

FEMALE PERPETRATED INTIMATE AGGRESSION:
THE ROLE OF RELATIONAL DIMENSIONS

A Dissertation

by

JEANETTE PATRICIA MADKINS

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2007

Major Subject: Counseling Psychology

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Approved by:

Co-Chairs of Committee,	Daniel F. Brossart Antonio Cepeda-Benito
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ABSTRACT

Female Perpetrated Intimate Aggression: The Role of Relational Dimensions.

(August 2007)

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Although research on intimate partner aggression and dating violence has focused on male perpetration, female perpetration of intimate aggression is emerging as a focus of empirical study because of increased awareness of the magnitude with which it is occurring. This study sought to discern the effects of interpersonal and relational factors on female use of aggression within adult intimate relationships. A theoretical model, proposed by Jennings and Murphy (2000) for male perpetrated intimate aggression, conceptualized intimate aggression as a result of impaired same sex peer relationships, decreased same sex peer dependence, increased intimate dependence, and increased intimate jealousy. This theoretical framework was extended to include the level of intimate interpersonal competence as an indicator of the quality of the intimate relationship.

Using structural equation modeling, this theoretical model was tested for its relevance and applicability to female perpetration of intimate aggression. Results indicated that the model of best fit implicated peer dependence, intimate dependence, and intimate jealousy as predictive factors of intimate aggression. Further, bootstrapping

methods were utilized to assess intimate jealousy as a mediator between intimate dependence and intimate aggression. Results revealed that intimate jealousy functioned as a complete mediator of the influence of intimate dependence on intimate psychological aggression. This mediating role was further explored through analysis of covariance between high and low jealousy scores and perpetration of intimate aggression, while controlling for intimate dependence. Results of these analyses revealed significant differences on psychological aggression and physical assault between female aggressors who reported high levels of jealousy and those who reported low levels of jealousy.

Important differences were found between the proposed theoretical framework for male aggression and the results of the current study of female aggression. In contrast to the negative relationship theorized for males, females exhibited a positive relationship between peer dependence and intimate dependence. Additionally, intimate dependence in the absence of intimate jealousy predicted a lowered likelihood of intimate aggression. These relationships are critical to ameliorating the rising prevalence of female perpetrated intimate aggression and clinical work with female aggressors. Further, they raise new questions for further investigation into this promising area of empirical study.

DEDICATION

To my grandmother:

Without you there would be no me.

Never have I had a closer glimpse of God's love

Than when I was in your arms.

To my mother:

Thank you.

It made me stronger.

To my Mother:

It is an honor to be your daughter.

You changed my life.

Thank God for you.

To my beautiful children:

You are my inspiration and reason for breathing.

Know that you are loved

Beyond circumstance and words.

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Jaden and Josiah: Thank you for the honor of being your mother. It is my prayer that I can make you proud of me. For all the bear hugs and tender kisses, I thank you. For letting me color with you when I had writer's block, I thank you. For reminding me that life can be as simple as fruit snacks and Cars, I thank you. For teaching me that anything can be solved with a ride on a playground swing, I thank you. For praying for me, I thank you. For teaching me to have Happy Feet and a forgiving heart, I thank you. For being my greatest blessing and highest calling, I thank you. I love you both, more and more and more and more...

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and your love and loyalty through the years. I can only hope that I have been worthy of your investment and that I can now begin to repay you.

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CHAPTER I

INTRODUCTION

Statement of Problem

Straus (2005) has reported that, according to data collected for the National Family Violence Surveys, women engage in aggressive behavior towards their intimate partners as often as men. As early as 1980, Straus began to recognize the prevalence of female perpetrated intimate aggression when he analyzed data obtained through interviews of over 2,000 American couples. Results indicated that the wife was the sole perpetrator of aggression in 22.7% of violent families. In the same sample of violent families, the husband was the sole aggressor in 27.7% of the families. Furthermore, Straus argued that female aggressors exhibited similar rates of severity of, prevalence of, and tendency towards intimate violence. Since then, research has continued to provide empirical evidence to support the claim that women are equally or significantly more likely to use physical aggression toward their intimate heterosexual partners than men (Cook, 1997; Kaura & Allen, 2004; Magdol, Moffitt, Caspi, & Newman, 1997; Nicholls & Dutton, 2001; Straus, 1993). Archer (2000) meta-analyzed 82 empirical studies of intimate partner aggression that assessed the behaviors of over 30,000 men and over 34,000 women. Results indicated that when measures used were based on specific acts of aggression, women were measured as being significantly more likely to report

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physical aggression against their male partners than males. In addition, the women perpetrated physical aggression more frequently than males.

Sadly, progressive research into the etiology of female perpetrated intimate aggression has been haunted by questions surrounding its validity and saliency. One argument against studying female perpetration is that male perpetration is perceived as more harmful and severe than female perpetration (Leisring, Dowd, & Rosenbaum, 2003). Although women have been found to use physical aggression in near equal rates to men, females report being the victim of “three times as much mild injury, twice as much moderate injury” than males and all of the severe aggressive injuries committed between the two partners (Makepeace, 1986, p. 386). Additionally, more injuries and negative effects were felt by abused wives than abused husbands (Vivian & Langhinrichsen-Rohling, 1994). Thus, the severity of the consequences encourages the argument that the study of female intimate aggression is of less import than the study of male intimate aggression. However, females perpetrate one third of reported injuries and deaths resulting from intimate aggression (Straus, 2005). Furthermore, when intimate aggression is assessed through acknowledgement of behaviors, women are more likely to report aggressive acts, while men are more likely to report aggressive acts when consequences and injury are the focus of the empirical measurement (Archer, 2000). Studies focusing on the outcomes of intimate aggression cloud the impact of the violation that occurred at the outset. Victimization at all levels is tragic, regardless of the rates of comparison groups.

Second, because aggression has traditionally been viewed as a male to female directional behavior, female aggression is typically construed as a means of defense against or retaliation for male aggression (Leisring, Dowd, & Rosenbaum, 2003). However, research has been found to refute this assertion. In 44% of the cases of reported couple violence, men reported that they hit first (Straus & Gelles, 1990). The men reported that in 45% of the cases, the women hit first. This research proposed that females engage in initiatory aggression at a greater rate than men. Bland and Orn (1986) reported that a survey of a sample of over 600 women revealed that 73% of the women who admitted to ever hitting or throwing things at their partner indicated that they committed physical violence first in the interaction. Viewing female perpetration of intimate aggression as simply a reactionary behavior is inaccurate.

Third, the tradition of male focused investigations, constructs, and operational definitions has reinforced the erroneous assumption that females are not aggressive and are incapable of inflicting physical harm on others (Bjorkqvist & Niemela, 1992; Struckman-Johnson & Anderson, 1998). The traditional analysis of female aggression through the lens of a “masculine model” results in public reactions that balk at the female’s violation of the “natural law of proper female behavior” (Campbell, 1993, p. 144). However, Jack (1999) argued that “women hurt others” (p. 20). Despite the stereotype that women are the weaker and non aggressive sex, women “abuse, kill, inflict harm on the human spirit, and dominate others through pain and intimidation” (Jack, 1999, p. 21). Furthermore, women who violently aggress against their male partners foster an “environment of real fear and danger” that can result in psychological

and emotional victimization (Pagelow, 1984, p. 274). The Bureau of Justice Statistics (2000) reported that while the rates of females victimized by intimate partner violence are decreasing, the rates of males victimized by intimate partner violence exhibited little significant change from 1993 to 1998. In addition, during 1993, over 163,000 violent crimes perpetrated by intimate partners were committed against men. Specific to the college student age group, rates for physical aggression perpetration revealed no gender differences (Hines & Saudino, 2003). Thus, it appears that there is legitimate need for further understanding of female perpetrated aggression.

Significance of the Study

Despite the growing body of evidence, further exploration of female perpetrated intimate partner aggression is salient for several reasons. Kimmel (2002) argues that female perpetrators and male victims deserve the same levels of therapeutic support and intervention as traditional victims and perpetrators. Denfeld (1997) notes the paucity of support services available to male victims. No less important is the uncertainty with which treatment is designed for female perpetrators. Dowd (2001) argues that development of effective treatment modalities is restricted by limited empirically sound data that describes the etiology and consequences of female perpetrated intimate aggression. Complicating the pursuit of empirical knowledge regarding male victims is their resistance to disclosing the female perpetration (Steinmetz, 1980). As the male identity is rooted in masculinity, disclosing that one is a victim of a female aggressor has severe social stigmas attached to it. Thus, male victims are often trapped by feelings of emasculation, fear, and isolation that impedes their ability to access much needed

support resources. In this way, they remain silent victims who bear the scars of trauma that contradict what society has traditionally defined as intimate aggression. Treatment must be designed in a way that rejects the public biases regarding female perpetration and male victimization (Davies & Rogers, 2006).

Second, greater insight into female perpetration will further inform male perpetration as relationships do not exist in a vacuum and all relationships are interactional in nature. Straus (1997) adds that female perpetration is particularly dangerous as the aggression could be met with retaliation that is more severe and results in greater injury to the female. Female assaults have been implicated in increasing the likelihood that intimate assaults will continue or escalate in severity over the following year (Feld & Straus, 1989). If a husband does not commit a severe assault against the wife, but the wife commits one against the husband, there is a 1 in 7 chance that the husband will commit a severe assault against the wife in the next year. Similar results were found among couples in which both intimately aggressed. If a wife committed no violence towards the husband, 6% of the husbands continued aggressing against the wives. If the wife committed minor assaults against the husband, 23% of the husbands were found to have continued aggressing. Wives who committed severe assaults experienced the greatest risk of reciprocated assault; 42% of these husbands continued intimately aggressing against their wives.

Similar results have been found in college populations. Men who reported involvement with a female who was intimately violent exhibited a 1.5 greater likelihood of perpetrating intimate violence (Luthra & Gidycz, 2006). More disturbing is the

finding that females who reported involvement with a male who was intimately violent were 108 times more likely to commit intimate violence against their male partner.

Confirming this dynamic, Williams and Frieze (2005) surveyed 300 college students regarding courtship behaviors of initiation, persistence, development, and aggression. Results of the data analyses indicated that relationships characterized by initial mild aggression were 5 times more likely to continue mild violence and 3.5 more times likely to exhibit severe violence than relationships that reported no initial mild aggression. Females in the study were found to be twice as likely as the males to have perpetrated mild violence, and almost four times more likely than the males to commit acts of severe violence during courtship. It appears that female aggression presents significant risk to both the perpetrator and the victim.

Third, further exploration of female perpetrated intimate aggression is needed because aggression toward a spouse establishes a model of aggressive behavior for children in the household (Straus, 1993; Straus, 2005). Witnessing of this violence leads to an increase in psychological problems for the children (Straus, 2005). When compared to male perpetration, female perpetration has been found to cause equally strong harm to witnessing children (Straus, 2005). In order to prevent generational transmission of intimate aggression, female perpetration must be given the same priority status as male perpetration.

Fourth, additional research can counter the empirical invisibility of female perpetrated aggression that implies the victimization of males is not as valid as the victimization of females (Muehlenhard, 1998). Satirical treatment of male victimization

by females is seen in the writings of Fields (1988). Satirizing a study in which male undergraduate students reported being the victims of unwanted sexual aggression, Fields discussed the “bad news for Southern macho... , where a [college student] in a pickup, with a six-pack in his belly and a Lone Star can crushed in his fist, will never again be celebrated for mucho macho” (Fields, 1988, p. C7). Trivializing the trauma endured by male victims conveys a socially construed message that male masculinity is voided by victimization. This message fuels the social stigma men face when seeking legal or mental assistance after their trauma. Langley and Levy (1977) argue that few men can overcome the “snickers, innuendoes, and open sarcasm” in order to gain validation for their victimization.

Statement of Purpose

The current study is an attempt to test the theoretical framework for male intimate aggression developed by Jennings and Murphy (2000) for applicability to female perpetration of intimate aggression. The researchers proposed that relational impairments stemming from disappointments of gender role socialization and traditional masculine expectations are salient to male use of intimate aggression. Specifically, it is argued that males who intimately aggress seek emotional and physical fulfillment from their intimate partners to compensate for impaired same sex peer relationships. The authors frame intimate aggression as a maladaptive attempt to maintain the female’s role as surrogate peer. Greater levels of intimate dependence and intimate jealousy are evident as increased expectations are placed solely on the intimate relationship in order to fulfill the needs for intimacy and connection. A sense of desperation develops in

response to fear of loss of the female and the male aggresses in an attempt to maintain the surrogate emotional connection. Conversely, males who exhibit healthier self concepts are able to engage in multiple varied relationships, providing for healthy distribution of emotional fulfillment.

Previous work exploring the role of relational connections in the development of the female identity illustrates the relevance of the current study of inquiry to the field of intimate aggression. Female moral and emotional growth has been theorized to occur within the context of relational connections (McClelland, 1975; Miller, 1991). Further distinguishing female developmental milestones from male developmental milestones, theorists have argued that the female sense of self develops from interdependence and relational engagement, not independence and autonomy as previously believed (Stiver, 1991; Surrey, 1991). This newly recognized centrality of relational connection can be conceptualized through two lenses: female peer relationships and female intimate relationships.

The role of female peer relationships is most commonly understood to be that of friendships, which have posed a challenge for empirical investigation due to the complexity of the construct (Fehr, 1996). Nevertheless, female friendships are germane to female identity development, self-awareness, and emotional growth (McAdams, 1988; Oliner, 1989; Rubin, 1985, Sheehy, 2000). Despite these significant contributions, female peer relationships provide only part of the emotional development puzzle.

Long considered part of developmental models, intimate relationships have more recently been recognized as a primary emotional investment for women (Valentis &

Devane, 1994). Theorists have proposed that this emotional investment heightens the fear of rejection and abandonment that could result from threats to the intimate relationship (Campbell, 1993; Valentis & Devane, 1994).

The centrality of these two types of relationships to female emotional identity has only been minimally explored as an influencing factor on female perpetrated intimate aggression. Preliminary empirical results indicate that alienation from peers is correlated with increased perpetration and receipt of intimate aggression for females (Linder, Crick, & Collins, 2002). While possible explanations for this connection have been theorized, empirical focus has not yet begun. It is this gap in the current literature base that this study attempts to explore.

It is proposed in the current study that if male aggressors experience relational impairment as a correlate to intimate aggression, then females will likely demonstrate those patterns to a greater degree as relational constructs have been shown to be fundamental to the female identity development. While there seem to be few empirical studies addressing the relational risk factors of female perpetrated partner aggression, attachment theory and the saliency of relational bonds to female development speak to the significance that relational dimensions of same sex peer relationships may hold for the relationship between impaired intimate relationships and intimate perpetration of partner violence.

Using existing research as a foundation, the primary goal of this empirical endeavor was to study the nature of the relationship between characteristics of same sex peer relationships, characteristics of intimate relationships, and the perpetration of

intimate aggression. The following hypotheses were proposed in regards to relationships between specific components of the model. It was hypothesized that (1) number of significant female friendships will be negatively correlated with peer dependence, (2) peer interpersonal competence will be negatively correlated with peer dependence, (3) peer dependence will be negatively correlated with intimate dependence, (4) intimate dependence will be positively correlated with intimate jealousy, (5) intimate dependence will be positively correlated with perpetration of intimate aggression, (6) intimate dependence will be negatively correlated with intimate interpersonal competence, (7) intimate interpersonal competence will be negatively correlated with perpetration of intimate aggression, and (8) peer interpersonal competence will be negatively correlated with perpetration of intimate aggression.

A comprehensive model was hypothesized proposing the relationships between these variables. Specifically, the model hypothesized that intimate aggression would be directly influenced by intimate dependence, intimate jealousy, and interpersonal competence. Intimate dependence would be directly influenced by peer dependence and indirectly influenced by the number of same sex peer relationships and peer interpersonal competence. Intimate jealousy would be directly influenced by intimate dependence, peer dependence, number of same sex peer relationships, and intimate interpersonal competence. Intimate jealousy would be indirectly influenced by peer interpersonal competence. Intimate interpersonal competence would be directly influenced by peer interpersonal competence.

Conceptually, the model proposed that females who exhibit impaired peer interpersonal competence and report fewer same sex peer relationships will exhibit lower dependence on those peer relationships due to the instability and insecurity of the friendship. The impaired nature of these same sex peer relationships will impede the adequate fulfillment of relational needs and this will translate into greater dependence upon the intimate relationship to compensate for the unmet needs and deficits in relational security. However, this greater dependence will arouse attachment anxieties that will manifest in higher levels of intimate jealousy, more impaired intimate interpersonal competence, and increased perpetration and severity of perpetrated intimate aggression.

CHAPTER II

REVIEW OF THE LITERATURE

Traditionally, empirical research into intimate partner aggression has primarily focused on the male as aggressor. Abundant research on male perpetrated intimate aggression has provided a comprehensive foundation of insight for mental health professionals and intervention specialists. However, Dowd (2001) argues that intimate aggression is not a “gendered phenomenon” (p. 75). Subscription to the assumption that perpetration is a male behavior and victimization is a female behavior has cultivated denial of the damage that female aggressors can inflict. Recently, female perpetrated intimate aggression has emerged as a focus of empirical exploration. Despite its relative invisibility in the empirical literature, female intimate aggression is not a novel phenomenon.

