used to be a couple; they spend most of the night talking with each other.). The vignettes were developed by Coccaro, Noblett, and McCloskey (2009), and were
adapted by Pettit, Lansford, Malone, Dodge, and Bates (2010) for their research study.

Participants were asked to imagine that they were the individual in the vignette who had been provoked. The following instructions were presented: “You will read several stories about dating relationships and answer some questions after reading each one. While you are reading the vignettes and answering the questions, please imagine yourself in a possible dating situation”. Following each vignette, participants were asked a series of questions to assess their SIP-related processes on 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 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 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). Responses were averaged across vignettes to create an index of aggressive responding in romantic relationships. Third, participants were asked several questions regarding their thoughts about hypothetical aggressive responses that were presented as possible reactions to each vignette: (a) How good or bad do you think this is, as a way to act (1 = very bad, 5 = very good); (b) if you acted this way, how much would the other person respect you (1 = very much, 5 = not at all; reverse coded); (c) how would you feel about yourself if you acted like this (1 = very bad, 5 = very good); and (d) how much would other adults like you if they saw you acting like this (1 = very much, 5 = not at all; reverse coded). Responses were averaged within and across vignettes to create an index of aggressive response evaluations in romantic relationships. The internal consistencies across vignettes’ responses were reported from $\alpha = .68$ to .89 (Pettit, Lansford, Malone, Dodge, and Bates, 2010). For the current study, internal consistencies for hostile attributions, aggressive responding, and
aggressive responses evaluations are $\alpha = .81, .91, \text{ and } .75$, respectively.

The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) (Refer to Appendix C for a copy of the scale) The 20-item Positive and Negative Affect Schedule (PANAS), developed with a sample of undergraduate students and validated with adult populations is comprised of two mood scales, one measuring positive affect and the other measuring negative affect. Each item is rated on a 5-point scale ranging from $1 = \text{very slightly or not at all}$ to $5 = \text{extremely}$ to indicate the extent to which the respondent felt in the indicated time frame. The authors who developed the scale have used the scale to measure affect at current moments, current day, the past few days, the past week, the past few weeks, the past year, and generally (on average). For the purpose of this study, the instructions on the scale asked participants their current affect (during the study).

The instructions have the following statement: “This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment”. Examples of the items are “Distressed”, “Excited”, “Guilt”, “Enthusiastic”, etc. Watson et al. (1988) reported Cronbach’s alpha coefficients for the various time reference periods ranging from .86 to .90 for the Positive Affect scale and .84 to .87 for the Negative Affect scale. Test-retest correlations for an 8-week period ranged from Pearson’s correlations of .47 to .68 for Positive Affect, and .39 to .71 for Negative Affect (Watson et al., 1988). For the current study, internal consistencies for Positive Affect and Negative Affect are $\alpha = .90$ and $\alpha = .91$, respectively.

Conflict Tactics Scale—Revised (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) (Refer to Appendix E for a copy of the scale) This scale was used to measure DV perpetration and victimization, with participants reporting violence that occurred with any
current or former partner in the past 12 months. The scale consists of 39 item pairs, assessing both positive and negative relationship behaviors that may have occurred in the context of relationship conflict. The paired items ask respondents to report acts that they have committed towards a partner (perpetration), as well as acts committed by a partner towards them (victimization), during a 1-year period.

The items on the CTS2 could be categorized into five subscales: psychological aggression, physical assault, sexual coercion, injury, and negotiation items (reversed coded). Based on suggestions by the authors of the CTS2, each question is rated on a scale from 0 to 7 respectively (has never happened, has happened but not in the time period in question, happened 1 time in the past year, 2 times in the past year, 3–5 times in the past year, 6–10 times in the past year, 11–20 times in the past year, and more than 20 times in the past year). The following instruction was presented: “No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please select how many times you did each of these things in the past year, and how many times your partner did them in the past year. If you or your partner did not do one of these things in the past year, but it happened before that, select has happened but not in the time period in question”.

The items of each of the five scales on the CTS2 appear interspersed throughout the measure, rather than appearing in sets in accord with the various scales. Some of the items are phrased in this manner: “How often did a partner choke you?” and “How often did you slam a partner against a wall?”. The measure could be scored as a whole by averaging the 39 items to come up with a mean score, or averaged separately within the subscales for different aspects of
relationship violence. The higher the mean scores, the higher frequency of relationship violence. Internal consistencies for the subscales ranged from (α = 0.79) to (α = 0.95) (Straus, et al., 1996). Stability of report for the scale using test-retest reliability 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). For the current study, Cronbach alphas are reported for participant’s Negotiation scale (α = .87) and current or recent partner’s Negotiation (α = .86), Psychological Aggression scale on perpetration (α = .81) and victimization (α = .85), Physical Assault scale on perpetration (α = .87) and victimization (α = .86), Sexual Coercion scale on perpetration (α = .62) and victimization (α = .69), and Injury scale on perpetration (α = .72) and victimization (α = .60).

**Adult-Recalled Version of Conflict Tactics Scales Form (CTS2-CA; Straus, Hamby, Finkelhor, Boney-McCoy, & Sugarman, 1996)** (Refer to Appendix F for a copy of the questionnaire) In order to assess exposure to parental IPV, the revised CTS2 measure was used in the current study. Questions are asked in item pairs so that participants were able to report mother-to-father violence and father-to-mother violence. The following instructions were listed: “No matter how well parents get along, there are times when they disagree, get annoyed with each other, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Parents also have many different ways of trying to settle their differences with each other. This is a list of things that might happen when your parents had differences or were angry with each other. If your mother and father (or stepmother or stepfather) were not living together in the years (13 – 17 years old) you lived at home with your parents, please answer about your mother (or maternal caregiver) and the man/partner she was living with then. If you were living with your father or step father, but not your mother, please answer about your father (or paternal caregiver) and the woman/partner he was living with then. If you were living with both your mother and father, please answer about both.”
with. Please select how many times each of them did the things on this list in the years (13 – 17 years old) you lived at home with them. If a parent did not do one of these things in the last year you lived at home with them but it happened some other year before or after that, select this did not happened during the years mentioned but it happened before or after the time period”.

Sample items include: “Father slapped mother” and “Mother pushed or shoved father.” Respondents indicated how often each of their parents performed these specific types of aggression from: 0 = never, 1 = happened one time OR has happened, but not in the time period in question, to 6 = more than 20 times. As suggested by Conflict Tactics Scales Form Straus (1990), the frequency of acts was scored as follows: (0 = has never happened, 1 = happened 1 time OR has happened, but not in the time period in question, 2 = 2 times, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–20 times, or 6 = more than 20 times). Two mean scores were generated (mother-to-father violence and father-to-mother violence); higher mean scores represented greater exposure to parental violence. Cronbach’s alphas for the CTS2-CA were reported as .90 for mother-to-father violence and .93 for father-to-mother violence (Milletich, Kelley, Doane, & Pearson, 2010). For the current study, Cronbach alpha’s are reported for mother’s Negotiation (α = .92) and father’s Negotiation (α = .93), Psychological Aggression scale on mother-to-father perpetration (α = .85) and father-to-mother perpetration (α = .86), Physical Assault scale on mother-to-father perpetration (α = .92) and father-to-mother perpetration (α = .95), and Injury scale on mother injury (α = .83) and father injury (α = .54).

**Parental Environment Questionnaire (PEQ; Elkins, McGue, & Iacono, 1997)** (Refer to Appendix I for a copy of the questionnaire) The Parental Environment Questionnaire (PEQ; 42 items) was developed by researchers involved in the Minnesota Twin Family Study (MTFS) to assess specific parent-child relationships. The PEQ was developed because few measures of parent-child relationships exist that have parallel parent and child forms or allow for the
assessment of multiple parent-child dyads (Miller & Hauser, 1989). This self-report questionnaire obtains mother, father, and child reports of each child’s relationship with each parent, making it possible to determine how each family member perceives his or her relationship with other family members. For the purpose of this study, we utilized only the child report of child’s relationships with each parental figure.

Participants completed two sets of ratings on the same items, one for his/her relationship with his/her mother and one for his/her relationship with his/her father. Items were essentially the same for both parents, with alterations in wording appropriate for particular raters. For example, for one of the Conflict with Parent items, the child rates “My mother/father often criticizes me”. During the PEQ’s development, factor-analytic results were used to reduce its length from 93 to 42 items per relationship. Internal-consistency reliabilities were adequate for both parental and child data. The following instructions are listed: “Please respond to the items to the best of your beliefs based on your relationship with your father/mother or the adult male/female figure who was most present for the first 17 years of your life”. The internal consistency reliabilities for the five scales (Conflict With Parent, Involvement With Parent, Son’s Regard for Parent, Parent’s Regard for Son, and Structure) ranged from .51 to .87 (Elkins, McGue, & Iacono, 1997). For the purpose of this study, we utilized the subscale of Child’s Regard for Parent (eight items), with internal consistencies reported as (α = 0.84) for participants’ report on maternal figures, and (α = 0.87) for paternal figures (Elkins, McGue, & Iacono, 1997). For this current study, internal consistencies for Child Regard for Father and Mother are α = .95 and α = .93, respectively.
Data Analysis Plan

Descriptive Analyses

Participants’ responses were entered into the Statistical Package for the Social Sciences (SPSS) software program to be analyzed. Demographic details were adequately coded and labeled for the convenience of descriptive data analyses. The dataset was visually inspected for data entry errors and was amended as necessary. Graphs, frequency tables, and descriptive analyses were presented in order to detect non-normality in the sample distribution such as bi-modality, skew, and kurtosis. Non-normality in the variables might be addressed through transformation methods, such as loglinear transformation or bootstrapping methods, in order to redistribute the data points in the dataset. Bivariate associations between the hypothesized variables and non-hypothesized variables (e.g. demographic information, other forms of tumultuous relationships, etc.) will be examined for redundancy and multicollinearity. If such relationships are found, statistical controls will be applied to hypotheses-testing analyses.

Hypotheses-Testing Analyses

Hypothesis 1: Exposure to parental IPV is related to more frequent experiences of young adult DV. This hypothesis was tested by using simple linear regression analyses in ascertaining the relationship between exposure to parental IPV and DV perpetration. Hypothesis 1 will be supported if the effect size is significant with a $p < .05$.

Hypothesis 2: Identification with the parental figure who is either a perpetrator or victim of IPV moderates the relationship between exposure to IPV and DV perpetration/victimization. This hypothesis was tested using moderation analyses (Baron & Kenny, 1986), with identification-with-parents as a moderator for the relationship between exposure to IPV and DV perpetration. This hypothesis is supported if high identification with the IPV perpetrator parent significantly ($p < .05$) increases the strength of the relationship between exposure to IPV and DV
perpetration, while low identification with perpetrator significantly weakens the association between IPV and DV perpetration. Similarly, this hypothesis is supported if high identification with the parental victim of IPV significantly strengthens the relationship between exposure to IPV and DV victimization, while low identification with the victim of IPV significantly weakens the association between exposure to IPV and DV victimization.

Hypothesis 3: Explicit cognitive processes of SIP hostile attributional biases, aggressive responding, and aggressive response evaluations shown during ambiguous dating relationship scenarios will mediate the relationship between exposure to IPV and DV perpetration. This hypothesis was tested through a mediation model analysis (Baron & Kenny, 1986). Hypothesis 3 would be supported if the relationship between exposure to IPV and DV perpetration is fully mediated by SIP hostile attributions, aggressive responding, and aggressive response evaluations, and this hypothesis would be partially supported if the relationship between exposure to IPV and DV perpetration is partially mediated by the afore-mentioned SIP processes.

Hypothesis 4: The presence of negative emotional arousal will moderate the impact of exposure to IPV and SIP processes of hostile attributions, aggressive responding, and aggressive response evaluations. Hypothesis 4 was tested using Baron & Kenny’s (1986) moderation model analyses, and would be supported if the presence of negative emotional reactions during the SIP vignette task strengthens the relationship between exposure to IPV and SIP processes, while positive affect weakens the relationship between exposure to IPV and SIP processes.