History tells many tales of men and the social consequences for being the victims of spousal aggression and allowing the usurping of their male dominance (Shorter, 1975). In France during the old regime, male victims were forced to ride a donkey through town holding a staff as punishment for their wives’ behavior towards them. In the event that the husband could not be found, the nearest neighbor was subjected to the public mockery, as a lesson to other men to maintain the natural order of the male domination and superiority over the female. Alternatively, men were led through the town by another male dressed as a woman. His friends, dressed in kind, would follow him on the donkey, pretending to be deeply grieving the offense.

In Brittany, the victimized husband was strapped to a cart and paraded through town amidst a community audience that booed (Shorter, 1975). The wife who inflicted the abuse did not escape punishment; she was often forced to ride backwards through town on a donkey and made to drink wine. To add insult to injury, she would be forced to wipe the wine from her lips with the donkey's tail. These historical occurrences speak to the societal blind eye that has been turned towards the emotional consequences of male victimization and female aggression. It is only recently that researchers began exposing the "serious social problem" of assaults by women and calling for heightened awareness of female intimate aggression (Straus, 2005, p. 55).

Data obtained through the 1985 National Family Violence Resurvey confirmed that wives aggressed against their husbands at nearly the same rates as husbands (Straus & Gelles, 1990). Over 2,900 women were surveyed and results indicated that the differences between minor and severe assault rates for male and female perpetrators were not statistically significant.

When compared to married partners, dating partners are more likely to be physically violent. Stets and Straus (1989) analyzed data collected by the 1986 National Family Violence Resurvey and compared it with data collected from a sample of undergraduate dating couples. The authors reported that dating partners exhibited slightly higher frequencies of intimate aggression than married couples.

Without empirical focus and targeted interventions, female intimate aggression seems to be on the rise. Providing additional support for the prevalence rates, Sugarman and Hotaling (1989) analyzed the results of 21 dating violence studies and concluded

that females self reported higher rates of assault perpetration (393 per 1,000) than men self reported (329 per 1,000). Magdol et al. (1997) found that 37.2% of young females and 21.8% of young males surveyed reported that they had perpetrated intimate violence. Luthra and Gidycz (2006) reported that 25% of female undergraduate sampled perpetrated intimate violence against their male partner, as compared to 10% of the sampled males reporting perpetration of intimate violence against their female partner.

Types of Intimate Aggression

Compiling the most relevant aspects of definitions offered by previous researchers, for the purposes of this study, intimate aggression will be defined as any coercive verbal, psychological, sexual, or physical act committed against an intimate partner. The scope of this definition is vast as aggression can manifest in a variety of non-physical forms, yet still result in injury to the partner. Despite popular misconceptions regarding intimate aggression, perpetrators can “hurt a partner deeply—even drive them to suicide—without ever lifting a finger” (Straus, 2005, p. 56).

Psychological Aggression

Psychological aggression has emerged as an empirical focus over the last two decades (Follingstad, Coyne, & Gambone, 2005). Definitions of psychological aggression differ greatly from study to study. Frequently psychological aggression is defined and operationalized by the measurement chosen to assess the construct. Instruments dominating the literature reviewed for this study include the Conflict Tactics Scale – Revised and the Psychological Abuse subscale of the Abusive Behavior Inventory. For the purposes of this research, psychological aggression shall be defined as

“acting in a verbally offending or degrading manner towards another... [that] may take the form of insults or behavior that results in making another feel guilty, upset, or worthless” (Stets, 1991, p. 101). Behaviors considered psychological aggression will be operationalized by the Conflict Tactics Scale – Revised. These behaviors include threats of physical abuse, ridicule, yelling, and damage to property (Follingstad, Rutledge, Berg, Hause, & Polek, 1990).

Stets (1991) found no differences between female and male reports of perpetration of psychological aggression towards intimate partners. Using an instrument designed by the researcher to assess for derogatory, insulting, degrading, and critical behaviors, 583 college students were sampled. Results revealed that psychological aggression is reciprocal, exhibiting significant correlations between perpetration and receipt. Furthermore, psychological aggression was predicted by heightened interpersonal control, indicating that the men and women sampled likely committed psychological aggression in an attempt to get the partner to behave in a desired manner. Additional predictive factors implicated in psychological aggression include lowered self-esteem and higher relationship involvement.

Gender equality in perpetration of psychological aggression was further confirmed through the work of Straus and Sweet (1992), who examined what they conceptualized as verbal or symbolic aggression. Verbal/symbolic aggression was defined as a “communication, either verbal or nonverbal, intended to cause psychological pain to another person, or perceived as having that intent” (p. 347). Using data obtained via telephone survey for the National Family Violence Survey of over

5000 American couples, the researchers found that the probability of verbal/symbolic aggression declines with age and the number of children in the household. Additionally, alcohol and substance abuse were found to increase rates of female perpetration.

Shook, Gerrity, Jurich, and Segrist (2000) set out to isolate incidences of verbal aggression by assessing college students in dating relationships. Participants were 395 females and 177 males that reported being involved in a dating relationship during the previous year. Measures used included the Conflict Tactics Scale, the Attitudes Toward Women Scale, and several questions designed by the researchers for the purposes of their study. The researchers found that 83% of the females and 80% of the males surveyed in their research reported perpetration of verbal aggression against their intimate partner during the past year. These researchers found rates of verbal aggression to be higher for females than males.

Research has also shown that females are more likely to perpetrate psychological aggression than males (Harned, 2001). Using a definition of psychological aggression operationalized through the Psychological Abuse subscale of the Abusive Behavior Inventory, Harned defined psychological aggression to include such behaviors as emotional abuse, isolation, intimidation and threats, and economic abuse. Participants also completed the Mental Health Index, a school-related outcomes questionnaire, the Abusive Behavior Inventory, the Sexual Experiences Survey, the physical assault and injury subscales of the Conflict Tactics Scale, and a shortened version of the Motivations and Effects Questionnaire. The sample consisted of 1,139 participants that were randomly selected from the graduate and undergraduate student population at a

university. Although this study did not isolate heterosexual couples in the sample, 94% of the sample self reported heterosexual orientation. Data analyses revealed that men exhibited a greater likelihood of being victimized by psychological aggression than females. Given the overwhelming proportion of respondents that reported engaging in opposite sex intimate relationships, the participant reports seem to reveal that females could be psychologically aggressing more than males.

Similar results were found by Hines and Saudino (2003), who defined psychological aggression to include such behaviors as swearing, shouting, and yelling at the partner. Sampling of 481 college students with the Conflict Tactics Scale-Revised indicated that 86% of females and 82% of males surveyed reported perpetration of psychological aggression in their intimate relationship.

Accessing a comparable sample, Perry and Fromuth (2005) provided support for these conclusions by collecting data from 50 unmarried undergraduate heterosexual couples. Both partners completed the Conflict Tactics Scale-Revised and provided the frequencies of both received and perpetrated psychologically aggressive behaviors. According to the authors, women self reported a greater likelihood of psychologically aggressing against their male partners than males. Female rates of perpetration of psychological aggression were greater than rates of victimization by psychological aggression.

Swan and Snow (2002) tested these conclusions on a community and forensic sample. According to the researchers, emotional abuse included behaviors such as insulting or swearing at the partner, destroying an item belonging to the partner, and

stomping out of the room during a disagreement. The authors surveyed 108 women recruited from a local court mandated family violence course, a community health clinic, the domestic violence division of a local family court, and a domestic violence shelter. Intimate violence was assessed using the Conflict Tactics Scale-Revised. Analysis of responses revealed that women reported more perpetration of emotional aggression than their male partners.

Sexual Aggression

Female sexual aggression has not been the primary focus of aggression research because it seems to defy the “traditional sexual script” for heterosexual relationships (O’Sullivan & Byers, 1993, p. 270). Males are expected to be the sexual initiators and exhibit the highest levels of desire for sexual engagement. Conversely, females have been traditionally assumed to play the more passive role, exhibiting lower levels of sexual desire and greater control over sexual access granted to the male partner. These behaviors satisfy the socially accepted norms for male and female relational engagement (O’Sullivan & Byers, 1993). Research continues to provide additional evidence against the commonly held belief that women are more sexually passive and exhibit lower levels of sexual desire. O’Sullivan and Byers (1993) recruited 90 male and 111 female heterosexual undergraduate students who self reported as being unmarried. Data regarding their sexual initiation and aggression behaviors was obtained through the use of the Sexual Situation Questionnaire, the Background and Dating History Questionnaire, the Personal Attributes Questionnaire, the Sex-Role Ideology Scale, the Sexual Opinion Survey, and the Sexual Arousability Inventory-Expanded Version. Data

analyses of responses indicated that 64% of men surveyed reported being in a situation during the previous year in which a female partner wanted greater sexual activity than the male did.

Despite this finding, the gendered perspective of sexual behavior has influenced past research focusing on female victimization and male perpetration (Struckman-Johnson & Anderson, 1998). Muehlenhard (1998) argued that media and researchers bear partial responsibility for fueling these stereotypes and not challenging them. Faulty perceptions persist regarding the male's assumed ability to escape a sexually aggressive situation with a female. However, research has found that sexual aggression by women does occur, typically through employment of such tactics as intimidation and weapons (Struckman-Johnson & Anderson, 1998). Contrary to pervasive beliefs, males are "indeed vulnerable to the sexual aggression of women" (Struckman-Johnson & Struckman-Johnson, 1998, p. 141).

Recent research has shown that females engage in sexual aggression against males at significant rates. Poppen and Segal (1988) explored the rates of sexual aggression initiation in a sample of university students that consisted of 100 females and 77 males. The authors developed a questionnaire to serve the purposes of their investigation. Sexually coercive strategies were defined as, "direct actions to induce one's partner to engage in a behavior that he/she might otherwise resist" (p. 693). These behaviors included physical force, questioning of adequacy, and threats to end the relationship. While the finding that 56% of males committed a sexually aggressive act against a female is notable, more startling was the report that 14% of females reported

engaging in a sexually coercive strategy with their intimate partner. Hines and Saudino (2003) found similar results when they sampled 481 college students using the Conflict Tactics Scale-Revised. Participant responses indicated that although female perpetration rates are smaller than male rates, 13% of females surveyed admitted to using sexual coercion in their intimate relationship.

Struckman-Johnson (1988) surveyed 268 undergraduate men regarding their sexual activities. Analyses revealed that 16% of the men sampled reported being forced to engage in a sexual episode at least once during their lifetime. Of these men, 52% implicated psychological pressure (such as verbal demands or blackmail), 28% implicated psychological pressure combined with physical force, and 10% implicated physical force as the method of coercion employed by the female.

Muehlenhard and Cook (1988) expanded this line of research when they surveyed over 900 university students. The researchers developed a questionnaire that contained a list of 51 methods of sexual coercion, including behaviors described as enticement, physical coercion, intoxication, altruism, inexperience, peer pressure, threat of termination of the relationship, popularity, verbal coercion, sex role concerns, reluctance, threat of self-harm by partner, and family pressure. Data analyses revealed that most men and women sampled had experienced sexual activity that was unwanted. Specifically, 93.5% of men and 97.5% of women sampled were victimized by unwanted sexual experiences. Further, 62.7% of men sampled and 46.3% of women sampled were subjected to unwanted sexual intercourse. Responses indicated that women exhibited a greater likelihood of unwanted sexual activity in the form of kissing, while men were

more likely to experience unwanted sexual activity in the form of intercourse.

Additionally, 22.7% of men sampled, as compared to 31.3% of women sampled, were subjected to unwanted sexual activity as a result of nonviolent sexual coercion. While most of the physical coercion reported was nonviolent, 2.2% of the males and 3.9% of the females were victimized by violent physical coercion that resulted in unwanted sexual activity. Furthermore, 1.4% of males sampled and 2.7% of females sampled engaged in unwanted sexual intercourse as a result of violent physical coercion.

If these percentages hold true today, with the current population of students at this university estimated to be approximately 24,000 students, the prevalence could be astounding. That would mean that approximately 15,000 male students could be at risk for being subjected to unwanted sexual intercourse, while approximately 250 male students could be at risk for unwanted sexual intercourse as a result of violent physical coercion. Other notable strategies cited by Muehlenhard and Cook (1988) that males reported being victimized by included enticement (89%), intoxication (55%), threat of termination of the relationship (43%), and verbal coercion (26%).

Struckman-Johnson and Struckman-Johnson (1998) sampled over 300 undergraduate males using questions designed by the researchers. Incidence rates computed from the data indicate that 43% of the men reported having experienced at least one coercive sexual activity with a woman since age 16. The authors report that this rate represents an increase over the rate of 30% that they found in a similar study in 1990. Additionally, 27% of the sampled men reported coercive sexual experiences that involved intercourse. Overall, 75% of the men were coerced through persuasion while

40% reported that they were forced to get intoxicated. Furthermore, 19% of the men cited threat of withdrawal of love from the perpetrator as the primary pressure tactic, while 8% reported being victimized through physical restraint.

Larimer, Lydum, Anderson, and Turner (1999) solicited 165 freshmen men and 131 freshmen women through a university fraternity and sorority system in order to explore the prevalence of sexual aggression. Participants completed the Sexual Experiences Survey, the Young Adult Alcohol Problem Severity Test, the Daily Drinking Questionnaire, The Rutgers Alcohol Problem Inventory, the Alcohol Dependence Scale, and the Center for Epidemiological Studies Depression Scale. Analyses of the responses indicated that over 20% of men surveyed reported being victimized through sexual aggression, while over 27% of women surveyed reported victimization. Additionally, men reported more sexual coercion in the form of unwanted advances, persistent arguments, and pressures at the hands of women than women reported experiencing from men. Furthermore, men who reported being the victims of unwanted sexual contact also exhibited greater depressive symptoms than men who had not been victimized.

Anderson and Sorensen (1999) reported that more sexually aggressive strategies were employed by women towards men than men towards women. The authors surveyed 163 female and 82 male undergraduates using a questionnaire developed by the researchers to measure heterosexual initiation and aggression by females. Results revealed that men reported female sexual initiation strategies including the use of

alcohol, threatening to end the relationship, and initiation of sex when the male was a minor.

Struckman-Johnson, Struckman-Johnson, & Anderson (2003) studied over 300 college women for sexually aggressive behaviors toward their male intimate partners. A striking 26% of the women sampled reported employing sexual coercion tactics after being sexually refused, as compared to 43% of the males sampled. Additionally, 58% of the men sampled reported being victimized by sexually coercive tactics. Results indicated that 15% of the women reported using sexual arousal in the form of physical touch or removal of the victim's clothing, 15% of the women reported used manipulation or lies, 5% employed alcohol or substance intoxication, and 3% engaged in physical force.

More recently, Anderson and Savage (2005) clarified the study of sexual aggression by proposing three discrete sexual aggression strategies. Seduction was defined as sexual initiation that is non aggressive, such as wearing perfume or providing massages. Coercion could manifest as either psychological or verbal aggression. This included such behaviors as questioning the male's sexuality, lying, or threatening to terminate the relationship. Force was the most severe form of sexual aggression and was characterized by the threat of or engagement in physical aggression. This category includes such behaviors as holding the partner down, hitting the partner, or employing a weapon against the partner in order to engage in sexual activity. After reviewing existing empirical studies on female sexual aggression, they concluded that females were more

likely to engage in sexual coercion instead of physical force when aggressing in order to gain intimacy with their partner.

Thus, the incidence and prevalence of sexually aggressive behaviors by women has been well established by researchers. Empirical evidence has found that female intimate aggressors are capable of engaging in all three types of sexual aggression suggested by Anderson and Savage (2005). This evidence legitimizes the concept of male victimization and disputes the existing stereotypes that paint male victims of sexual aggression as willing participants.

Physical Aggression

Makepeace (1981) pioneered the empirical study of dating aggression when he reported that more than one in five college students have had direct experience with courtship violence. Analyzing the voluntary responses of over 2000 undergraduate students from seven different colleges, Makepeace found that over 16% experienced courtship violence. Results revealed that males more often sustained lower severity of violence, enduring such acts as pushing, slapping, and kicking. Conversely, females were more often beaten up or struck with an object.

Empirical study soon began to shed more light on the female initiation of intimate aggression. Lane and Gwartney-Gibbs (1985) studied a random sample of 325 undergraduate college students using a questionnaire designed by the researchers for the purposes of the study. Questions were modeled after the Conflict Tactics Scale. Response analyses indicated that females were more likely to admit to perpetration of

intimate physical aggression than males and engaged in more varied forms of aggression, ranging from mild hitting to injurious abuse.

Confirming the work of Lane and Gwartney-Gibbs, Fiebert and Gonzalez (1997) studied over 900 female college students over a five year period. Participants were asked to complete a questionnaire designed by the researchers to assess for initiation of for intimate aggression. Results indicated that 29% of participating college females disclosed their use of physical aggression against their heterosexual intimate partners.