Hypothesis 5: Implicit knowledge structures that operate automatically and outside of conscious awareness will mediate the relationship between exposure to IPV and DV perpetration. This hypothesis was tested using Baron & Kenny’s (1986) mediation model analyses. Hypothesis 5 would be supported if implicit cognitions of aggression fully mediated
the relationship between exposure to IPV and DV perpetration, and is partially supported if implicit cognitions partially mediated exposure to IPV and DV perpetration.
CHAPTER 3

RESULTS

Descriptive Analyses

The following table shows the descriptive results of the following predictor variables: exposure to mother-to-father violence and father-to-mother violence (exposure to IPV) as depicted in the Revised Conflict Tactic Scales – Adult Recall Version (CTS2-CA) (Straus et al., 1996); SIP’s mean scores of hostile attributions, aggressive responding, and evaluations of aggressive responding as depicted in SIP vignettes of ambiguous romantic relationships (Pettit et al., 2010); emotional intensity during the study as depicted in the Positive and Negative Affect Schedule (PANAS) measure (Watson et al., 1988); identification with maternal and paternal figures as depicted in the Parental Environmental Questionnaire (PEQ)’s subscale of Regard for Parent (Elkins et al., 1997); and implicit cognitions of aggression as depicted in the implicit Word Completion Task (WCT) (Anderson et al., 2002). The outcome variables of DV perpetration and victimization are depicted in Revised Conflict Tactic Scales (CTS2) (Straus et al., 1996).

Table 1: Descriptive results of the predictor and outcome variables.

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Means (SD)</th>
<th>Range</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure to IPV (CTS2-CA)</td>
<td>Mother-to-father</td>
<td>1.24 (.77)</td>
<td>0 – 4.20</td>
</tr>
<tr>
<td></td>
<td>Father-to-mother</td>
<td>1.38 (.99)</td>
<td>0 – 4.97</td>
</tr>
<tr>
<td>SIP Processes (Ambiguous Young Adults)</td>
<td>Hostile Attributions</td>
<td>2.80 (.70)</td>
<td>1.20 – 4.80</td>
</tr>
<tr>
<td></td>
<td>Aggressive Responding</td>
<td>2.16 (.82)</td>
<td>1.00 – 4.00</td>
</tr>
<tr>
<td>Relationships Vignettes</td>
<td>Evaluations of Aggressive Responding</td>
<td>2.39 (.27)</td>
<td>1.77 – 3.09</td>
</tr>
<tr>
<td>Identification with Parental Figures (PEQ)</td>
<td>Maternal Identification</td>
<td>3.54 (.56)</td>
<td>1.00 – 4.00</td>
</tr>
<tr>
<td></td>
<td>Paternal Identification</td>
<td>3.27 (.78)</td>
<td>1.00 – 4.00</td>
</tr>
<tr>
<td>Emotional Intensity (PANAS)</td>
<td>Positive Affect</td>
<td>3.00 (.97)</td>
<td>1.00 – 5.00</td>
</tr>
<tr>
<td></td>
<td>Negative Affect</td>
<td>1.59 (.76)</td>
<td>1.00 – 4.20</td>
</tr>
</tbody>
</table>

38
The measures of exposure to parental IPV (CTS2-CA), identification with parental figures (PEQ) showed moderate negative skewness, the negative affect of emotional intensity (PANAS-NEG) showed moderate positive skewness, and DV perpetration and victimization (CTS2) showed moderate positive skewness, while the explicit measures of aggression (SIP vignettes) and implicit measure of aggressive cognition (WCT) showed mild positive skewness.

Between-group analyses were utilized to determine if there were group differences for
predictor and outcome variables with respect to participants’ demographic variables. Demographic variables such as gender, ethnicity, sexual orientation, and biological parent relationships were analyzed for possible group differences and no significant differences were found.

Using analysis of variance (ANOVA) to study group differences of SES level by DV victimization, the result was significant with $F(4, 80) = 2.99, p < .05$, with upper class ($n = 3, M = 1.58, SD = 1.38$) differing significantly from middle class ($n = 24, M = .73, SD = .40$). There were no other group differences between SES levels. Additionally, there was significant difference by SES level with exposure to father-to-mother perpetration with $F(4, 80) = 3.63, p < .05$, with post-hoc tests revealing no significant differences between SES levels.

Table 3: Bivariate Associations Between Predictor and Outcome Variables

<table>
<thead>
<tr>
<th></th>
<th>CTS2</th>
<th>WCT</th>
<th>SIP</th>
<th>PEQ</th>
<th>PANAS</th>
<th>CTS2-CA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self</td>
<td>Part</td>
<td>Agg</td>
<td>H.A</td>
<td>A.R</td>
<td>A.R.E</td>
</tr>
<tr>
<td>CTS2</td>
<td>1</td>
<td>.61***</td>
<td>- .01</td>
<td>.18</td>
<td>.32**</td>
<td>.11</td>
</tr>
<tr>
<td>Part</td>
<td>.1</td>
<td>-.09</td>
<td>.15</td>
<td>.11</td>
<td>.14</td>
<td>.02</td>
</tr>
<tr>
<td>WCT</td>
<td>Agg</td>
<td>1</td>
<td>.10</td>
<td>.08</td>
<td>-.02</td>
<td>.00</td>
</tr>
<tr>
<td>SIP</td>
<td>H.A</td>
<td>1</td>
<td>.53***</td>
<td>.36**</td>
<td>.09</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>A.R</td>
<td>.1</td>
<td>.43***</td>
<td>.23*</td>
<td>-.10</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>A.R.E</td>
<td>.1</td>
<td>-.03</td>
<td>-.02</td>
<td>-.06</td>
<td>.22*</td>
</tr>
<tr>
<td>PEQ</td>
<td>M</td>
<td>1</td>
<td>.37***</td>
<td>-.04</td>
<td>-.27*</td>
<td>-.54***</td>
</tr>
<tr>
<td>F</td>
<td>.1</td>
<td>.04</td>
<td>-.32**</td>
<td>-.27*</td>
<td>-.63***</td>
<td></td>
</tr>
<tr>
<td>PANAS</td>
<td>Pos</td>
<td>1</td>
<td>.04</td>
<td>.01</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>Neg</td>
<td>.1</td>
<td>.11</td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTS2-CA</td>
<td>M</td>
<td>1</td>
<td>.51***</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: CTS2 Self = DV perpetration against partner, Part = DV victimization by partner; WCT Agg = Aggression Aggregate; SIP H.A. = social information processing (SIP) hostile attributions, A.R. = Aggressive Responding, A.R.E = aggressive responding evaluations; PEQ (M) = Parental Environment Questionnaire, Regard for Parent (Mother), PEQ (F) = Regard for Parent (Father); PANAS (Neg) = Negative Affect, PANAS (POS) = Positive Affect; CTS2-CA (M) = Exposure to mother-to-father parental IPV, CTS2-CA (F) = Exposure to father-to-mother
According to the bivariate analyses, there exists a significant association between acts of participants’ perpetration and victimization. Similarly, the analyses reveal a significant association between mother-to-father and father-to-mother IPV. Exposure to father-to-mother IPV is associated with victimization in current or recent intimate relationships. Additionally, participants’ victimization in a current or recent relationship is negatively associated with identification with paternal figure and positively associated with negative affect experienced during the study. On the ambiguous SIP vignettes, hostile attributions are associated with aggressive responding and positive evaluations of aggressive responding. As expected, aggressive responding on the vignettes was also associated with positive evaluations of aggressive responding. High aggressive responding scores were positively associated with high regard for and identification with paternal figure, and negatively associated with exposure to father-to-mother IPV. The results also revealed a positive correlation between negative affect and positive evaluations of aggressive responding on the vignettes. Having a positive identification with a maternal figure is associated with positive identification with a paternal figure. In addition, positive identification with maternal figure is negatively associated with negative affect during the study, and negatively correlated with mother-to-father IPV. Having a strong identification with a paternal figure is negatively correlated with negative affect, mother-to-father IPV, and father-to-mother IPV.