Stets and Henderson (1991) found females to be more likely to perpetrate intimate aggression than males. The authors conducted a national telephone survey of 272 dating individuals between the ages of 18 and 30 using the Conflict Tactics Scale. Dialed phone numbers were generated using random digit dialing, resulting in a representative sample of the population. Results revealed that women exhibited nearly two times the likelihood of minor aggression than males, and six times the likelihood of committing severe aggression. This finding was supported by the males' responses, which indicated that males were two times as likely as women to report being the victim of severe aggression.

Shook et al. (2000) concluded that females reported perpetration of physical aggression significantly more than males did after surveying college students in dating relationships. Analyses of participant responses indicated that 23% of the females and 13% of the males surveyed admitted to perpetration of physical aggression against their intimate partner during the pervious year.

Swan and Snow (2002) recruited 108 women recruited from a local court mandated family violence course, a community health clinic, the domestic violence division of a local family court, and a domestic violence shelter and assessed intimate aggressive behaviors using the Conflict Tactics Scale-Revised. Analysis of responses revealed that women reported more perpetration of moderate physical aggression than their male partners. Moderate physical aggression included behaviors such as throwing things, pushing, shoving, slapping, and threatening to hit the partner.

Hines and Saudino (2003) sampled 481 college students using the Conflict Tactics Scale-Revised. The authors reported that 35% of females and 29% of males surveyed reported that they perpetrated physical aggression against their significant other. When the aggression was further analyzed, it became apparent that the levels of aggression were perpetrated differentially. Analyses revealed that 34% of females and 25% of males perpetrated minor aggression, while 7% of females and 10% of males perpetrated severe physical aggression. Furthermore, 6% of the females and 6% of the males reported perpetration of physical aggression that resulted in injury to their partner.

Existing Research

Exploration of the contributing factors of female perpetrated intimate aggression is still in its infancy. While individual factors and dynamics have been implicated, model development and empirical validation has been challenging. Research to date has primarily focused on “individual difference variables” instead of exploring more comprehensive origins for female intimate aggression (Sharpe & Taylor, 1999, p. 165). This approach has allowed several factors of the female perpetrator to be implicated.

Intrapersonal Factors

Fiebert and Gonzalez (1997) found that age correlated negatively with the use of physical aggression, as rates were higher for women in their 20s than those in their 30s. This age range coincides with progression through developmental tasks such as navigation of intimate relationships, further development of peer relationships, physical and emotional growth, and individuation endeavors such as college and employment. This could explain why the bulk of the dating aggression research has been done with college student samples, as it appears that rates are the greatest during these years.

Personality dynamics have also been found to be related to female intimate aggression (Riggs, O'Leary, and Breslin, 1990). The researchers surveyed 283 female undergraduate students who volunteered to fulfill a course requirement using the Conflict Tactics Scale, Personality Research Form-E, the Problem Solving Inventory, and the Personal History Questionnaire. The authors reported that female aggressors were more likely to exhibit aggressive personality styles. Furthermore, intimately aggressive women reported greater histories of interpersonal conflict and more impaired problem resolution skills.

In addition, relationally aggressive females involved in mutually aggressive relationships have been found to exhibit lowered self-esteem. Lewis, Travea, and Fremouw (2002) studied a sample of 300 undergraduate women recruited from psychology and sociology courses. Participants self-selected and were provided with course credit for participating. Additionally, in order to participate, females had to have been involved in a dating relationship of at least three months duration during the

preceding 18 months. In order to differentiate between perpetrating and retaliating aggression, participants were classified into one of three groups based on their survey responses: “victim”, “perpetrator-only”, “bidirectional aggression.” For comparison purposes, a non violent control group was also included in the study (page 597). Analysis of participant responses on the Conflict Tactics Scale and Self-Esteem Inventory revealed that lowered self-esteem was exhibited by females in the bidirectional group, while female perpetrators did not differ from the control group in self-esteem (Lewis et al., 2002). There appears to be a difference between female aggression in relationships characterized by mutual aggression and those characterized by female perpetrated aggression. As female intimate aggressors do not appear to comprise a homogenous group, study into female aggression should separately explore relationships in which the female is the sole aggressor and relationships in which there exists mutual aggression in order to assess for qualitative differences between the two types of female perpetrators.

Henning, Jones, and Holdford (2003) found that females who aggress against intimate partners are at increased risk for suicide, mood disorders, and personality dysfunctions. Specifically, the authors surveyed a sample of 281 female domestic violence offenders on probation for aggressing against their intimate partner using Conflict Tactics Scale, the Marital Adjustment Test, a substance abuse screening, the Shipley Institute for Living Scale, and the Millon Clinical Multiaxial Inventory-III. Results indicated that female aggressors were three times as likely as male aggressors to report prior suicide attempts. Furthermore, responses of female aggressors exhibited a

greater likelihood to reflect profile patterns in the clinical range for major depression, bipolar disorder, somatoform disorder, delusional disorder, and thought disorder. Compulsive personality disorder, histrionic personality disorder, and borderline personality dynamics were more likely to be exhibited by female aggressors than male aggressors.

Female perpetration of psychological and physical intimate aggression has also been correlated with posttraumatic stress symptoms. Leisring, Dowd, & Rosenbaum (2005) studied women requesting enrollment in an anger management program at an outpatient psychiatry clinic who reported engaging in physical aggression toward their male intimate partners. Participants completed the Childhood Trauma Questionnaire, Posttraumatic Stress Disorder Checklist- Civilian Version, and the Revised Conflict Tactics Scale. The researchers reported that the posttraumatic stress disorder symptoms were correlated with abuse during childhood and adult victimization of the participant by the intimate male partner.

Lastly, internalized inhibition of aggression has also been implicated. A sampling of undergraduate women found that when women with a high need for affiliation undergo significant stress, they are more likely to relationally aggress if their internalized inhibition for aggression is low (Mason & Blankenship, 1987). This conclusion was drawn after analyzing over 100 female undergraduate responses on the Conflict Tactics Scale, the Thematic Apperception Test, and the Life Experiences Survey.

Substance and Alcohol Abuse

Female perpetration of intimate partner aggression has also been found to have correlations with alcohol and substance use. Shook et al. (2000) assessed college students in dating relationships and found that females who perpetrated verbal aggression reported drinking alcohol within three hours of the incident. Stuart, Moore, Ramsey, and Kahler (2003) found similar results when they surveyed female arrested for domestic violence. Over 25% of those sampled reported excessive alcohol abuse and substance abuse symptoms.

Busch & Rosenberg (2004) surveyed 45 males and 45 females with domestic violence convictions to further explore this correlation. Data regarding the participants' substance abuse was collected in two ways. First, the original arresting officer was asked to provide an opinion as to whether substances played a role in the arrest. Second, previous substance related crimes were tallied for each participant. The authors reported that 67% of the women surveyed were under the influence of alcohol or substances when arrested for their current domestic violence offense. Most recently, Luthra and Gidycz (2006) reported that college aged females intimate perpetrators who reported active use of alcohol were five times more likely to commit intimate violence against their partner than female non perpetrators.

Armed with enhanced understanding of the individual characteristics that influence female perpetration of intimate aggression, research turned to relational dynamics and the role they play. As intimate aggression is by nature an interaction, elements related to relational connection became of great import. To this end, a brief

review of the construct of attachment, the earliest relational experience, is provided followed by relevant research related to this focus of this study.

Relational Dynamics

Attachment Theory

Attachment theory postulates that human beings are programmed from birth to form attachments or emotional bonds to other humans in a need for survival and care (Bowlby, 1982). Infants seek proximity to another being and attempt to maintain that proximity when experiencing distress. Additionally, the attachment is directed at the primary caregiver, which is usually the maternal figure. As Hazan and Shaver (1994) described, the defining characteristics of attachment are proximity maintenance, safe haven, and secure base. Separation distress was recently added as a primary feature (Zeifman & Hazan, 1997). Navigation of these features allows for the infant to balance attachment and independence in a manner that encourages healthy exploration, safety, and security.

Harlow and Harlow (1966) affirmed the instinctual nature of attachment through manipulation of the care taking preferences of rhesus monkeys. Baby rhesus monkeys were separated from their mothers and placed in varied surrogate conditions. In one condition, the babies were raised either with a surrogate mother made of exposed, rigid wire or one covered in terry cloth. To test the effects of the manipulation, only the wire mother offered a bottle for feeding. The baby monkeys formed attachments with the terry cloth mother despite the unavailability of food. In fact, the terry cloth mother became a source of comfort to alleviate distress and calm the baby monkeys when

necessary. This confirmed Bowlby's assertion that security is of vital importance to the attachment bond (1982). If an infant is unsure of the accessibility of the attachment figure during times of need, this insecurity could lead to fear and uncertainty about the stability of the emotional bond. Harlow and Harlow (1966) found that the sense of security emerged as a priority over the meeting of the basic need to eat. The appeal of security activates an internal instinctual need for attachment that proves more valuable than the act of providing nourishment.

Ainsworth, Blehar, Waters, and Wall (1978) also recognized the role of security and manipulated it in their well-known experiment exploring attachment. The researchers expanded Bowlby's theory through the Strange Situation, in which one-year old infants were exposed to a number of stressful situations presented in order of increasing likelihood of inducing distress. These included brief separations from their mother, strange environments, and interactions with strangers. The infants' reactions to these episodes discriminated three attachment styles that Ainsworth et al postulated were the product of the caregiver's style of responding to the infant's needs. Secure infants explored and played confidently, but sought close proximity to the mother when reunited after separations. These infants resisted release by the mother and tended to exhibit a desire to maintain close contact with her. In fact, secure infants greeted their mothers with more emotional responses after being reunited. Infants who felt secure returned to open exploration of their surroundings after being calmed by their mothers. In contrast, avoidant infants played indifferently and seemed uninterested in reuniting with their mother after separation. They greeted her casually or not at all, and engaged in openly

avoidant responses such as turning away. They exhibited no clingy behavior towards the mother and often treated the stranger similar to the mother. Finally, a hybrid attachment style was found that the researchers termed ambivalent. These infants displayed a blending of avoidant and contact seeking behaviors. While these infants did not turn from their mothers upon reunion, they tended not to actively seek interaction with their mother. However, contact seemed important to these infants and they sought to maintain it once established. Additionally, ambivalent infants exhibited more extreme behaviors during the strange situation, often expressing more anger or passivity. Both avoidant and ambivalent infants were less likely to return to confident exploration even after being soothed. Later, Hazan and Shaver (1994) extended this research by identifying three styles of attachment that bore strong resemblance to Ainsworth's classifications: secure, anxious/ ambivalent, anxious/ avoidant. Their addition of anxiety to the definition of attachment speaks to the fear that Bowlby postulated was produced when one is uncertain of the attachment figure's availability.

These attachment processes serve as a key function of human behavior from the "cradle to the grave" (Bowlby, 1979, p. 129). It has been proposed that "attachment behaviour in adult life is a straightforward continuation of attachment behaviour in childhood," conceptualized as a biological construct that develops into a "working model" (Bowlby, 1982, pp. 207-208). Hazan and Shaver (1994) discussed the function of the internal working model as establishing expectations of the availability and responsiveness of the caregiver. These mental representations blend one's image of self and the image of the caregiver to allow for appropriate development and differentiation.

Bowlby (1982) argued that this template influences future relationships and behavior. Interactions and relational styles remain consistent, transcend development, and infiltrate mature relationships.

According to Bowlby (1982), attachment styles begin to extend beyond the immediate family during adolescence. These working models become relational schemas through which adult women relate to their intimate partners. Elements of the relational working models that have been studied in relation to intimate aggression include attachment style, dependence, anxiety over abandonment, and commitment. More recently, research on the motivation and origin of female perpetrated intimate aggression has turned toward the role and influence of attachment in predicting female perpetration of intimate partner aggression. Among male batterers, maladaptive interpersonal dependence has been conceptualized as a consequence of childhood insecure attachment and a means to preserve the male ego (Dutton, 1995).

Kinsfogel (2001) noted current relationship qualities, such as attachment and commitment, as risk factors for female dating aggression. Bookwala (2003) found higher incidences of perpetrated relationship aggression in those females that reported their partner's attachment style as preoccupied. The preoccupied attachment style reflected characteristics of emotional dependence, high need for intimacy, and anxiety over perceived abandonment. Furthermore, participants that self-reported their own attachment style as fearful and their partner's as preoccupied reported greater frequencies of intimate aggression. These results were obtained using data collected from 161 college students on the Relationship Questionnaire, and the Conflict Tactics

Scale. The Relationship Questionnaire was used as a measure of attachment, and participants rated both themselves and their intimate partner.

Most recently, Beckner (2005) implicated the role of attachment in female perpetrated aggression by studying female probationers who were convicted of aggressive crimes. Results indicated that attachment serves as a better predictor of perpetration of aggression for females than psychopathology, which appears to be a stronger predictor for male perpetrated aggression. Research on the contribution of attachment to female intimate aggression highlights the primacy of relational dimensions in studying intimate aggression for females.

Family of Origin Contributions

To explore the influence of these early family attachment experiences as they relate to adult intimate aggression, a sample of over 600 undergraduate students were surveyed (Kaura & Allen, 2004). The researchers found that emotional and physical abuse of the daughter as a child by the father has been found to predict maltreatment of the intimate partner in future relationships. Specifically, experiencing emotional abuse at the hands of the father has been shown to result in greater levels of hostility towards the intimate partner later in life. Furthermore, physical abuse of the mother and daughter by the father has been linked to later marital aggression and conflict for the daughter (Nicholas & Bieber, 1996; Straus, 1992).

Lewis and Travea et al. (2002) analyzed responses from a sample of undergraduate women. In order to differentiate between perpetrating and retaliating aggression, participants were classified into one of three groups: “victim”, “perpetrator-

only”, “bidirectional aggression,” and a non violent control group based on their survey responses (page 597). Analysis of participant responses on the Conflict Tactics Scale-Mother and Conflict Tactics Scale-Father revealed that females in the bidirectional group exhibited greater likelihood of having witnessed their father abuse their mother (Lewis & Travea, et al., 2002).

Riggs and O’Leary (1996) confirmed the contributions of family of origin aggression. The authors reported that a correlation of .17 ($p < .05$) was found between female aggression and the witnessing of maternal aggression against the father. Additionally, females who endured aggression from their parents as a child were more likely to aggress against their intimate partner as an adult.

Comprehensive Frameworks

Taking into account the intrapersonal and interpersonal factors already implicated, some researchers have attempted to generate empirically supported typologies for female intimate aggressors. Typologies can further understanding of the commonalities that subtypes may share as well as draw distinctions between differing subtype characteristics. However, typologies are few in number. Stith, Jester, and Bird (1992) sampled undergraduate students in two waves. The first wave consisted of questionnaires being mailed to randomly selected first year students living in campus residence halls. In the second wave, participants were recruited from an introductory social science course and completed the protocols during class time. Participants must have reported aggressing towards their current intimate partner. The final sample consisted of 166 cases, 97 females, and 69 males. Assessments used included the

Relationship Dimensions Scale, the Power Strategies Scale, the Ways of Coping Inventory, the Conflict Tactics Scale, and the Rosenberg Self-Esteem Scale. Cluster analysis was employed to discern subtypes of aggressors, and multivariate analysis of variance was then used to test for differences between the clusters. Clusters were identified as “stable minimizers,” “hostile disengaged,” “hostile pursuers,” and “secure lovers” (p. 417).

Stable minimizers were more likely to be males and exhibited the greatest duration of relationships. They were characterized as reporting moderate levels of aggression and conflict. Their primary coping strategies are denial, avoidance, and self-control. This group reported perpetration of less violence and emotional abuse than the other clusters.

The hostile disengaged cluster was comprised of aggressors that expressed ambivalence and low levels of love for their partners. They reported using both minor and severe violence, but did not engage in emotional abuse as often as the other clusters. Additionally, this group employed coping strategies less frequently than the other clusters.

Hostile pursuers exhibited the greatest levels of relationship conflict and the highest employment of emotional abuse of all the clusters. Conflict was met by these aggressors with utilization of a variety of coping skills. These aggressors express significant levels of ambivalence and tend to engage in focused efforts at preserving the relationship.

The secure lovers cluster exhibited the highest levels of relationship preservation efforts and love for their partners. Reported conflict and ambivalence was the lowest of the four clusters. These aggressors appear to engage in more healthy conflict skills, such as direct negotiation, and report less use of avoidance as a coping strategy. This cluster exhibited greater use of self-control and problem solving in the face of conflict, and employment of intimate aggression was less frequent and less severe than the other clusters. These aggressors were mostly females, exhibited higher levels of self esteem, and reported relationship lengths second only to stable minimizers.

Alternatively, Monson and Langhinrichsen-Rohling (2002) proposed a three group typology after randomly surveying 178 undergraduate females and 87 undergraduate males using the Revised Conflict Tactics Scale-2, the Sexual Assault Measure, participant reported arrest record, the Beck Depression Inventory, the Multidimensional Anger Inventory, the Multidimensional Jealousy Scale, the Sex-Role Stereotyping Scale, the Acceptance of Interpersonal Violence Scale, an alcoholism screening test, the number of sexual partners since the age of fourteen, the Relationship Styles Questionnaire, the Interpersonal Control Scale, and the Structured clinical Interview for Personality Disorders. Cluster analyses revealed a three cluster model typology to be the most suitable.