**Inferential Analyses**

Hypothesis 1: Exposure to parental IPV is associated with increased experiences of young adult DV. This hypothesis will be tested by using a simple linear regression analysis in ascertaining the relationship between exposure to IPV and DV perpetration. Hypothesis 1 will be supported if the effect size is significant with a $p < .05$. 

parental IPV

$* = p < .05$, $** = p < .01$, $*** = p < .001$
Table 4. Pearson’s r correlations of Total CTS2 Dating Violence Perpetration and Victimization and CTS2-Adult Recall Version of Mother-to-Father Perpetration and Father-to-Mother Perpetration

<table>
<thead>
<tr>
<th></th>
<th>CTS2 Perpetration</th>
<th>CTS2 Victimization</th>
<th>Mother-to-Father Perpetration</th>
<th>Father-to-Mother Perpetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTS2 Perpetration</td>
<td>1</td>
<td>.61***</td>
<td>.18</td>
<td>.05</td>
</tr>
<tr>
<td>CTS2 Victimization</td>
<td></td>
<td>1</td>
<td>.10</td>
<td>.23**</td>
</tr>
<tr>
<td>Mother-to-Father Perpetration</td>
<td></td>
<td></td>
<td>1</td>
<td>.51***</td>
</tr>
</tbody>
</table>

Note: ** = p < .05, *** = p < .001

Following a regression analysis on exposure to father-to-mother perpetration and current experiences of victimization from intimate partners in recent relationships, the results were significant, $F(1, 83) = 4.32, p < .05$, with exposure to father-to-mother perpetration accounting for 4.9% of variance in victimization in current or recent intimate relationships. Exposure to father-to-mother perpetration is a significant predictor in the model, $B = .11, t(84) = 2.08, p < .05$, and suggests exposure to father-to-mother perpetration is predictive of experiences of victimization in current relationships.

Subsequently, we hypothesized that individuals who identified most with the primary caregivers who perpetrate IPV are more likely to be perpetrators of DV, while participants who identified with primary care-givers who were aggressed against have increased risks of being victims of DV. This hypothesis aims to incorporate the concept of parent-child identification in order to investigate the suggestions that identification with violent parents predicts violent behavior, particularly in the context of violence within intimate relationships.

Hypothesis 2: Identification with the parental figure who is either a perpetrator or victim of IPV moderates the relationship between exposure to IPV and DV perpetration/victimization. This hypothesis was tested using moderation analyses (Baron & Kenny, 1986), with
identification with parents as a moderator for the relationship between exposure to IPV and DV perpetration. This hypothesis is supported if high identification with IPV perpetrator significantly \((p < .05)\) increases the strength of the relationship between exposure to IPV and DV perpetration, while low identification with perpetrator significantly weakens the association between IPV and DV perpetration. Similarly, this hypothesis is supported if high identification with victims of IPV significantly strengthens the relationship between exposure to IPV and DV victimization, while low identification with victims of IPV significantly weakens the association between exposure to IPV and DV victimization.

A hierarchical regression was conducted to test the main effects of exposure to mother-to-father IPV and identification with maternal figure on DV perpetration. Exposure to mother-to-father IPV and identification with maternal figure were entered into the model as predictors; they were not significant in accounting for participants’ perpetration of DV, \(R^2 = .03, F(2, 82) = 1.18, p = .311\). When the interaction between mother-to-father IPV and identification with maternal figure was entered into the model, results revealed that it was not significantly related to perpetration of DV, \(\Delta R^2 = .03, F(1, 81) = 2.57, p = .113\).

Similarly, a hierarchical regression were conducted for exposure to mother-to-father IPV and identification with paternal figure on DV perpetration, with non-significant results, \(R^2 = .03, F(2, 82) = 1.18, p = .314\). The interaction effect between mother-to-father IPV and identification with paternal figure on DV perpetration revealed non-significant results, \(\Delta R^2 = .01, F(1, 81) = .74, p = .393\).

Next, we predicted that exposure to father-to-mother IPV and identification with paternal figure would be significantly associated with DV perpetration was not significant, \(R^2 = .01, F(2, 82) = .27, p = .765\), while the interaction effect between father-to-mother IPV and identification
with paternal figure on DV perpetration also revealed non-significant results, $\Delta R^2 = .04, F(1, 81) = 3.59, p = .062$.

Exposure to father-to-mother IPV and identification with maternal figure on DV perpetration was not significant as well, $R^2 = .01, F(2, 82) = .60, p = .551$. The interaction effect between father-to-mother IPV and identification with maternal figure on DV perpetration also revealed non-significant results, $\Delta R^2 = .00, F(1, 81) = .01, p = .905$.