Relationship-Only perpetrators made up approximately 50% of the participants. This group exhibited low levels of psychopathology yet perpetrated mild psychological and physical aggression with greater frequency inside the intimate relationship. Sexual and physical aggression was rare outside of the intimate relationship. These perpetrators

were less likely to have been exposed to or victimized by sexual or non sexual family of origin violence. Arrest history for these perpetrators was found to be minimal.

Consistent with prior research on male typologies, few differences were found to exist between relationship-only perpetrators and non-perpetrators of intimate aggression.

The Histrionic/Preoccupied group composed approximately 30% of the participants sampled. These perpetrators exhibited primarily dependent and histrionic personality dynamics. Levels of antisocial dynamics were comparable to the levels found in the Generally Violent/Antisocial cluster. This cluster exhibited greater likelihood that the perpetrator had been exposed to or victimized by family of origin sexual violence. Additionally, these perpetrators committed more acts of sexually violent behavior.

Finally, the Generally Violent/Antisocial cluster composed approximately 20% of the sample. Psychopathology evident in this group included antisocial and schizoid personality dynamics. These perpetrators committed more aggression of all levels outside the intimate relationship. Arrest records for these perpetrators reflected crimes that resembled acting out behaviors. In terms of family history, these participants exhibited greater likelihood of having been exposed to or victimized by sexual or non sexual family of origin violence. Furthermore, this group exhibited greater levels of alcohol abuse symptomology.

Monson and Langhinrichsen-Rohling (2002) reported that this typology fit both the male and female data. However, some important gender issues did arise. Female perpetrators were more likely to be classified as Histrionic/Preoccupied type. Group

membership rates for males and females in the Relationship-Only cluster were nearly equivalent. Females also exhibited lower levels of antisocial personality dynamics. The authors asserted that the results pointed to minimal psychopathology and mismanagement of interpersonal intimacy as primary characteristics of the average female intimate aggressor. Thus, characteristics of the intimate relationship appear to be fundamental to type and severity of intimate aggression by females.

In attempts to merge these findings into a comprehensive conceptualization, a small number of models to explain female perpetrated intimate aggression have been proposed. Riggs and O'Leary (1996) implicated both family of origin and current situational factors in female perpetrated dating aggression based on a study of 283 female undergraduate students using the Conflict Tactics Scale and the Conflict Tactics Scale-Parent. Specifically, witnessing interparental aggression and/ or being a victim of child abuse leads to acceptance of and past engagement in relational aggression. These two factors contributed to levels of current relationship conflict, which functioned as a significant factor for both verbal and physical relational aggression.

Kinsfogel (2001) found similar results when testing a modified proposed model, which added anger and substance abuse as risk factors for female dating aggression. Using a sample of 396 high school students, Kinsfogel investigated the fit of a hypothesized model using data obtained through a variety of self-report measures. Results indicated that the best fit model for female perpetration included childhood victimization through child abuse by the parent and the witnessing of interparental aggression as a child. These two combined and were found to be associated an

aggressive personality, anxious attachment style, and substance use. Relationship conflict, substance use, and attachment style exhibited associations with female perpetration through victimization by male intimate perpetration of aggression. It would seem that according to this model, the effect of family of origin aggression on female intimate was partially mediated by anger, aggressive personality, and substance abuse.

Follingstad, Bradley, Helff, and Laughlin (2002) explored the connection between the anger and attachment style by surveying 199 college females at the conclusion of their first semester during their freshman year. Data was collected in two waves, with successive freshman cohorts. Measures used included the Conflict Tactics Scale, the Relationship Scales Questionnaire, the State Trait Anger Expression Scale, and the Need for Control Scale. Structural equation modeling revealed the best fit model to implicate anxious attachment, controlling behaviors, and anger in the perpetration of female intimate aggression. Specifically, the authors reported that anxious attachment resulted in the growth of anger as a trait. An angry temperament resulted in engagement in controlling behaviors, which functioned as a mediator between angry temperament and perpetration of intimate aggression. Consequently, a female with anxious attachment and an angry temperament would be more likely to aggress against her intimate partner if she exhibited active attempts to control the partner.

Female Peer Relationships

As Bowlby (1982) argued, attachment working models influence future relationships and behavior, through the relational styles that characterize mature relationships. The saliency of attachments and close relationships continues to function

as a central aspect of adult female interpersonal relations. Rubin (1985) characterizes the human desire for close relationships as the “very substance of human social life – a primitive need” that must be met (p. 98). McAdams (1988) argues that personal relationships are the place in which humans may find the most “profound experiences of security and anxiety, power and impotence, unity and separateness” (p. 7). He further asserted that friendships and intimate relationships “gratify basic needs, fulfill fundamental values, [and] meet developmental tasks” (p. 7).

Although some believe that the marital covenant can usurp the need for female friendship, “women’s intimacy needs may not be completely met by spouses” (Tschann, 1988, p. 79). Female friendships work cooperatively with the marital relationship in fulfilling a woman’s intimacy and relational needs (Sheehy, 2000). She cites female friendships as alleviating the emotional demand that women place on their husbands by providing a listening ear in times of distress. Friendship provides a safe haven in which to disclose and unload “hazardous” emotions towards others (Sheehy, 2000, p. 38). The freedom and security the female friendship provides allows for catharsis to occur (Reohr, 1991). Female friendships do not compete with intimate relationships (Oliker, 1989). Rather, they provide a qualitatively different context in which women are able to cultivate emotional growth that extends beyond the friendship and strengthens the intimate commitment and bond. Female friendships function to enhance both the individual and marital dyad, by allowing for women to preserve their individual identity while supporting the marital dyad (Rubin, 1985).

Female friendships should not be viewed as a “peripheral relationship within the structure of women’s lives” (Allan, 1989, p. 80). Oliner (1989) characterized close female friendships as being a source of emotional attachment and intimacy that is thought to be rooted primarily in early family interactions. Female friendships function as an avenue through which to develop individual identity and integration skills. Further, they provide a means of achieving the intimacy and interpersonal skills that are central to the moral growth of females (McClelland, 1975). Thus, female friendships serve a vital role in the facilitation of female development and functioning.

Miller (1991) argued that all female growth occurs “within emotional connections,” not set apart from them (p. 15). This model has been referred to as the “self-in-relation” self structure of women (Jordan, Surrey, & Kaplan, 1991, p. 35). While the authors did not negate the value of previously proposed avenues for development, they argued that relational needs function as primary import for women at all stages of life. Furthermore, engagement in healthy relationships facilitates psychological development and growth for women. It is within the context of relationships that the self is developed (Surrey, 1991). This theory reflects the reverse of common theories of development, which highlight the saliency of separation in the growth of individual identity. The self-in-relation model asserted that female development requires the active engagement in and maintenance of relational connection in order to develop the self, denying commonly held notions that development necessitates relational separation and disconnection (Surrey, 1991). In contrast to the male oriented model of development which focuses on independence and autonomy as the goal, this female model of

development focuses on the goal of continuity of relational connection (Stiver, 1991). It is argued that for women, the traditional goal of autonomy can result in isolation and loneliness.

Despite the centrality and saliency of female friendships to healthy development, concise, Rubin (1985) characterized female friendships as the “neglected relationship,” arguing that research has been scant (p. 1). Emotional dynamics of female friendship continue to be neglected as many researchers do not take them seriously as an avenue for empirical study (O’Conner, 1992). Due to the paucity of research on female friendships, agreed upon definitions of friendship are elusive. Fehr (1996) argues that this is due to the inability of science to reach agreement on the features of friendship. The complex nature of the relationship and the intricacies of the influencing factors have led researchers to define friendship according to their individual research needs and theoretical stance. For the purposes of this study, friendship shall be defined as the “voluntary interdependence between two persons over time, that is intended to facilitate socio-emotional goals of the participants, and may involve varying types and degrees of companionship, intimacy, affection, and mutual assistance” (Hays, 1988, p. 395).

Female friendships, rather than family relationships, are frequently the place that young women find support and guidance (Gouldner & Strong, 1987). Most young adults utilize close friends as their principal means of support (Burlison & Samter, 1994). The authors argued that friendship is the only voluntary relationship in which a person can adequately fulfill the psychological needs of affiliation, acceptance, connectedness, and confirmation. Oliner (1989) described a communal dynamic of female friendships that

stems from women's mutual awareness of their dependence upon each other and the value of the friendship. It is this communal aspect that facilitates the meeting of the female intimacy needs.

Caldwell and Peplau (1982) surveyed 49 unmarried female and 49 unmarried male college students using questionnaires designed for the purposes of this study. The authors found that females reported an average of three intimate and six good female friends. The distinguishing feature between these two classifications was the safety of the intimate friendships that allowed for sharing of personal thoughts and feelings. Furthermore, females reported that they met with their closest friend an average of three times a week "just to talk" (p. 727).

Theories of friendship are scant, although many have proposed fundamental characteristics of friendships (Fehr, 1996). Weiss (1974) discussed six provisions of social relationships: "attachment," "social integration," "opportunity for nurturance," "reassurance of worth," "reliable alliance," and "obtaining of guidance" (p. 23-24). Attachment needs are gained through the security of close relationships. Reassurance of worth occurs in relationships that affirm the individual's value. Weiss noted that the provisions are qualitatively different and likely require multiple relationships to meet all needs.

Wright (1982) asserted that friendship offers four primary benefits or values. Ego support value is gained when friends encourage and support a person, allowing for the building of self-competence. Self affirmation value results when friends express appreciation of the most valued attributes of the person. Stimulation value is the

increasing of one's worldly awareness, knowledge, and insight through the stimulation of the friends. Finally, friends exhibit high levels of utility value when they contribute their own talents and resources to support the person in achievement of specific goals.

These conceptualizations of friendship all share common fundamental foci on connection, affirmation, and nurturance. Friendships provide a place to, "test our sense of self-in-the-world" (Rubin, 1985, p. 13). The development of individual awareness and identity occurs through connection with others. The need for friends begins in early childhood and continues through adulthood, when they play a vital role in life adjustment and individual development. According to Rubin, the power of friendships lies in their ability to function as a "mirror on the self," allowing women to learn about themselves through the eyes of another. In this way, women are capable of noting their strengths and weaknesses as others experience them. Additionally, female friendships provide a sanctuary in which women can generate "alternative definitions of self" (1998, p. 119).

After interviewing 204 females ranging in ages 8 to 90 about their experiences with friendship, Sheehy (2000) argued that the purpose of female friendship is, "human connection," and characterized the most beneficial friendships as possessing elements of comfort, security, and empathy (p. 31). Approximately 75% of the participants were European, 11% were African, 9% were Hispanic, 3% were Asian, and 2% were Native American. Of the women interviewed, 80 were married, 3 were separated, 48 were divorced, and 12 were widowed. Thirteen women identified themselves as lesbian. Furthermore, Sheehy (2000) addressed the role that female friendships play in the human

navigation between connectedness and autonomy. She distinguished the female friendship as the only human relationship that may be able to perfectly balance these two needs. According to Sheehy (2000), female friendships of greater quality increase the likelihood that the involved females can develop independence and autonomy.

Research also shows that female-female friendships hold therapeutic value for women in that same-sex relationships contribute to females' support, growth, and change (Davidson & Packard, 1981). Perhaps more salient to the current study is the evidence that supportive social relationships appear to guard females against depression (Kendler, Myers, & Prescott, 2005). Opposite sex twins were interviewed in two waves one year apart. The researchers found that levels of social support at interview time one predicted incidence of major depression at interview time two for females much greater than for males.

The value of friendships to female development extends beyond that of the peer relationship. The role of peers in healthy development of heterosexual romantic relationships has been confirmed through exploration of the contribution same-sex peer relationships make during late adolescence (Connolly, Furman, & Konarski, 2000; Furman, 1998). Beyond adolescence, Fraley and Davis (1997) surveyed over 200 university students and reported that same-sex peer relationships reflect dimensions of attachment and Bowlby's working model, functioning as a primary target of proximity seeking behaviors and a moderate source of secure base for college students.

The relevance of peer relationships to intimate violence is twofold. Research shows that peer relationships afford protection against intimate aggression. College

females who reported accessing social support through interpersonal relationships were less likely to be involved in violent dating relationships (Bird, Stith, & Schladale, 1991). The researchers defined these behaviors as including seeking advice from a relative or friend and eliciting sympathy from others.

Additionally, surveys of over 100 university students using self report assessments of aggression and victimization, the Adult Romantic Relationship Questionnaire, and the Inventory of Parent and Peer Attachment indicated that alienation from peers was associated with increased perpetration of and victimization by intimate aggression (Linder, Crick, & Collins, 2002). The authors proposed three ways that this correlation could occur. First, individuals disconnected from the peer network may lack social experiences that allow for one to develop healthy intimate behaviors, resulting in immature and maladaptive expressions of jealousy and relational aggression to control the relationship. Second, experiences with relational aggression within the intimate relationship may transfer outside to the peer network, resulting in peer alienation. Third, and most relevant to the current study, alienation from peers may result in heightened dependence on the intimate relationship, resulting in unmet needs for enmeshment and exclusivity that can manifest as relational aggression.

Female Intimate Relationships

Magdol et al. (1997) argued that female intimate aggression “may arise not from [women’s] characteristics but from the context of their relationships” (p. 76). Jack (1999) argued that the “forms of relationship critically shape” female aggression (p. 281). Gilligan (1993) proposed that female aggression could be tied to a break in human

connection. It has been argued that a woman's emotional investment in intimate relationships reflects the saliency of these relationships to her self identity (Valentis & Devane, 1994). Males are the most likely target of female aggression because intimate relationships that are characterized by intensity and exclusivity incite more stress in the female (Campbell, 1993). Accordingly, the female identity becomes dependent upon the survival of the relationship that she has sown so much into. When faced with the threat of rejection or abandonment, intense rage and deep hurt can be the emotional costs she incurs for her investment.

It is these gender differences that are implicated in the perception of danger study by Pollack and Gilligan (1982). Male and female participants were asked to write responses to selected images of the Thematic Apperception Test. Analyses of responses indicated that females perceived danger and projected violence onto images that suggested interpersonal separation. Conversely, men perceived danger and projected violence onto images that inferred interpersonal connection.

According to Jack, "aggression is a type of relatedness, a particular form of interaction, a way of connecting" (1999, p. 43). Analyses of responses obtained through interviews of 60 women regarding their experiences with aggression revealed a common theme. The author characterized aggression as a salient aspect of the navigation between engagement of intimate connections and the devastation over loss of those connections. Extending this concept, the author defined destructive aggression as the consequence of the psychological distress caused by interpersonal disconnection. According to the women Jack interviewed, aggression functioned as a response to threats of loss,

separation, or damage to the self concept. Jack (1999) hypothesized that when a female perceives a threat of abandonment, overwhelming feelings of isolation and shame result in significant psychological distress, which blurs the line between loss of others and loss of self. It is this loss of self that leads to the outward manifestation of internal psychological distress, as the female attempts to connect with the partner through the shared experiencing of the psychological pain.

Additional empirical support has been found for this finding. Fiebert and Gonzalez (1997) reported that female perpetrated aggression is more frequently committed to gain greater attention and emotional support from the intimate partner. Dasgupta (1999) implicated seeking attention and respect from intimate partners as two of nine motivations given by female perpetrators for their aggressive behavior towards intimates.

Several studies have implicated dynamics of the relationship in female perpetration of intimate aggression. Stets (1991) explored the level of relationship involvement and its correlation with perpetration of psychological aggression by college females. Involvement was ascertained through analysis of responses to the duration of the relationship and the number of dates reported for that relationship. Results revealed that as involvement increased, perpetration of psychological aggression increased. Furthermore, length of relationship has been found to be positively correlated with a female's perpetration of intimate psychological aggression (Hammock & O'Hearn, 2002).

Riggs, O'Leary, and Breslin (1990) implicated the current state of the intimate relationship in the likelihood of female perpetrated aggression. A sample of undergraduate females was assessed using the Conflict Tactics Scale and the Relationship Problem Checklist. The authors reported that intimately aggressive females indicated more problems in the relationship.

Ridley and Feldman (2003) surveyed a community clinic volunteer sample of 153 females using the Abusive Behavior Inventory and the Communication Patterns Questionnaire. Results revealed that relationships characterized by female aggression exhibited more problematic communication styles. These styles included verbal aggression, avoidance, demand/withdraw and impaired problem resolution. Most notably, these relationships were found to endure greater emotional distance following conflict. Thus, it appears that dyadic communication styles play a significant role in female perpetration of intimate aggression.

Research has also shown correlations between the risk factors of need for control and less inhibition of anger, and perpetration of dating violence (Dasgupta, 1999) Follingstad, Bradley, Laughlin, and Burke (1999) surveyed over 600 undergraduate students. (Follingstad, Wright, Lloyd, & Sebastian, 1991). DeMaris (1987) sampled over 400 college students in order to investigate the contributing factors of dating aggression. For females, significance was only found in the relationship between a female's desire to control the male and female perpetration of intimate aggression. Foo and Margolin (1995) surveyed 463 college students and reported that female perpetrated dating

aggression was partially explained by humiliation as a justification for aggression and violent sexual victimization during adulthood.

It appears that relationships of longer duration marked by greater problems, heightened involvement, and more problematic communication exhibit greater rates of female perpetration of intimate aggression. Additionally, emotional factors such as decreased restraint of anger, humiliation, and need for control add to the likelihood of female aggression against a male partner. Yet, no study to date has explored the relationship between facets of the intimate relationship and peer relationships for contributions to female perpetrated intimate aggression.

The Current Study

In order to understand the focus of the current line of research, a brief background on related research into male aggression is provided. Murphy, Meyer, & O'Leary (1994) explored the role of relational dimensions on male perpetration of intimate aggression. Three groups were compared: partner assaultive men, unhappily married non violent men, and happily married non violent men. Responses on the Short Marital Adjustment Test, Conflict Tactics Scale, the Interpersonal Dependence Inventory, a spouse specific dependence measure, the Rosenberg Self-Esteem Scale, and a jealousy measure designed for the purposes of this study revealed that partner assaultive men were found to exhibit greater interpersonal dependence, spouse-specific dependence, insecure/ preoccupied attachment, and lower self-esteem than nonviolent men.

Holtzworth-Munroe, Stuart, & Hutchinson (1997) explored differences between violent and nonviolent husbands and found that violent husbands demonstrated more dependence on their intimates, jealousy in their relationships, and insecure, preoccupied, and disorganized attachment than did nonviolent husbands. These findings were obtained using the Conflict Tactics Scale, the Adult Attachment Scale, the Spouse Specific Dependence Scale, and the Interpersonal Jealousy Scale.

Jennings and Murphy (2000) merged these findings into a comprehensive theoretical framework for understanding male perpetrated intimate aggression. The authors proposed that aggressing males suffer relational impairments stemming from their disappointments of gender role socialization and traditional masculine expectations. Attempting to adopt the traditional hypermasculine identity and behaviors protects the male against shame and humiliation, yet also locks the needs for male affection and acceptance deep within. Thus, aggressing males experience impairment as they attempt to navigate male-male peer relationships without exhibiting traditional feminine behaviors, such as expression of emotion, empathy, connectedness, or dependence in order to avoid shame and/or humiliation. Jennings and Murphy (2000) argued that males consequently look to their female partners for provision of the emotional bonding, affection, and intimacy that went unfulfilled in the male-male relationships.

Jennings and Murphy (2000) purported that males aggress against their female partners in a maladaptive attempt to maintain their partner's role as surrogate peer in order to compensate for relational deficits. As the male has invested "all his emotional and social eggs" in the one basket of the intimate relationship, the threat of losing this

relationship is devastating and overwhelming (Jennings & Murphy, 2000, p. 24). The female partner is expected to function as “his lover, mother, best friend, and sometimes even surrogate father—all rolled into one” (p. 24). The heightened demands placed solely on the intimate relationship by the male as a means to fulfill the needs for intimacy and connection manifest in greater levels of intimate dependence and intimate jealousy. The underlying fear of loss creates a sense of desperation in the male and he aggresses in an attempt to maintain the emotional connection that the intimate relationship provides. In contrast, males who exhibit healthier senses of self are able to engage in multiple relationships across a variety of people, thus allowing for healthy dispersion of relational fulfillment.

This study was designed to explore the applicability and relevance of this theory to female intimate aggressors. It was proposed that if male perpetrators experience relational displacement as a correlate to intimate aggression, then females will likely demonstrate those patterns to a greater degree as relational constructs are central to the female identity.

A proposed female model of self highlights the saliency of interdependence and relationships (Cross & Madson, 1997). Relationships and domestic connections account for a considerable measure of the female emotional security. Societal expectations and gender role stereotypes have resulted in female socialization towards dependence and the saliency of relationships to ego integrity (Lloyd, 1991). The consequences of the cyclical nature of this interaction are twofold. Relational connections serve to strengthen both one’s internal view of self and the external manifestation of socially accepted and

expected behaviors. Conversely, lack of relational connection can be particularly damaging to females. Internal sense of self is disrupted and this is compounded by the sense of inadequacy that can come from failing to meet societal standards for female behavior.

While traditional male behaviors offer protection against humiliation, female behaviors serve to fulfill the basic need for connection that is rooted in the female identity development (Jennings & Murphy, 2000). Research has shown that as intimate relational involvement increases, the level of female-female peer involvement and disclosure decreases (Johnson & Leslie, 1982). While this relational withdrawal has been argued to be partial, it increases the value and saliency of the intimate relationship (Fischer, Sollie, Sorell, & Green, 1989). Fulfillment of intimacy needs and provision of emotional support now rests more heavily on the intimate relationship. While there seem to be few empirical studies addressing the relational risk factors of female perpetrated partner aggression, attachment theory and the saliency of relational bonds to female development speak to the significance that relational dimensions of same sex peer relationships may hold for the relationship between impaired intimate relationships and intimate perpetration of partner violence.

Ben-David (1993) described these relational dimensions as sources for female perpetration of intimate aggression. Functioning on the assumption that female aggression is a consequence of an interaction, Ben-David proposed three influencing factors. Psychological factors contribute to the incitement of the emotions toward the interaction and represent the initiation of the aggression. These include such emotions as

anger, jealousy, distress, and feelings of helplessness that serve as the backdrop to the aggression instigation. Behavioral factors are comprised of the socially learned reactions to the feelings resulting from the situation. These factors reflect the behavioral patterns that have been entrenched through reinforcement and punishment. Aggressive behavioral patterns can be the result of family of origin teachings and experiences or social gender role expectations and modeling. Lastly, situational factors reflect contextual elements associated with the situation, such as the domain within which the incident occurs and the anticipated or real responses to the situation. Specifically, aggressive incidents can occur within one of two domains. Ben-David (1993) asserted that it is within the female's domestic domain that relational commitments and loyalties are housed. The author further argued that the higher incidence of female intimate aggression can be partially accounted for by threats to the domestic domain. Conversely, the public domain accounts for all aspects outside of the household domain. Ben-David (1993) asserted that because this domain is of less saliency to female identity, threats to this domain do not usually incite violence and are met with less tension, anxiety, and stress.

Theories of female development that cite the saliency of female intimacy and interpersonal connection establish the threat to human connection as fearful and anxiety inducing (Gilligan, 1993). Threats to an intimate relationship in which the female has invested physically, emotionally, and psychologically may result in aggression as a means of gaining some sense of control over the perceived rejection and potential withdrawal of the relationship (Stets, 1991).

According to Ben-David, these threats can instigate aggression in the private domain (1993). Socialization processes result in behavioral factors developing out of learned responses to psychological factors. Specifically, exposure to aggression in the family of origin facilitates the learning of aggressive behaviors. As females rarely have opportunities to learn this behavior from aggressive models outside the home, behavioral factors are primarily experienced in the private domain. Situational factors are relevant aspects of the situation and the expected outcomes. Beliefs and perceptions about the victim of a female's aggression influence her likelihood to engage in that aggression. Ben-David (1993) asserts that the uncertainty regarding the response of a stranger in the public domain to aggressive victimization minimizes the likelihood that the female will aggress. Female aggression directed towards strangers is improbable (Baumeister & Sommer, 1997). However, confident expectations of familial reactions to female aggression lessen the unknowns and increase the likelihood of female aggression. Again, the primary influence of situational factors lies in the private domain. As such, females are more likely to aggress against intimates in their private world than strangers in the public world. Cumulatively, the circular model asserts that heightened instigation, greater learned aggressive responses, higher intensity of the situational stress, and lower severity of the expected physical injury lead to heightened frequency of aggressive responses.

The current study sought to test the conceptual framework of Jennings and Murphy (2000) on female perpetration of intimate aggression. To this end, the study of the interrelationships between same sex peer relationship variables and intimate

relationship variables became the primary focus in ascertaining the influencing factors of female perpetrated intimate aggression.

Variables of Interest

For the purposes of this study, aggression was operationalized by the constructs assessed in the most commonly utilized measure for intimate relational aggression, the Conflict Tactics Scale - Revised (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Accordingly, relational aggression included a range of behaviors: negotiation, verbal aggression, psychological aggression, physical assault, and injury.

The number of significant peer relationships was measured through the demographic questionnaire. A question was included as follows: “How many female friendships do you currently have that you would consider significant?” This question was designed to reflect the participant’s perception of the number of significant same sex peer relationships she is currently involved in.

Interpersonal competence can be conceptualized as a demonstration of behavioral skills that manifest task domains required for effective interactions. Interpersonal competence has been found to be salient to children, adolescents, and married couples as a function of peer group popularity, success in dating, and marital satisfaction (Asher, 1983; Gottman, 1979; Twentyman, Boland, & McFall, 1981). Additionally, those who exhibit traits of interpersonal competence are more likely to initiate and maintain supportive relationships that prove helpful during times of stress (Cohen, Sherrod, & Clark, 1986; Gottlieb, 1985; Sarason, Sarason, Hacker, & Basham, 1985). Perhaps most notable is the correlation between impaired interpersonal skills and loneliness (Jones,

Hobbs, & Hockenbury, 1982; Spitzberg & Canary, 1985). As defined by Burhmester, Furman, Wittenberg, and Reis (1988), interpersonal competence for this study focused on five domains: initiating relationships, providing emotional support (empathy and caring), asserting influence, self-disclosure, and conflict resolution. Interpersonal competence has been implicated as a predictor of the quality and number of friendships in late adolescence (Buhrmester, 2005). Additionally, interpersonal competence has also been found to exhibit strong correlations with the quality and number of these friendships. Given that the current sample to be accessed is transitioning out of late adolescence into early adulthood, interpersonal competence was used to ascertain the quality of engagement in and level of impairment of both the same sex peer and intimate relationships.

Dependence can be conceptualized as a reliance on a significant interpersonal relationship that is emotionally salient enough to define the self and manifests in thoughts, beliefs, feelings, and behaviors (Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982; Hirschfield, et al., 1977; Rathus & O'Leary, 1997). Hirschfield, et al. (1977) proposed three possible sources for interpersonal dependence: the quality of the relationship with the caretaker when an infant, socially learned behaviors, and the interaction between the infant caretaker relationship and socially learned behaviors. The over-reliance on this relationship leads one to put forth great effort at gaining, preserving, and defending the maintenance of the relationship (Blatt, et al., 1982; Hirschfeld et al., 1977). Intimate dependence has been implicated in emotional disorders

such as depression (Blatt, et al., 1982). More recently, intimate dependence exhibited by partner violent men has been linked to insecure attachment styles (Dutton, 1995).

Research has found higher levels of spouse-specific dependence in partner violent men than non-violent men. Murphy et al. (1994) compared three groups of men: partner assaultive men, unhappily married non violent men, and happily married non violent men. Data was collected using the Conflict Tactics Scale, the Interpersonal Dependence Inventory, and a spouse specific dependence measure. Partner assaultive men were found to exhibit higher levels of dependence in both the general interpersonal and spousal relationships. The authors posited that the heightened emotional investment into the relationship creates a cycle of escalation and coercive control that ultimately results in intimate aggression. As the overly dependent and invested male pursues the female, the coercive control leads the female to withdraw. This heightens the anxiety of the male and the pursuit gains momentum with the controls becoming more frequent and intense.

Due to the interactional nature of power and dependence in intimate relationships, there existed a need to further explore the nature and role of intimate dependence of the female perpetrator of intimate aggression as regards her levels of dependence on her same sex peer relationships. O'Neill and O'Neill (1972) argued that jealousy is a function of dependence in intimate relationships. White (1981) sampled 150 couples and collected relationship data using the Self-Descriptive Jealousy Scale, Rosenberg's Self-Esteem Scale, the Self-Esteem Dependence Scale, the Dependence Scale, the Perceived Dependence Scale and the Exclusivity Scale. Results of analyses

indicated that for women, intimate jealousy was positively correlated with intimate dependence and the desire for intimate exclusivity.

Mathes & Severa defined jealousy as a “negative emotion resulting from the actual or threatened loss of love to a rival” (1981, p. 24). White and Mullen (1989) further characterize jealousy as a “complex of behaviors, thoughts, and emotions” (p. 9). While jealousy has traditionally been viewed as an emotion directed at the rival, jealousy, when manifested as anger and blame, is more likely to be focused on the intimate partner than the rival (Mathes & Verstraete, 1993). Mathes (1992) argued that no sex differences in jealousy have arisen out of his analyses using Interpersonal Jealousy Scale. Furthermore, both length of relationship and relationship status have contradictory empirical results when correlated with jealousy (White & Mullen, 1989). The authors argued that this could be due to the intricacies of relationships that extend beyond duration and status definitions.

Jealousy was the most frequently implicated initiator of intimate aggression reported in a sample of over 202 undergraduate students (Makepeace, 1981). Jealous behaviors have been found to be predictors of intimate aggression (Brainerd, Hunter, Moore, & Thompson, 2002). Over 100 undergraduate students were surveyed using the Stets’ Psychological Aggression Scale, the Stets’ Interpersonal Control Scale, the Straus Physical Violence Scale, and Fisch and Brainerd’s Use and Approval of Jealousy-inducing Behaviors Scale. Response analyses indicated that perpetration of psychological aggression could be predicted from the participant’s approval of and engagement in jealousy inducing behaviors. Additionally, engagement in jealousy

inducing behaviors functioned as a predictor for physical aggression. The connection between jealousy and aggression has also been found in marriage. Violent husbands exhibit higher levels of marital jealousy than nonviolent husbands (Holtzworth-Munroe et al., 1997).

Jealousy has been found to be linked to attachment (Hazan & Shaver, 1987). After surveying college students and a sample of the general population, correlations were found between self reports of the anxious/ ambivalent attachment style and responses on a measure of jealousy in relationships. The anxiety of anticipated loss is a salient aspect of jealousy (White & Mullen, 1989). Tov-Ruach (1980) extended this conceptualization and implicated the loss of attention that is so salient to the self-concept, making the loss that much more devastating. This relational component of jealousy was explored by Murphy, Vallacher, Shackelford, Bjorklund, and Yunger (2005). The researchers surveyed 263 undergraduate males and females and found a qualitative difference in the triggers for jealousy. While male jealousy appears to be a reaction to sexual infidelity, female jealousy was found to have been more attributed to emotional infidelity, defined by the authors as termination of exclusive investment in the relationship. This further confirms the primacy of relational connection to the female sense of self. Female jealousy is more closely related to the threat to intimate connection.

Moderately strong positive correlations have been found between jealousy and emotional dependence for women (Buunk, 1982). Three separate samples were collected, with participants solicited by random selection from the phone book, a student

organization, a group of active church attendees, advertisements in seven magazines, and a large number of undergraduate students. Information on the variables of interest was collected using a jealousy scale and dependence scale designed by the research for this study.

Proposed Model and Hypotheses

The primary goal of this research was to explore the influence of qualities of same sex peer relationships on the relationship between qualities of the intimate relationship and perpetration of intimate aggression using existing empirical research and theoretical literature as a guide. Based on the existing research, a comprehensive model was hypothesized to ascertain the relationships between the variables of interest. This structural model is represented in Figure 1, and was generated for testing exhibited proposed relationships between the independent variables (IV) of intimate and same sex peer dependence (anxious attachment, exclusive dependence, emotional dependence), intimate and same sex peer interpersonal competence (initiating relationships, providing emotional support, asserting influence, self-disclosure, conflict resolution), number of significant same sex peer relationships, and intimate jealousy. These variables were studied for their predictive capabilities of the criterion variable (DV): perpetration of intimate aggression.