Similarly, a hierarchical regression was conducted for exposure to father-to-mother IPV and identification with mother as predictors on current DV victimization, with results revealing a non-significant outcome, $R^2 = .05, F(2, 82) = 2.34, p = .102$. When the interaction between father-to-mother IPV and identification with maternal figure on DV victimization was entered into the model, it revealed significant results on predicting DV victimization, $\Delta R^2 = .11, F(1, 81) = 4.72, p < .05$. Thus, identification with maternal figure moderates the relationship between exposure to father-to-mother IPV and DV victimization. In the final model, the interaction effect between father-to-mother IPV and identification with maternal figure ($B = .16, t(83) = 2.17, p < .05$) and exposure to father-to-mother IPV ($B = .14, t(83) = 2.69, p < .01$) were significant predictors of DV victimization.

Exposure to mother-to-father IPV and identification with maternal figure on predicting current DV victimization was also non-significant, $R^2 = .02, F(2, 82) = .63, p = .536$. The interaction effect between mother-to-father IPV and identification with maternal figure on DV victimization also revealed non-significant results, $\Delta R^2 = .03, F(1, 81) = 2.23, p = .139$.

Exposure to mother-to-father IPV and identification with paternal figure on predicting current DV victimization was significant, $R^2 = .08, F(2, 82) = 3.75, p < .05$. Identification with paternal figure was negatively related to DV victimization, $B = -.17, t(83) = -2.60, p < .05$. In step 2, the interaction between exposure to mother-to-father IPV and identification with paternal
figure was entered into the model and results revealed that it was not significantly related to DV victimization, $\Delta R^2 = .02$, $F(1, 81) = 1.86, p = .177$. Thus, identification with paternal figure does not moderate the relationship between exposure to mother-to-father IPV and DV victimization. In the final model, identification with paternal figure is still a significant negative predictor of DV victimization, $B = -.19, t(82) = -2.81, p = .006$.

Similarly, exposure to father-to-mother IPV and identification with paternal figure accounted for a significant amount of variance in current DV victimization, $R^2 = .09$, $F(2, 82) = 3.88, p < .05$. The interaction between exposure to father-to-mother IPV and identification with paternal figure was entered into the model and results showed that it was not significantly related to DV victimization, $\Delta R^2 = .01$, $F(1, 81) = .67, p = .415$. Thus, identification with paternal figure does not moderate the relationship between exposure to father-to-mother IPV and DV victimization. In the final model, the predictor of identification with paternal figure on predicting DV victimization approaches significance, $B = -.18, t(82) = -1.99, p = .050$.

Hypothesis 3: Explicit cognitive process of SIP hostile attributional biases, aggressive responding, and aggressive response evaluations shown during ambiguous dating relationship scenarios will mediate the relationship between exposure to IPV and DV perpetration. This hypothesis was tested through a mediation model analysis (Baron & Kenny, 1986). Hypothesis 3 would be supported if the relationship between exposure to IPV and DV perpetration is fully mediated by SIP hostile attributions, aggressive responding, and aggressive response evaluations, and is partially supported if the relationship between exposure to IPV and DV perpetration is partially mediated by the afore-mentioned SIP processes.

In step 1, a regression analysis revealed that exposure to mother-to-father IPV does not predict DV perpetration, $B = .08, t(84) = 1.51, p = .136$. Subsequently, exposure to father-to-mother IPV also does not predict DV perpetration, $B = .01, t(84) = .31, p = .761$. Follow-up
mediational analyses were not performed to ascertain the role of SIP processes in the involvement of DV perpetration. As a follow-up to the above hypothesis, mediation analyses were conducted to determine if SIP processes of hostile attributions, aggressive responding, and positive evaluations of aggressive responding mediate the relationship between exposure to father-to-mother IPV and DV victimization. In step 1, a regression analysis on exposure to father-to-mother perpetration and current experiences of victimization from intimate partners in recent relationships revealed significant results, \( R^2 = .05, F(1, 83) = 4.32, p < .05 \). Exposure to father-to-mother perpetration is a significant predictor in the model, \( B = .11, t(84) = 2.08, p < .05 \), and suggests that exposure to father-to-mother perpetration is predictive of experiences of victimization in current relationships. Step 2 showed that the regression of exposure to father-to-mother IPV was not significantly predictive of SIP hostile attributions, \( B = .08, t(84) = .97, p = .336 \). Thus, SIP hostile attribution did not mediate the relationship between exposure to father-to-mother IPV and DV victimization.

Subsequently, in step 2 of the mediation model in the regression of exposure to father-to-mother IPV on SIP aggressive responding, the result was significant, \( B = -.18, t(84) = -2.03, p < .05 \). In step 3, the regression of SIP aggressive responding was not significantly predictive of DV victimization, \( B = .06, t(84) = 1.02, p = .312 \). Thus, SIP aggressive responding did not mediate the relationship between exposure to father-to-mother IPV and DV victimization.

Next, in step 2 of the mediation model of regression of exposure to father-to-mother IPV on SIP aggressive responding evaluation, the result was not significant, \( B = -.001, t(84) = -.02, p = .983 \). Thus, SIP aggressive responding evaluation did not mediate the relationship between exposure to father-to-mother IPV and DV victimization.

Hypothesis 4: The presence of negative emotional arousal will moderate the impact of exposure to parental IPV on SIP processes of hostile attributions, aggressive responding, and
aggressive response evaluations. Hypothesis 4 was tested by using Baron & Kenny’s (1986) moderation model analyses, and would be supported if the presence of negative emotional reactions during the SIP vignette task strengthens the relationship between exposure to IPV and SIP processes, while positive affect weakens the relationship between exposure to IPV and SIP processes.

Hierarchical regressions were conducted to test the main effects of exposure to mother-to-father IPV and affective arousals, as well as the effect of interaction between exposure to mother-to-father IPV and affective arousals, on SIP processes of hostile attributions, aggressive responding, and aggressive responding evaluations.

In step 1, the results revealed that the main effects of exposure to mother-to-father IPV and negative affective arousal on SIP process of hostile attributions were not significant, $R^2 = .04$, $F(2, 82) = 1.52, p = .225$. In step 2, the interaction effect of exposure to mother-to-father IPV and negative affective arousal was added to the model and revealed non-significant results, $\Delta R^2 = .001, F(1, 81) = .08, p = .772$. Thus, negative affective arousal did not moderate the relationship of exposure to mother-to-father IPV on SIP hostile attributions.

The main effects of exposure to mother-to-father IPV and positive affective arousal, with the interaction between mother-to-father IPV and positive affective arousal, were tested on SIP process of hostile attributions. In step 1, the results were not significant for exposure to mother-to-father IPV and positive affective arousal on SIP hostile attributions, $R^2 = .001, F(2, 82) = .03, p = .971$. In step 2, when the interaction of exposure to mother-to-father IPV and positive affective arousal was entered into the model, the results revealed a significant effect on predicting SIP hostile attributions, $\Delta R^2 = .10, F(1, 81) = 9.35, p < .01$. The interaction effect of exposure to mother-to-father IPV and positive affective arousal negatively predicted SIP process of hostile attributions, $B = -.33, t(83) = -3.06, p < .01$. 47
Next, we examined whether negative affective arousal moderated the relationship of exposure to mother-to-father IPV on SIP aggressive responding. In step 1, the main effects of exposure to mother-to-father IPV and negative affective arousal were entered into the model and results revealed that it was not significantly predictive of SIP aggressive responding, $R^2 = .02$, $F(2, 82) = 1.01, p = .368$. In step 2, the interaction effect of exposure to mother-to-father IPV and negative affective arousal was entered into the model and the results were not significantly predictive of SIP aggressive responding, $\Delta R^2 = .001$, $F(1, 81) = .06, p = .807$. Thus, negative affective arousal did not moderate the relationship of exposure to mother-to-father IPV on SIP aggressive responding.

We examined whether the positive affective arousal moderated the relationship of exposure to mother-to-father IPV and SIP aggressive responding. In step 1, the main effects of exposure to mother-to-father IPV and positive affective arousal were not significantly predictive of SIP aggressive responding, $R^2 = .02$, $F(2, 82) = .85, p = .431$. In step 2, the interaction effect of exposure to mother-to-father IPV and positive affective arousal was entered into the model and the result revealed that it was not significantly predictive of SIP aggressive responding, $\Delta R^2 = .03$, $F(1, 81) = 2.78, p = .10$. Thus, positive affective arousal did not moderate the relationship of exposure to mother-to-father IPV on SIP aggressive responding.

We next examined whether negative affective arousal moderated the relationship of exposure to mother-to-father IPV on SIP aggressive responding evaluations. In step1, the main effects of exposure to mother-to-father IPV and negative affective arousal were not significantly predictive of SIP aggressive responding evaluations, $R^2 = .06$, $F(2, 82) = 2.69, p = .074$. In step 2, the interaction effect of exposure to mother-to-father IPV and negative affective arousal was entered into the model and the result revealed that it was not significantly predictive of SIP aggressive evaluations, $\Delta R^2 = .03$, $F(1, 81) = 2.28, p = .135$. Thus, negative affective arousal did
not moderate the relationship of exposure to mother-to-father IPV on SIP aggressive responding evaluations.

Next, we examined whether positive affective arousal moderated the relationship of exposure to mother-to-father IPV on SIP aggressive responding evaluations. In step 1, exposure to mother-to-father IPV and positive affective arousal were entered into the model and results revealed that it was not significantly predictive of SIP aggressive responding evaluations, $R^2 = .01, F(2, 82) = .49, p = .616$. In step 2, the interaction effect of exposure to mother-to-father IPV and positive affective arousal was entered into the model and results revealed that it was significantly predictive of SIP aggressive evaluations, $\Delta R^2 = .13, F(1, 81) = 12.64, p < .01$. In the final model, the interaction term of exposure to mother-to-father IPV and positive affective arousal was a negative predictor on SIP aggressive responding evaluations, $B = -.14, t(83) = -3.56, p < .01$.

Subsequently, hierarchical regressions were conducted to test the main effects of exposure to father-to-mother IPV and affective arousals, as well the effect of the interaction effects of father-to-mother IPV and affective arousals, on SIP processes of hostile attributions, aggressive responding, and aggressive responding evaluations.

In step 1, the main effects of exposure to father-to-mother IPV and negative affective arousal on SIP process of hostile attributions were not significant, $R^2 = .04, F(2, 82) = 1.75, p = .181$. In step 2, the interaction effect of exposure to father-to-mother IPV and negative affective arousal on SIP hostile attributions was entered into the model and the results revealed non-significant results, $\Delta R^2 = .004, F(1, 81) = .37, p = .542$.

Next, the main effects of exposure to father-to-mother IPV and positive affective arousal were entered into the hierarchical regression model on predicting SIP process of hostile attributions. The results were not significant, $R^2 = .01, F(2, 82) = .46, p = .631$. In step 2, when
the interaction term of exposure to father-to-mother IPV and positive affective arousal was entered into the model, the results were not significant, $\Delta R^2 = .02$, $F(1, 81) = 1.81$, $p = .182$.

When the main effects of exposure to father-to-mother IPV and negative affective arousal on SIP aggressive responding were entered into the model, the results approach significance, $R^2 = .07$, $F(2, 82) = 3.09$, $p = .051$. In step 2, the interaction effect of exposure to father-to-mother IPV and negative affective arousal was entered into the model, and results revealed that it was not significantly related to SIP aggressive responding, $\Delta R^2 = .02$, $F(1, 81) = 1.75$, $p = .189$. Thus, negative affective arousal did not moderate the relationship of exposure to father-to-mother IPV on SIP aggressive responding. In the final model, the main predictor of exposure to father-to-mother IPV was significantly predictive of SIP aggressive responding in a negative direction, $B = -.20$, $t(84) = -2.24$, $p < .05$.

The main effects of exposure to father-to-mother IPV and positive affective arousal were also not significantly predictive of SIP aggressive responding, $R^2 = .06$, $F(2, 82) = 2.56$, $p = .084$. In this model, father-to-mother IPV negatively predicted SIP aggressive responding, $B = -.18$, $t(83) = -2.04$, $p < .05$. The interaction effect of father-to-mother IPV and positive affective arousal revealed non-significant results, $\Delta R^2 = .01$, $F(1, 81) = .60$, $p = .442$.

The main effects of exposure to father-to-mother IPV and negative affective arousal were not significantly predictive of SIP aggressive responding evaluations, $R^2 = .05$, $F(2, 82) = 2.17$, $p = .120$. Negative affective arousal was a significant predictor of SIP aggressive responding evaluations, $B = .08$, $t(83) = 2.08$, $p < .05$. The interaction effect of exposure to father-to-mother IPV and negative affective arousal was not significantly related to SIP aggressive responding evaluations, $\Delta R^2 = .02$, $F(1, 81) = 1.50$, $p = .224$.