The proposed model hypothesized that intimate aggression would be directly influenced by intimate dependence, intimate jealousy, and interpersonal competence. Intimate dependence would be directly influenced by peer dependence and indirectly influenced by the number of same sex peer relationships and peer interpersonal

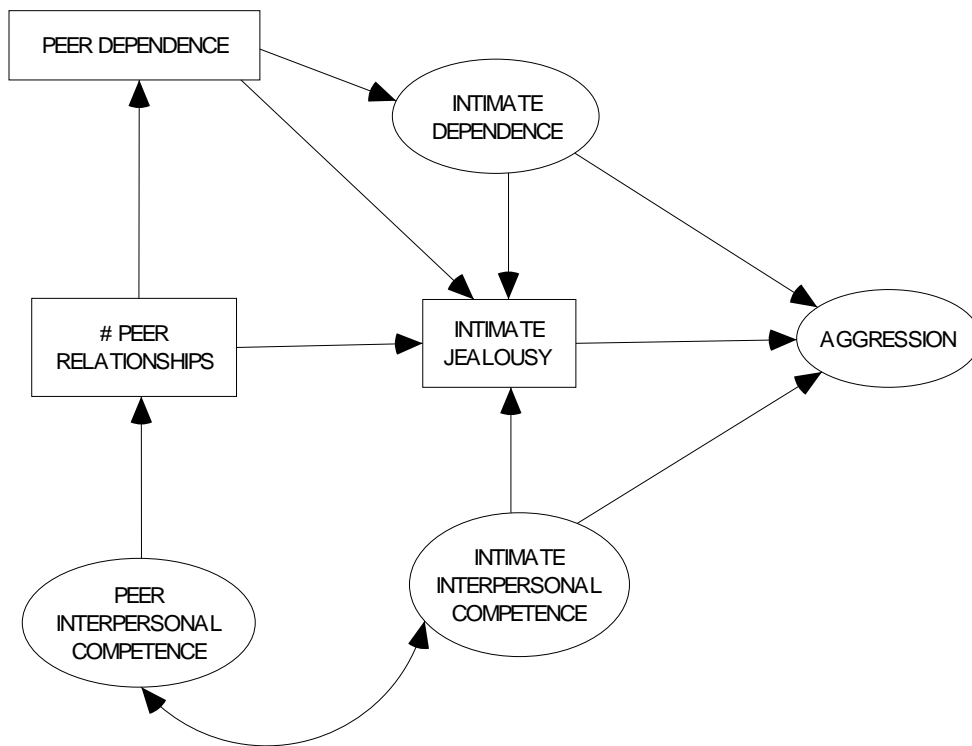


Figure 1. Proposed structural model.

competence. Intimate jealousy would be directly influenced by intimate dependence, peer dependence, number of same sex peer relationships, and intimate interpersonal competence. Intimate jealousy would be indirectly influenced by peer interpersonal competence. Intimate interpersonal competence would be directly influenced by peer interpersonal competence.

Conceptually, the model proposed that females who exhibit impaired peer interpersonal competence and report fewer same sex peer relationships will exhibit lower dependence on those peer relationships due to the instability and insecurity of the friendship. The impaired nature of these same sex peer relationships will impede the

adequate fulfillment of relational needs and this will translate into greater dependence upon the intimate relationship to compensate for the unmet needs and deficits in relational security. However, this greater dependence will arouse attachment anxieties that will manifest in higher levels of intimate jealousy, more impaired intimate interpersonal competence, and increased perpetration and severity of perpetrated intimate aggression.

The following hypotheses were proposed in regards to relationships between specific components of the model. It was hypothesized that (1) number of significant female friendships will be negatively correlated with peer dependence, (2) peer interpersonal competence will be negatively correlated with peer dependence, (3) peer dependence will be negatively correlated with intimate dependence, (4) intimate dependence will be positively correlated with intimate jealousy, (5) intimate dependence will be positively correlated with perpetration of intimate aggression, (6) intimate dependence will be negatively correlated with intimate interpersonal competence, (7) intimate interpersonal competence will be negatively correlated with perpetration of intimate aggression, and (8) peer interpersonal competence will be negatively correlated with perpetration of intimate aggression.

CHAPTER III

METHODOLOGY

Participants

A total of 347 undergraduate female participants completed the study protocols during two semesters. Recruitment was initially attempted through presentation to major undergraduate classes, flyers posted in campus residence halls and large congregation areas, and through large student organization listservs. Advertisements were run in the university student newspaper (see Appendix A). A total of seventy five participants were generated through these means of recruitment. These participants were compensated with a chance to win one \$50 cash prize. In order to gain more participants, the previously described recruitment methods were replaced by the Psychology Subject Pool. Students were solicited through an online research clearinghouse and compensated for completion of the research protocols with one hour of research credit for their respective introductory psychology courses.

Participants were required to be between the ages of 18 and 24, and be currently involved or have been involved in a heterosexual relationship of at least four months duration during the past five years. Protocol responses that did not reflect fulfillment of these requirements were removed from the sample. Forty seven participant data sets were eliminated due to ineligibility or missing responses. The final sample included complete data for 299 participants. This final sample was comprised of 66 participants recruited during the first phase via advertisement and 233 recruited during the second phase via the Psychology Subject Pool.

Instrumentation

All participants completed a brief demographic questionnaire (see Appendices B) developed by this researcher for the purposes of this study. Information collected on the demographic included age, ethnicity, religion, number of significant same sex peer relationships, current relationship status, and relationship history, among other details. Subsequently, participants completed the following questionnaires in the order stated. Order of instrument administration was uniform across all data collections.

Peer Dependence

The level and quality of interpersonal dependence of the female on her same-sex peer relationships was measured using the Interpersonal Dependence Inventory (Hirschfeld, et al., 1977). The Interpersonal Dependence Inventory (IDI) is a self-report of current dependence within the primary same sex relationship. It has 48 questions that explore three subscales: emotional reliance on another person, lack of social self-confidence, and assertion of autonomy. Participants responded to proposed situations with one of four Likert scale responses, ranging from “very characteristic of me” (4) to “not characteristic of me” (1). The three subscales were then weighted, with the assertion of autonomy subscale treated as a measure of independence, and computed to obtain a total interpersonal dependence score (Bornstein, 1994). The total interpersonal dependence score was the sum of the emotional reliance scale (weight 3) and the lack of social self-confidence scale minus the assertion of autonomy subscale score. The IDI has exhibited acceptable ranges of internal consistency, with the values for each subscale being .85, .72, and .76, respectively (Hirschfeld et al., 1977; Richman & Flaherty, 1987).

In addition, the construct validity, discriminate validity, and test-retest stability have been found to be adequate (Bornstein, 1994). Furthermore, review of over 25 studies utilizing the IDI has found it capable at differentiating between psychiatric patients and normal participants.

Peer and Intimate Interpersonal Competence

Dimensions of the female's interpersonal competence within both her same sex peer relationship and intimate relationships was measured using the Interpersonal Competence Questionnaire- Revised (Buhrmester et al., 1988). Each participant completed one protocol for the same sex peer relationship and one protocol for the most recent or current intimate relationship. The Interpersonal Competence Questionnaire (ICQ-R) is a self-report of current interpersonal competencies within close relationships. It has 40 five point Likert scale questions that explore five subscales: initiating relationships, providing emotional support, asserting influence, self-disclosure, and conflict resolution. Each question asked the participant to rate how good they believe they would be given a specific interpersonal situation or context. Likert scale response options ranged from "poor at this; would be so uncomfortable and unable to handle this situation that it would be avoided [if] possible" (1) to "extremely good at this; would feel very comfortable and could handle this situation very well" (5). Subscale scores were computed by averaging the responses of the items within the subscale. The ICQ-R has exhibited adequate internal consistency reliabilities, ranging from .77 to .87. Test-retest reliabilities for each of the five subscales are, respectively, .89, .76, .79, .75, and .69.

Intimate Dependence

The level and quality of female intimate dependence on her partner was measured using the Spouse-Specific Dependence Scale (Rathus & O’Leary, 1997). The Spouse-Specific Dependence Scale (SDSS) is a current self-report of dependence within the primary close relationship. It has 30 six point Likert scale questions that explore three subscales: anxious attachment, exclusive dependence, and emotional dependence. Participants were asked to rate each item presented according to the “truth of the item as it relates to [the participant’s] current or most recent romantic relationship.” Response options ranged from “agree strongly” (6) to “disagree strongly” (1). A total spouse-specific dependence score was computed as well as sum scores for each of the three subscales. The SDSS has exhibited high internal consistency for females, with alpha values of .88, .84, and .86 for each of the subscales, respectively (Rathus & O’Leary, 1997). In addition, inter-scale correlations demonstrated that the scales can be appropriately considered factors of a uniform construct while still providing unique contributions towards the concept of spouse-specific dependence.

Intimate Jealousy

The level of intimate jealousy the female exhibits towards her partner was measured using the Interpersonal Jealousy Scale (Mathes & Severa, 1981). The Interpersonal Jealousy Scale (IJS) is a self-report of the female’s feelings of jealousy within the intimate relationship. It has 28 nine point Likert scale questions that are scored to provide a total score of jealousy. Participants were asked to respond to each given situation according to the “truth of the item as it related to [the participant’s]

relationship with [her] boyfriend.” Response options ranged from “absolutely true; agree completely” (9) to “absolutely false; disagree completely” (1). The IJS has exhibited adequate construct validity, and high internal reliability, with a reported alpha of .92 (Mathes & Severa, 1981). It has also demonstrated correlation with behavioral measures of perceived threat from a rival and possessiveness (Mathes, Phillips, Skowran, & Dick, 1982).

Perpetrated Intimate Aggression

Perpetration of perpetrated intimate aggression by the female was measured using the Conflict Tactics Scale - Revised (Straus, Hamby, et al., 1996). This instrument is the most frequently used measure of intimate aggression (Archer, 2000). The Conflict Tactics Scale - Revised (CTS2) is a self-report of current aggression within the romantic relationship that allows for assessment of a wide range of abusive behaviors (Straus, Hamby, et al., 1996). It has 78 eight point Likert scale questions that allow indication of the reported perpetration of the behaviors described through five subscales of differing severity. Negotiation is defined as, “actions taken to settle a disagreement through discussion” (Straus, Hamby, et al., 1996, p. 289). The authors defined psychological aggression as, “acting in a verbally offending or degrading manner towards another... [that] may take the form of insults or behavior that results in making another feel guilty, upset, or worthless” (Stets, 1991, p. 101). Physical assault is best conceptualized as acts of physical violence (Straus, Hamby, et al., 1996). Physical assault is not to be confused with injury, defined as “physical injury, as indicated by bone or tissue damage, a need for medical attention, or pain continuing for a day or more” (Straus, Hamby, et al., 1996,

p. 290). Finally, the authors defined sexual coercion as, “behavior that is intended to compel the partner to engage in unwanted sexual activity” (Straus, Hamby, et al., 1996, p. 290.)

Participants were asked to indicate the frequency with which they committed a number of behaviors. Response options were as follows: (1) once in the past year, (2) twice in the past year, (3) 3-5 times in the past year, (4) 6-10 times in the past year, (5) 11-20 times in the past year, (6) more than 20 times in the past year, (7) not in the past year, but it did happen before, and (8) this has never happened. Participants were asked to indicate behaviors committed by both themselves and their intimate partner.

Subscale scores were computed according to the recommendation of Straus, Hamby, et al. (1996). Data was recoded to reflect the midpoint of each response category. Consequently, responses of 1 and 2 remained the same. A response of 8 was recoded as 0. Responses of 3, 4, 5, 6, and 7 were recoded as 4, 8, 15, 25, and 0, respectively. Midpoints for all reported behaviors within a subscale were summed to arrive at a subscale total score.

Prevalence and chronicity scores were computed for the subscales of negotiation, psychological aggression, physical assault, injury, and sexual coercion. The prevalence score indicated the percentage of the sampled participants that reported at least one instance of any behavior included in that subscale during the previous year (Straus, Hamby, et al. 1996). This was accomplished by creating dichotomous versions of each item according to whether the behavior was committed in the past year or not (Straus, 1994). Then the dichotomized items were analyzed for frequency. Chronicity allowed

for the calculation of how often the behaviors included in each subscale were committed in the past year by those who committed at least one behavior. This computation was accomplished by first marking reports of behavior that did not occur in the past year (7 and 0) as system missing values. Then, the remaining scores were summed and divided by the number of participants who committed at least one of the acts within the subscale. This resulted in a mean score of chronicity for each subscale for the preceding year for only those who actually committed the behaviors, making the measures of central tendency more meaningful and reducing the influence of outliers (Straus, 1994).

The Conflict Tactics Scale has shown good internal consistency, ranging from .79 to .95 (Straus, Hamby, et al. 1996). In addition, the Conflict Tactics Scale has also exhibited good construct validity, divergent validity, and cross-cultural reliability (Straus, Hamby, et al. 1996; Straus, 2004). Follingstad, Bradley, and Helff (2002) found that in order to differentiate female initiated relational aggression from female retaliatory aggression, a statement at the top of the instrument was helpful for clarification purposes. The following statement was included as follows: “For the questions that refer to behaviors you have committed, please respond only in terms of what you have initiated, not those behaviors done in response to a partner’s behavior towards you, or those you committed in self-defense.”

Procedure

All participants were provided with a brief descriptive introduction to the purpose of the study. Participants were informed of their rights to confidentiality and given a consent form to sign. These consent forms may be found in Appendix C and

Appendix D. Instrument completion took approximately 45 minutes. All data collection sessions were administered by this researcher and collected during scheduled group administrations.

Date was stored in a secure location. Names of participants were kept separate from the data in order to ensure confidentiality while allowing for participation in the initial drawing. Consent forms were used for the purposes of the random drawing; no identifying information was attached to the data collected. Each participant read a consent form and was given the opportunity to ask questions of the researcher. After signing consent, the participant completed the previously described instruments. To further ensure confidentiality of individual responses, participants were asked to place completed protocols in a box instead of turning them in directly to the researcher.

No deception or coercion was used in this study. It is believed that the only risk associated with participating in this study was the slight emotional discomfort resulting from disclosure of aggressive, illegal, and/ or violent acts that participants were party to. To address and minimize this risk, a list of local counseling resources was provided before participation at the time of signed consent (see Appendix E).

CHAPTER IV

RESULTS

Structural equation modeling (SEM) is not a single statistical analysis, but a broad group of related concepts (Kline, 2005). Included under the SEM umbrella is the general linear model. The primary purpose of SEM is to evaluate a hypothesized model for goodness of fit to the data collected by the researcher. As such, SEM is a priori in that hypothesized models should have a foundation set in review of relevant literature and be constructed in advance of the statistical analysis. This is perhaps one of the greatest strengths of SEM, in that it compels researchers to fully comprehend existing literature and theoretical underpinnings in order to generate empirically and theoretically plausible models.

Structural equation modeling combines both confirmatory and exploratory methods of analysis, allowing the researcher to test alternate revised models in the event that the first model tested does not adequately fit the data. Consequently, there exist two primary goals of SEM analysis: to note correlations among variables and to account for the greatest variance possible with the specified model (Kline, 2005). However, while SEM does test the relationships between constructs, it does not prove causality (Weston & Gore, 2006). To this end, the objective is to generate a model with a covariance matrix that most closely approximates the sample data. However, as psychological constructs are rarely singular in nature or etiology, models of perfect fit are near impossible to construct. The greatest advantage of SEM lies in its ability to generate global evaluations of comprehensive models.

Structural equation modeling was used to statistically analyze the direction and strength of associations and interaction effects between the predictor variables (intimate dependence, intimate jealousy, intimate interpersonal competence, peer dependence, peer interpersonal competence, number of significant peer relationships) and the criterion variables (perpetration of psychological aggression, physical assault, sexual coercion, and injury). The hypothesized model was tested to examine the degree of fit with these data.

This chapter will review data considerations, preliminary data analyses, evaluation of proposed hypotheses, and SEM analyses. Further, the extension of the SEM results into tests of mediation will be presented. In addition, results achieved through these analyses will be reported.

Data Considerations

Because SEM is a large scale analysis that evaluates models in their entirety, sample sizes must be sufficient to carry the analysis of multiple variables at once (Kline, 2005). There exists no single formula to compute the sample size needed because all models are different in complexity. However, there have been general guidelines proposed. Thompson (2000) argues that sample sizes should be either in the range of 100-200 participants or meet a minimum ratio of 10:1 for number of people to number of measured variables. Breckler (1990) analyzed 72 SEM studies and found that the median sample size was 198 participants. Weston and Gore (2006) argued that 200 participants should be considered a minimum. Given these proposed guidelines, the current sample of 299 participants appeared sufficient for the analyses at hand.

Data was checked for accuracy through several means. After initial entry, SPSS 13.0 was used to test for ranges and outliers in order to identify extreme values. Additionally, data was checked against the participant protocols on a case by case basis for inaccuracies in entry or missing values. Errors were corrected and the data set was deemed to be accurate.

Missing data must also be analyzed for randomness. In this study, 14% of the cases originally collected contained missing data. Analysis revealed that of those 48 cases, 34 cases contained data missing not at random. Incomplete responses were likely due to questionnaire formatting. These cases were removed using listwise deletion. In addition, 14 cases contained data missing at random. Analyses of these cases revealed that one of the primary independent variables missing. To avoid imputing this variable, these 14 cases were also removed using listwise deletion, resulting in a final data set of 299 complete protocols.

Preliminary Data Analyses

Descriptive Analyses of Demographics

Descriptive statistics of the sample can be found in Table 1. In terms of sample demographics, the age range of participants was 18-24, and the mean age of those included in the final sample was 19.05 years ($SD = 1.1$ years). Of the final 299 participants, 73.6% ($n=220$) self-identified as Caucasian, 17.4% ($n=52$) as Hispanic, 4% ($n=12$) as African-American, 3.7% ($n=11$) as Asian American, and 1.3% ($n=4$) as other. Number of self-reported significant female friendships ranged from 0 to 50, with 90.6% ($n=271$) of the participants reporting 0-10 current significant female friendships.

Table 1

<i>Demographic Descriptives</i>			
Descriptor		N	Percentage
Total Sample Size		299	100
Age	18	106	35.5
	19	120	40.1
	20	42	14.0
	21	18	6.0
	22	10	3.3
	23	2	.7
	24	1	.3
Ethnicity	Caucasian	220	73.6
	Hispanic	52	17.4
	African-American	12	4.0
	Asian American	11	3.7
	Other	4	1.3
Income	<\$15,000	18	6.0
	\$15,000-\$35,000	36	12.0
	\$35,000-\$55,000	45	15.1
	\$55,000-\$75,000	35	11.7
	>\$75,000	165	55.2
Current Relationship Status	Single	121	40.5
	Dating	176	58.9
	Married	1	.3
	Separated	1	.3

Only one participant reporting having any children. When asked how many significant romantic relationships the participants had experienced, 81.6% ($n=244$) reported 1-2, 17% ($n=51$) reported 3-4, and 1.3% ($n=4$) reported more than 4 significant romantic relationships. The length of the current or most recent romantic relationship varied from 1 month to 84 months. Over 60% ($n=180$) of participants reported the most recent romantic relationship lasting 12 months or less, 21.3% ($n=64$) reported relationship lengths between 13 and 24 months, and over 17% ($n=55$) reported most recent relationships lasting over 2 years in duration.

A primary concern with the data was the fact that group differences could exist between participants recruited during the first phase via advertisement and those recruited during the second phase via the Psychology Subject Pool. To assess the presence of these differences in any of the manifest variables present in the proposed model, a one way analysis of variance was performed in SPSS 13.0 using group membership as the factor. Results indicated that the assumption of homogeneity of variance required for interpretation of analysis of variance values was violated by only one manifest variable, a subscale of the peer dependence measure (emotional reliance on others). Consequently, the total peer dependence score, computed with the emotional reliance on another subscale, also failed to uphold the homogeneity of variance assumption. Given the unreliability of the analysis of variance results, the standard deviations and means were compared for the two groups. All were comparable. Group means on each variable modeled differed but still fell within ± 1 standard deviation from the corresponding mean for the other group. Given that violation of the assumption of

homogeneity of variance occurred with only one of the seven primary components of the proposed model, the decision was made to analyze the data as one group.

Descriptive Analyses of Model Variables

Descriptive statistics for the variables used in the model are presented in Table 2. Reliability analysis of each measure was also performed in order to assess for internal consistency. Coefficient alpha for each of the measures was as follows: the Interpersonal Dependence Inventory (.76), the Spouse Specific Dependence Scale (.91), the Interpersonal Competence Questionnaire – Peer Relationship (.91), the Interpersonal Competence Questionnaire – Intimate Relationship (.93), the Interpersonal Jealousy Scale (.79), and the Conflict Tactics Scale 2 (.91). Comparing these estimates to the values for internal consistency reported for each instrument in chapter three revealed that the internal consistency of the measures in the current study were comparable.

Testing of Assumptions

SEM requires the preliminary analysis of the data for fulfillment of three primary assumptions: univariate normality, multivariate normality, and multicollinearity (Kline, 2005). Descriptive statistics for all variables included in the measurement model are presented in Table 2. Univariate normality was assessed through examination of the data for skewness and kurtosis. Skewness is a measure of the symmetry of the distribution, while kurtosis indicates the flatness or peakedness of the distribution. Estimates for skewness and kurtosis were computed and results were reviewed for adherence to the suggested range of ± 3 for skewness and the limit of 8.0 for kurtosis (Kline, 2005).

Table 2

Descriptives for Model Variables

Latent Variable	Subscales	Range	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Peer Friendships		0-50	6.35	4.71	3.79	25.86
Peer Dependence		74-210	139.26	26.53	.293	-.149
Peer Interpersonal Competence	Initiating Relationships	1-5	3.50	.76	-.35	-.37
	Providing Emotional Support	3-5	4.02	.51	-.59	.14
	Asserting Influence	1-5	3.62	.68	-.41	.02
	Self-Disclosure	1-5	3.40	.76	-.31	-.15
	Conflict Resolution	2-5	3.48	.60	-.36	.38
Intimate Jealousy		62-224	148.75	30.99	-.12	.05
Intimate Dependence	Anxious Attachment	11-59	34.92	9.96	.02	-.41
	Exclusive Dependency	10-55	24.49	8.99	.73	.19
	Emotional Dependency	11-59	36.61	8.68	-.14	.10
Intimate Interpersonal Competence	Initiating Relationships	1-5	3.58	.76	-.49	.03
	Providing Emotional Support	2-5	4.16	.54	-.72	.76
	Asserting Influence	1-5	3.63	.74	-.37	-.04
	Self-Disclosure	1-5	3.78	.88	-.49	-.30
	Conflict Resolution	1-5	3.40	.74	-.27	-.21
Intimate Aggression	Negotiation	0-150	70.83	41.63	.21	-1.01
	Psychological Aggression	0-125	19.46	26.02	1.86	3.00
	Physical Assault	0-171	3.28	12.98	9.06	101.77
	Sexual Coercion	0-50	1.37	5.01	6.04	43.36
	Injury	0-27	.30	1.84	11.19	151.96

Note. *N* = 299. All intimate aggression variables refer to perpetration, not victimization.

The assumptions of skewness and kurtosis were met for all variables tested in the model except number of same sex peer relationships, frequency of physical assault, frequency of sexual coercion, and frequency of injury. Examination of the reported number of peer relationships revealed two outlier responses: one of 25 and one of 50. Given the socially active nature of the developmental stage of college students, these responses likely reflected the subjective nature of defining significant female friendships. Closer inspection of the frequency scores of physical assault, sexual coercion, and injury highlighted that these reported rates are smaller than the reported rates of less severe types of intimate aggression, such as negotiation and psychological aggression. Consideration was given to transforming these variables. However, the associated prevalence and chronicity rates for these subscales were consistent with existing literature using the same populations and instrument. Therefore, the decision was made to analyze them unmodified in order to honor the authenticity of the reported data.

Multivariate normality must be assessed because testing of nonnormal data can result in inaccurate indications of goodness of fit (Weston & Gore, 2006). However, multivariate normality is more challenging to measure than univariate normality. Beyond review of skewness and kurtosis coefficients, results of the Kolmogorov-Smirnov tests were used as formal assessments of multivariate normality. This nonparametric test assesses the difference between the sample distribution and the hypothesized distribution. If the difference is too large, then the sample is assumed to be nonnormal. Using this test, the assumption of multivariate normality was only met for peer

dependence, peer interpersonal competence, intimate interpersonal competence, intimate dependence, and intimate jealousy. The assumption of multivariate normality was not met for the following variables: number of significant peer friendships, negotiation, psychological aggression, physical assault, sexual coercion, and injury. While this may seem daunting in terms of robustness of data for analyses, Klem (2000) argued that the assumption of multivariate normality is difficult to meet with social science research and can often be overcome through maximum likelihood estimation.

Finally, multicollinearity is an indication of the high levels of correlation between or the interdependence of predictor variables (Weston & Gore, 2006). In cases where two variables have high correlations, use of both variables is redundant and could adversely influence data analyses. Assessment of the presence of multicollinearity was partially accomplished through examination of the bivariate correlations of the variables tested in the model. These correlations are presented in Table 3. Correlations greater than .85 should be further assessed as they could indicate redundancy (Kline, 2005). Only one bivariate correlation was above this limit. The emotional reliance on another person subscale of the peer dependence measure obtained a .85 correlation with the total peer dependence score. Given that the weighted manner of computing the total peer dependence score required that the emotional reliance on another person subscale score be multiplied by three, this correlation is not surprising. It contributed more to the overall peer dependency scale score than the other two subscale scores, resulting in a higher correlation. Further, research into psychological constructs is more conducive to elevated bivariate correlations as psychological and emotional constructs are not

Table 3

Correlations Among Model Variables

	Peer Friendships (SFF)	Peer Dependency (IDI)	Peer Interpersonal Competence (ICQFF)	Intimate Interpersonal Competence (ICQRR)	Intimate Dependency (SSDS)	Intimate Jealousy (IJ)	Negotiation (NEGCTS)	Psychological Aggression (PSYAGCTS)	Physical Assault (PHYASCTS)	Sexual Coercion (SEXCOCTS)	Injury (INJCTS)
Peer Friendships (SFF)	-	-.020	.163**	.070	-.043	-.062	.035	-.055	-.055	-.105	-.071
Peer Dependency (IDI)		-	-.175**	-.080	.556**	.450**	.094	.035	-.109	.016	-.031
Peer Interpersonal Competence (ICQFF)			-	.623**	-.265**	-.222**	.113	-.063	-.007	-.017	-.016
Intimate Interpersonal Competence (ICQRR)				-	-.095	-.101	.206**	-.043	.025	-.030	-.043
Intimate Dependency (SSDS)					-	.646**	.233**	.188**	.012	.099	-.028
Intimate Jealousy (IJ)						-	.096	.253**	.113	.162**	.036
Negotiation (NEGCTS)							-	.376**	.032	-.014	.038
Psychological Aggression (PSYAGCTS)								-	.490**	.143*	.264**
Physical Assault (PHYASCTS)									-	.015	.412**
Sexual Coercion (SEXCOCTS)										-	.029
Injury (INJCTS)											-

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

discrete. The natural overlap between constructs also contributes to the higher levels of correlation. Multivariate collinearity was assessed through examination of the tolerance and variance inflation factor values. No values of tolerance were found to be less than .3 and no values of variance of inflation were found to exceed 3. It is unlikely that multivariate collinearity existed or presented a problem.

Dependent Variable Analyses

Prevalence and chronicity rates for the subscales of the CTS2 were calculated and are represented in Table 4. It should be noted that, as discussed in chapter three, participants were asked to report only those behaviors that they initiated, not those done in retaliation or self-defense, in their current or most recent intimate heterosexual relationship. Prevalence rates reflect the percentage of the women sampled who reported committing at least one item in the subscale during the previous year (Straus, Hamby, et al., 1996). Results revealed that negotiation was a conflict tactic employed by 97.3% of the women sampled during the previous year. Psychological aggression was committed by 87% of female participants during the same time frame. In terms of physical assault, 37.5% of females surveyed admitted to physically aggressing against their partner. Injurious acts were perpetrated by 6.7% of the women sampled. Finally, 20.7% of the women acknowledged engaging in sexual coercion against their partner during the previous year.

Table 4

Prevalence and Chronicity Statistics

Scale	Prevalence (Percentage)	Chronicity (<i>M</i>)
Negotiation	97.30	72.77
Psychological Aggression	87.00	22.38
Physical Assault	37.50	8.77
Sexual Coercion	20.70	6.51
Injury	6.70	4.24

Note. *N*=299.

Chronicity is a measure of how often, on average, the acts in each scale were committed during the past year by those who committed at least one act (Straus, Hamby, et al., 1996). As is reflected in Table 2, women who reported engaging in the assessed behaviors committed an average of 73 acts of negotiation, 22 acts of psychological aggression, 8 acts of physical assault, 6 acts of sexual coercion, and 4 acts of injury during the last year against their intimate heterosexual partner. When compared to the rates found during psychometric development work done with the CTS2 by the instrument developers, the present prevalence and chronicity results bear strong similarities (Straus and Hamby, et al., 1996). The sample of Straus and Hamby, et al. (1996) was comprised of 203 undergraduate females from two colleges. These comparisons are presented in Table 5.

Table 5

Prevalence and Chronicity Statistics Comparison

Study Scale	Current Study (2007)		Straus and Hamby, et al., (1996)	
	Prevalence (Percentage)	Chronicity (<i>M</i>)	Prevalence (Percentage)	Chronicity (<i>M</i>)
Negotiation	97.3	72.8	98.0	69.7
Psychological Aggression	87.0	22.4	83.0	16.0
Physical Assault	37.5	8.8	35.0	9.4
Sexual Coercion	20.7	6.5	18.0	12.6
Injury	6.7	4.2	9.0	3.6

Note. $N=299$.

Evaluation of Proposed Hypotheses

The following hypotheses were set forth a priori in regards to relationships between specific components of the hypothesized model. Interpretation of the correlations aligned with parameters suggested by Cohen (1988). According to these guidelines, absolute values of correlations were interpreted as follows: .10-.29 (small), .30-.49 (medium), and .50-1.00 (large).

Hypothesis One

It was hypothesized that the number of significant female friendships would be negatively correlated with peer dependence. Results revealed a bivariate correlation of $-.020$. Although the direction of the predicted correlation was correct, the magnitude was very small. This correlation was not significant at the .05 level (2-tailed). These empirical data do support hypothesis one.

Hypothesis Two

It was hypothesized that peer interpersonal competence would be negatively correlated with peer dependence. Results revealed a bivariate correlation of $-.175$. Again, although the direction of the predicted correlation was accurate, the actual magnitude of the association was small. However, this correlation was significant at the $.01$ level (2-tailed). These empirical data supported hypothesis two.

Hypothesis Three

It was hypothesized that peer dependence would be negatively correlated with intimate dependence. Results revealed a bivariate correlation of $.556$. The magnitude of the correlation was large, yet the predicted direction was incorrect. This correlation was significant at the $.01$ level (2-tailed). These empirical data did not support hypothesis three.

Hypothesis Four

It was hypothesized that intimate dependence would be positively correlated with intimate jealousy. Results revealed a bivariate correlation of $.646$. The predicted direction of the association was accurate and the magnitude was large. This correlation was significant at the $.01$ level (2-tailed). These empirical data supported hypothesis four.

Hypothesis Five

It was hypothesized that intimate dependence would be positively correlated with perpetration of intimate aggression. Analyses of this hypothesis required the inspection of four bivariate correlations, one for each type of intimate aggression measured. Results

of the correlation between intimate dependence and psychological aggression revealed a .188 bivariate correlation. The predicted direction of association was accurate but the magnitude of the correlation was small. However this correlation was significant at the .01 level (2-tailed). Results of the correlation between intimate dependence and physical assault revealed a .012 bivariate correlation. Although the predicted direction of association was correct, the magnitude of the correlation was very small and non significant. Results of the correlation between intimate dependence and sexual coercion revealed a small, non significant correlation of .099. The predicted direction of association was again correct. Results of the correlation between intimate dependence and injury revealed a -.028 bivariate correlation. The predicted direction of association was inaccurate and the magnitude of the correlation was small. The last three correlations were not significant at the .05 level (2-tailed). Thus, these empirical data only partially supported hypothesis five.

Hypothesis Six

It was hypothesized that intimate dependence would be negatively correlated with intimate interpersonal competence. Results revealed a bivariate correlation of -.095. The predicted direction of the association was accurate, but the result was non significant (.05 level, 2-tailed) and for all practical purposes, the correlation can be interpreted as zero. Although the correlation was negative, the value was so small that hypothesis six was only partially supported.

Hypothesis Seven

It was hypothesized that intimate interpersonal competence would be negatively correlated with perpetration of intimate aggression. Analyses of this hypothesis required the inspection of four bivariate correlations, one for each type of intimate aggression measured. Results of the correlation between intimate interpersonal competence and psychological aggression revealed a $-.043$ bivariate correlation. Results of the correlation between intimate interpersonal competence and physical assault revealed a $.025$ bivariate correlation. Results of the correlation between intimate interpersonal competence and sexual coercion revealed a $-.030$ bivariate correlation. Results of the correlation between intimate interpersonal competence and injury revealed a $-.043$ bivariate correlation. Some of the correlations reflected the hypothesized direction yet all hovered around zero, suggesting that these variables were not strongly related. None of these correlations were significant at the $.05$ level (2-tailed). These empirical data partially supported hypothesis seven.

Hypothesis Eight

It was hypothesized that peer interpersonal competence would be negatively correlated with perpetration of intimate aggression. Analyses of this hypothesis required the inspection of four bivariate correlations, one for each type of intimate aggression measured. Results of the correlation between peer interpersonal competence and psychological aggression revealed a $-.063$ bivariate correlation. Results of the correlation between peer interpersonal competence and physical assault revealed a $-.007$ bivariate correlation. Results of the correlation between peer interpersonal competence and sexual

coercion revealed a $-.017$ bivariate correlation. Results of the correlation between peer interpersonal competence and injury revealed a $-.016$ bivariate correlation. All of the correlations reflected the hypothesized direction. However, all correlations were near zero, suggesting that these variables were not strongly related. None of these correlations were significant at the $.05$ level (2-tailed). These empirical data partially supported hypothesis eight.

Structural Equation Modeling Analyses

Figure 2 shows the complete proposed model, combining the structural and measurement components. The structural model represented the hypothesized relationships between the primary latent and manifest variables under study (Byrne, 2001). In contrast, the measurement model displays the observed measures that loaded onto the primary latent variables. As shown, the proposed model incorporated both latent and manifest variables into the primary path analyses.