Next, exposure to father-to-mother IPV and positive affective arousal were also not significantly predictive of SIP aggressive responding evaluations, $R^2 = .004$, $F(2, 82) = .16$, $p = .
The interaction effect of exposure to father-to-mother IPV and positive affective arousal was not significantly related to SIP aggressive responding evaluations, $\Delta R^2 = .01, F(1, 81) = .56, p = .458$.

Hypothesis 5: For our final hypothesis, we predict that implicit knowledge structures that operate automatically and outside of conscious awareness will mediate the relationship between exposure to IPV and DV perpetration and victimization. This hypothesis will be tested by Baron & Kenny’s (1986) mediation model analyses. Hypothesis 5 will be supported if implicit cognitions of aggression fully mediated the relationship between exposure to IPV and DV perpetration, and is partially supported if implicit cognitions partially mediated exposure to IPV and DV perpetration.

A mediation analysis was conducted to determine if implicit cognitions of aggression mediates the relationship between exposure to IPV and DV perpetration and victimization. Following a regression analyses on exposure to IPV and DV perpetration and victimization, the relationship between father-to-mother perpetration and current experiences of DV victimization from intimate partners in recent relationships was significant, $F(1, 88) = 4.84, p < .03$, with exposure to father-to-mother perpetration accounting for 5.2% of variance in victimization in current or recent intimate relationships. Exposure to father-to-mother perpetration is a significant predictor in the model, $B = .11, t(89) = 2.20, p < .05$, and suggests exposure to father-to-mother perpetration is predictive of experiences of victimization in current relationships. The regression analysis of exposure to father-to-mother IPV on implicit cognitions of aggression was not significant, $B = .001, t(84) = .19, p = .852$. Thus, it could not be established that implicit cognitions of aggression mediated the relationship of exposure to father-to-mother violence on DV victimization.
CHAPTER 4

DISCUSSION

Due to the concerns that high prevalence of DV amongst emerging adults is impacting the well-being of college students, a major goal of this current paper is to investigate the contexts and mechanisms in which DV occurs and thus enrich the research literature and clinical applications in reducing, preventing, and eliminating DV from the society.

Based on the theory of SIP, individuals are predicted to be more 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 parental IPV might be more prone to selectively attend to certain cues when they are in dating 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 needing to be aggressive in responding to perceived threats, which may result then in positive evaluations of behaviorally aggressive acts.

Subsequently, the following paragraphs are attempts to understand the mechanistic applications of the SIP model in relation to exposure to parental IPV on DV victimization and perpetration through the present study’s investigation of the moderating effects of identification with parental figures and presence of affective arousal after completing the SIP vignettes on DV perpetration and victimization.

Main Findings

The data from the present study suggest that exposure to father-to-mother IPV was a significant predictor of DV victimization, which is partially consistent with the first hypothesis. However, exposure to parental IPV was not necessarily predictive of DV perpetration, which is inconsistent with the proposed hypothesis that exposure to IPV perpetration would be associated
with higher incidences of DV perpetration. This was also inconsistent with studies that show that exposure to parental IPV appears to increase the strength of association with teen DV perpetration (Jouriles et al., 2012). Stith et al. (2000, for a review) examined the relationship between family of origin violence and intimate partner violence in a meta-analytical study, and discovered that exposure to parental IPV accounted for significant variance in offspring DV perpetration.

Additionally, the interaction between exposure to father-to-mother IPV and participant identification with maternal figure predicted DV victimization, which partially supports the second hypothesis that identification with a parental figure who is a victim of IPV would attenuate the impact of exposure to father-to-mother IPV on DV victimization. Next, identification with paternal figure was negatively predictive of DV victimization, which indicated that high identification with a paternal figure may be a protective factor against both the implications of exposure to mother-to-father IPV and exposure to father-to-mother IPV on DV victimization, which is another piece of important data that should be explored and discussed in more detail and depth for prevention efforts against DV victimization.

One of the main goals of this current study was to determine if SIP processes were key mechanisms in explaining the relationship of exposure to parental IPV on DV perpetration. The initial regression analyses revealed no significant associations for exposure to parental IPV on DV perpetration. Therefore, there was no effect for SIP processes to mediate. This was inconsistent with the third hypothesis and with previous literature (e.g., Fite, et al., 2008) that explained the role of SIP processes for intergenerational transmission of violence. The present study found that exposure to parental IPV was not significantly associated with most of the SIP processes, and that exposure to IPV was not predictive of DV perpetration. Subsequently, DV perpetration is related to one of the SIP processes of aggressive responding in ambiguous,
possibly conflictual relationship vignettes. In addition, exposure to father-to-mother IPV was also significantly associated with SIP process of aggressive responding. This partially supports the hypothesis in that, despite the absence of an effect to mediate, exposure to father-to-mother IPV was predictive of SIP process of aggressive responding, and the SIP process of aggressive responding is significantly associated with DV perpetration.

Conversely, exposure to mother-to-father IPV did not significantly predict higher values of SIP processes of hostile attributions, aggressive responding, or aggressive responding evaluations. The three SIP processes of hostile attributions, aggressive responding, and aggressive responding evaluations were significantly and positively correlated with each other, which indicated consistent participant responding throughout the sections of the SIP measure.

These findings were only partially consistent with the fourth hypothesis that predicted a significant association between exposure to parental IPV and aggressive SIP processes on intimate relationships. The findings were also somewhat inconsistent with studies that found prior exposure to relationship violence accounted for more aggressive social-cognitive processes (Brendgen et al., 2002; Crick & Dodge, 1994; Lichter & McCloskey, 2004). It appears that it would be imperative to consider gender-specific and gender role-related investigations in understanding the intricate and often times nuanced differences of father-to-mother IPV, mother-to-father IPV, and gender-related DV victimizations and perpetrations.

In addition, it is a possibility that exposure to parental IPV is considered a distal and distinct factor that is not accurately applicable to participants’ SIP processes on dating violence. For instance, maladaptive biases and deficits were found in within-context social relationships, but not in between-context social situations, as indicated by samples of individuals who were exposed to acts of peer bullying at a younger age period that were found to have higher levels of SIP biases when they were administered vignettes about ambiguous peer-to-peer interactions. 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 et al., 2007), different forms of aggression expressions (Dodge et al., 1997), and relational partner violence (Halligan et al., 2007).

Next, the findings from this study indicated that an interaction of exposure to mother-to-father IPV and positive affective arousal is associated with less severe SIP hostile attributions and less positive aggressive responding evaluations. As the data did not support our fourth hypothesis that exposure to parental IPV predicts SIP processes, it was thus intriguing to observe an interaction between the original predictor (exposure to parental IPV) with the moderator variables (positive affective arousal) on SIP hostile attributions. It is therefore difficult to ascertain if positive affective arousal mitigated the negative effects of exposure to mother-to-father IPV on SIP hostile attributions. However, the interaction of exposure to mother-to-father IPV and the presence of positive affective arousal appeared to impact the responses on SIP hostile attributions and aggressive responding evaluations.

Subsequently, findings revealed that there were no significant associations between implicit associations of aggression with any of the variables studied in the present study, and this was inconsistent with the fifth hypothesis. This was inconsistent with previous literature that suggested children with exposure to parental conflict were more likely to have stronger memory biases towards aggressive words in a word-recognition task (O’Brien & Chin, 1998). The selected measure, a word-fragment completion task, was designed by Anderson et al. (2002) to investigate the impact of exposure to violent media such as music, video games, and television and film media. In addition, Jouriles et al. (2011) utilized this specific measure to capture implicit cognitions of aggression amongst a sample of adolescents remanded at a juvenile
detention facility for teen DV. This has made us wonder if we had utilized this measure in a less than conducive research environment with an inappropriate sample. It is possible that this measure is very sensitive to the contexts (i.e. Where was this administered? How was this administered? What were the participants doing before they were asked to complete the task?) and temporal settings (i.e., When was this administered?) of the measure administration. Therefore, an alternative measure of implicit cognition of aggression and different administration procedure might need to be considered for future directions of this line of research.

Additional Findings

One significant finding from this study was the association of being victimized in a dating relationship (DV victimization) with having violence perpetration (DV perpetration) in current or recent relationship, which is consistent with literature that reported comparable rates of mutual DV amongst young adults in dating relationships (Arias & Johnson, 1989; Kaukinen et al., 2011; Straus & Gelles, 1992; Whitaker et al., 2007). This form of relationship aggression has been termed an “assortative partnering phenomenon” (Capaldi et al, 2004) and has prompted researchers in the field of relationship violence to begin discussions of redefining the roles of perpetrator and victim in an abusive relationship (Fite et al., 2008). A related finding was that exposure to father-to-mother IPV is significantly correlated with exposure to mother-to-father IPV, which suggests that participants who reported one form parental perpetration of violence were more likely to report witnessing the other form of parental perpetration of violence. The present study did not specifically differentiate if the perpetrations were self-initiating provocations, self-defense from violence, or from retaliatory actions due to having been perpetrated against. This may be a critical issue to be addressed as understanding the rationale behind most aggressive acts directed toward intimate partners may define how relationship violence are perceived, treated, and prevented.
Other factors associated with participants’ report of DV perpetration were SIP aggressive responding and the presence of negative affective arousal during the study, which is also consistent with literature on SIP processes and the presence of negative affective arousal on DV perpetration (Crick & Dodge, 1994; Naz, et al., 2005).

Limitations and Strengths

One of the limitations of this study is that information was collected retrospectively and may contain misinformation due to memory degradation and selectivity biases. As this was a cross-sectional study, the implications and outcome information derived from this present study provided significant information about the associations between exposure to IPV and DV. However, the data provided could not ascertain causality between the exposure to IPV and DV. The data has also indicated that the self-report scores on incidents of DV were relatively low, which might suggest sampling concerns, possible malingering, memory recall biases, or the effect of socially desirable responding.

In addition, the data was collected through convenience sampling from undergraduate college students who were attending summer classes. Furthermore, the instructions were very specific in asking about exposure to IPV for a specific period of time (13 – 17 years of age), which might have restricted the collection of crucial information during more formative and sensitive childhood years. Similarly, the present study focused on recent or/and present young adult DV. It is possible that DV that occurred during adolescence or late childhood years could be more, if not as, potent, and salient predictor/factor with current experiences of DV.

Subsequently, cohort effects, participant heterogeneity, and non-representative sampling, might have biased the results and therefore contain less than reliable and consistent findings. Effect sizes were generally small, which could be improved through bigger sample sizes. Overall, the present study utilizing domain-specific SIP vignettes, implicit cognition of
aggression, affective arousal measures, and relationship measures of identification with parental figures is one of the few studies that undertook the task of incorporating social-cognition-affective dynamics on understanding how exposure to IPV might impact young adult DV.

Future Directions

Since this is a study about predicting cycles of violence in intergenerational families, it may enrich the literature tremendously if parents are interviewed and could provide information about their marital relationships, and their relationships with their children. Inclusion of clinical and forensic samples (i.e., families with documented evidence of parental IPV) would also provide more information about significant differences between clinical and non-clinical samples.

Additionally, the data revealed that there are significant associations between DV perpetration and DV victimization in both generations, as well as significant associations between exposure to mother-to-father IPV and exposure to father-to-mother IPV. Future studies on contexts of violence may yield more information about the occurrences and prevalence of IPV and DV, and differentiate between initial provocation, self-defense, or retaliation, or even other defining roles in relationship violence. Gender-specific lines of research could be conducted to ascertain if there were gender differences in experiences of exposure to parental IPV on DV perpetration and victimization. In fact, studies of specific types of relationship violence/abuse may also yield nuanced differences in gender-specific forms of DV perpetration and victimization.

The SIP vignettes used in this study focused exclusively on dating relationships. It is possible that utilizing both specific and broad-based SIP vignettes might provide more information about more generalized aggression and specific relational aggression. In addition, it is a possibility that exposure to parental IPV in young to middle childhood could account for
more significant variance in the regression and mediation models than what is in late childhood and adolescent years. The inclusion of adolescent DV, peer-to-peer perpetration and victimization, sibling abuse, and community violence studies could enhance the mediation and moderation models. With the inclusion of variables that may have modest to high correlations, statistical analyses such as path analyses and structural equation modeling (SEM) could provide a more comprehensive picture of intergenerational intimate relationship violence.
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