Model Identification

Model identification is an important consideration before assessing model fit. Essentially, models can be just identified, under identified, or over identified (Byrne, 2001). The level of identification is a function of the relationship between the number of variances and covariances (distinct sample moments) and the number of parameters to be estimated. This relationship is important because it indicates the possibility that a

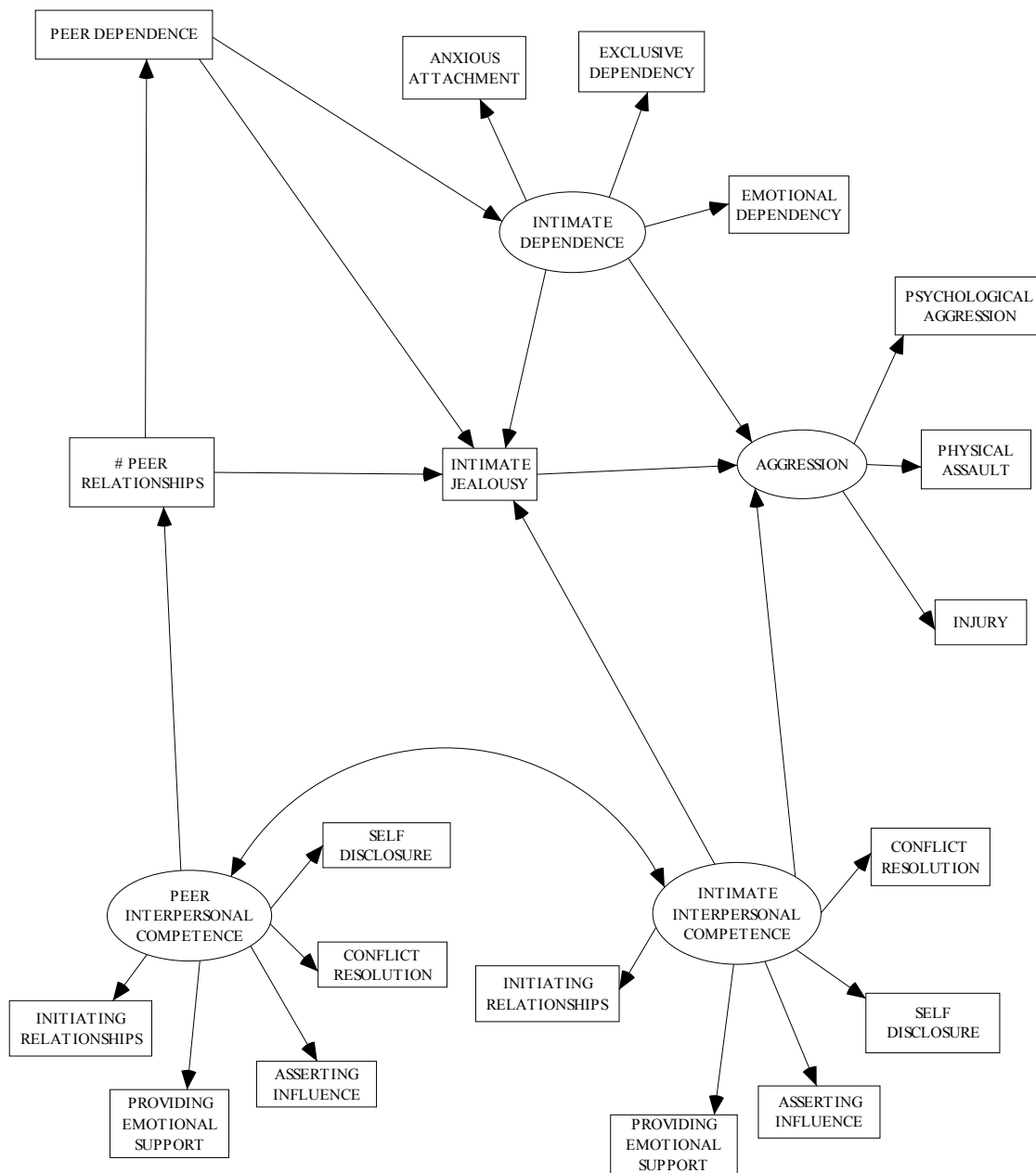


Figure 2. Proposed model with structural and measurement components.

unique solution exists for the proposed parameters. A model that is unidentifiable infers that no unique solution can be estimated, making the model un-testable.

If the number of distinct sample moments is equal to the number of estimated parameters, then the model is considered to be just identified. In this case, there exists only one unique solution for the proposed parameters. However, this is not conducive to empirical investigation because the lack of any available degrees of freedom makes it impossible to ever reject the model. If the number of parameters is greater than the number of distinct sample moments, then the model is under identified. This presents the opposite dilemma from a just identified model. That is, there are an infinite number of unique solutions that can be estimated. As such, empirical investigation into this sort of model is unproductive. The optimal scenario is to generate a model that is over identified. In this case, the number of distinct sample moments would be greater than the number of parameters to be estimated. This difference creates sufficient degrees of freedom to make empirical investigation valuable because the model can be rejected. Both the proposed model and the refined model of the current study were over identified, leaving available degrees of freedom to estimate the path coefficients and model fit.

Evaluation of Models

In order to assess goodness of fit of the models, the global chi-square (χ^2) was assessed. The chi-square value is a goodness of fit index that tests the null hypothesis that the theoretically predicted model fits the observed data exactly (Raykov & Marcoulides, 2006). Good model fit is indicated when the global chi-square value is non-significant. The lower the chi square value, the better the model fit. Chi square is computed as $(N - 1) F_{\min}$, where N denotes the sample size and F_{\min} reflects the minimum value of the fit function for maximum likelihood estimation. As such, sample

size must be considered. Large samples increase the likelihood of achieving significance and therefore rejecting the proposed model as a good fit to the observed data (Kline, 2005). To compensate for this, Kline (2005) suggested using a normed chi square (NC) value, calculated by dividing the chi square by the degrees of freedom. However, consensus has not been reached on what constitutes an acceptable value for this statistic. Instead, to help ameliorate the influence of sample size on model fit assessment, two additional indices will be evaluated.

The comparative fit index (CFI) is a comparative fit index that assesses the improvement of fit of the proposed model to the independence model (McDonald & Ho, 2002). The independence model assumes no relationship between variables (Kline, 2005). The independence model can best be conceptualized as a worst case scenario in which model fit is as poor as possible. The CFI value allows for the researcher to compare the fit of their model to the independence model as a baseline for indication of level of improvement. CFI values have been considered to indicate acceptable model fit if they are larger than .9 (Hu & Bentler, 1995).

The root mean square error of approximation (RMSEA) was also evaluated. The RMSEA corrects for model complexity, exhibiting lower values for more parsimonious models with similar fit over more complex models (Kline, 2005). It functions as a badness of fit index, with larger values reflecting poorer model fit. RMSEA values should be no greater than .10 in order to indicate adequate fit, and optimally below .07 (Browne & Cudeck, 1993). Additionally, in order to assess the level of precision reflected in this index, inspection of the 90% confidence intervals (CI) for RMSEA is

encouraged (Kline, 2005). This provides an indication of the level of sampling error and assists in more precise interpretation of the RMSEA.

Further, the estimation of the parameters was considered in determining model fit (MacCallum, 1995). Inspection of the path coefficient values and the significance of the path estimates provided greater understanding of the relationships between the model components. Maximum likelihood estimation was used to estimate the model parameters. Maximum likelihood estimation assumes four conditions: (1) the sample is large, (2) observed variables exhibit multivariate normality, (3) the proposed model is valid, and (4) the data represented in the model are continuous (Byrne, 2001). As reviewed earlier, minor violations of multivariate normality occurred in the current sample. However, research has shown maximum likelihood estimation to be fairly robust to violations of multivariate normality (Kline, 2005). The remaining conditions were met by the current data set.

Evaluation of Proposed Model

As suggested by Byrne (2001), validity of the measurement model was assessed. In order to do this, confirmatory factor analyses were conducted on each latent variable to determine if the corresponding manifest indicators were functioning well. Table 6 presents the standardized and unstandardized path coefficients for each latent variable in the proposed model. For intimate aggression, four indicators were assessed: psychological aggression, physical assault, sexual coercion, and injury. Standardized path coefficients revealed that all indicators were functioning well except for sexual coercion. Sexual coercion was removed from the model.

Table 6

Confirmatory Factor Analyses for Latent Variables

Latent Variable	Measured Factor	B	β
Intimate Aggression	Psychological Aggression	1.34	.57
	Physical Assault	1.00	.86
	Sexual Coercion	.02	.05
	Injury	.08	.48
Intimate Dependence	Anxious Attachment	.88	.68
	Exclusive Dependency	.76	.65
	Emotional Dependency	1.00	.89
Intimate Interpersonal Competence	Initiating Relationships	1.18	.59
	Providing Emotional Support	1.00	.71
	Asserting Influence	1.20	.61
	Conflict Resolution	.86	.44
	Self-Disclosure	1.62	.71
Peer Interpersonal Competence	Initiating Relationships	1.40	.67
	Providing Emotional Support	1.00	.70
	Asserting Influence	.99	.53
	Conflict Resolution	.88	.53
	Self-Disclosure	1.12	.53

While the previously discussed preliminary analyses indicated the possibility that some of the originally included variables would be questionable in terms of model contribution, the decision was made to first run the a priori model sans sexual coercion using AMOS 7.0. Results indicated that the proposed model was a poor fit to the data

set. The full proposed model with standardized path coefficients is presented in Figure 3. Model fit estimation resulted in an overall $\chi^2 (299, 144) = 1254.17, p < .05, CFI = .52, RMSEA = .16, 90\% CI = .15, .17$. Significant paths were found between peer interpersonal competence and number of same sex peer relationships ($\beta = .220, p < .05$), peer dependence and intimate dependence ($\beta = .654, p < .05$), intimate dependence and intimate jealousy ($\beta = .753, p < .05$), intimate dependence and intimate aggression ($\beta = -.228, p < .05$), and intimate jealousy and intimate aggression ($\beta = .342, p < .05$).

Non significant paths included peer dependence to intimate jealousy ($\beta = -.05, p > .05$), number of same sex peer relationships to intimate jealousy ($\beta = -.04, p > .05$), number of same sex peer relationships to peer dependence ($\beta = -.02, p > .05$), intimate interpersonal competence to intimate jealousy ($\beta = -.09, p > .05$), and intimate interpersonal competence to intimate aggression ($\beta = -.01, p > .05$).

In the interest of parsimony, the non significant paths were removed from the model, as was intimate interpersonal competence as it was now void of paths to estimate. Further, number of same sex peer relationships and peer interpersonal competence, while exhibiting a significant path between them, did not exhibit significant paths to other model variables and were thus removed. The refined structural model is presented in Figure 4. Results indicated that the refined model obtained an adequate fit to the data set.

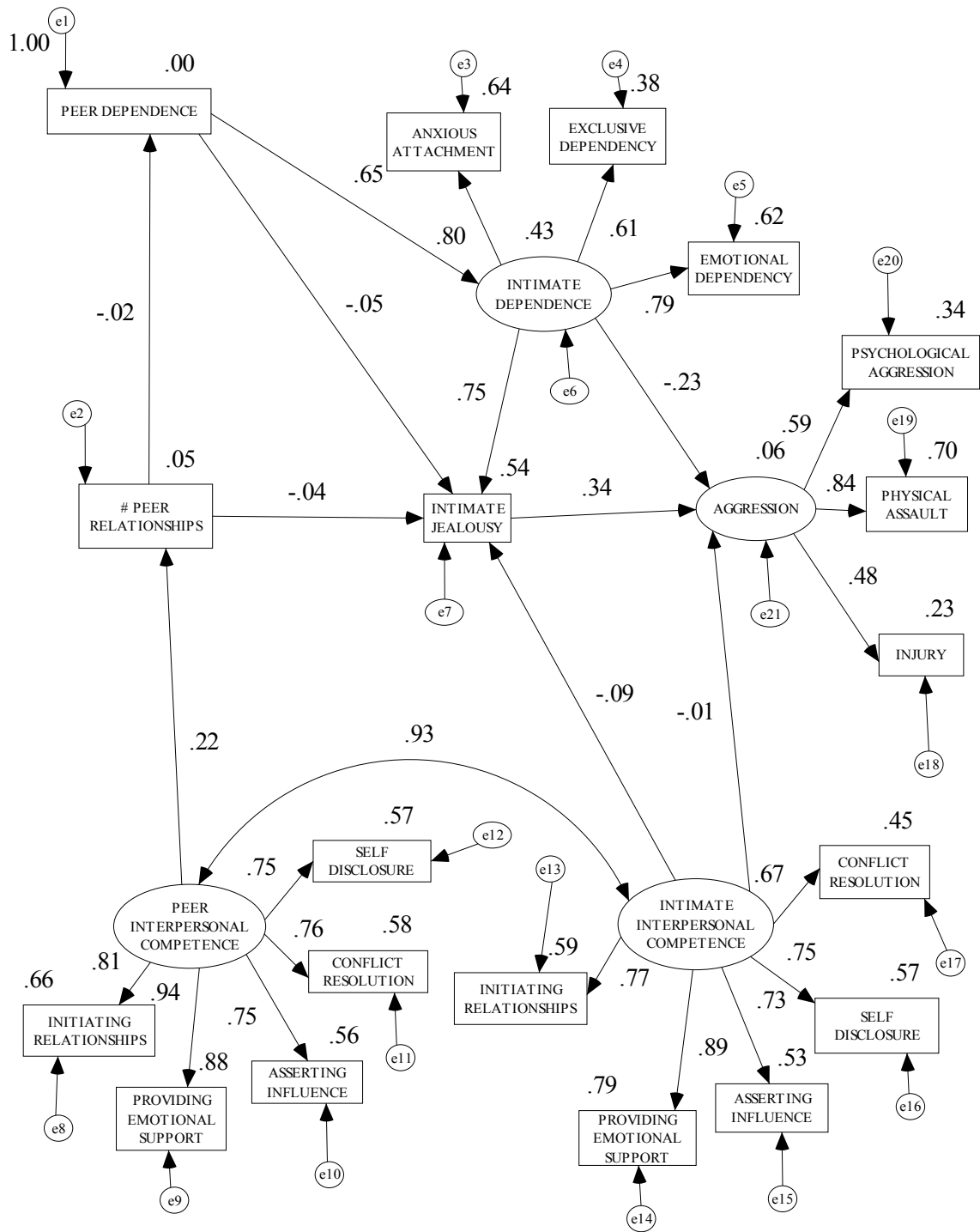


Figure 3. Structural analysis of proposed model with standardized path coefficients.

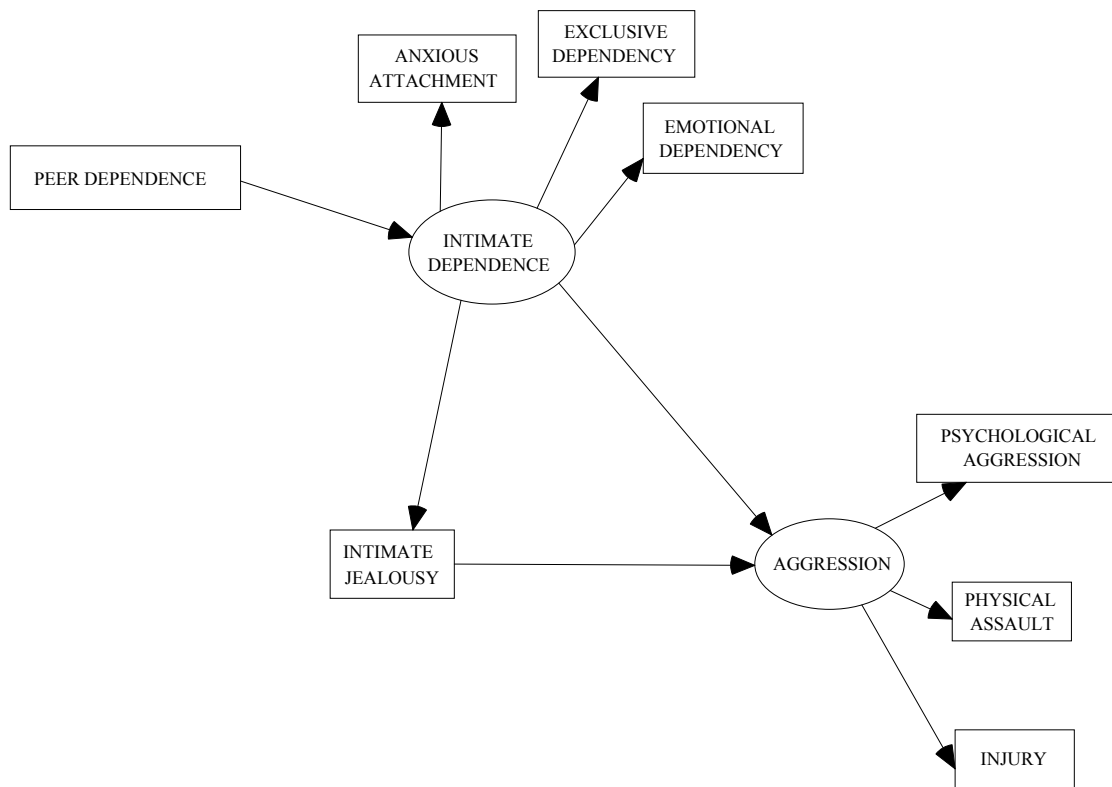


Figure 4. Refined model with structural and measurement components.

The refined model with standardized path coefficients is presented in Figure 5. Model fit estimation resulted in an overall $\chi^2 (299, 18) = 60.76, p < .05, CFI = .94, RMSEA = .089, 90\% CI = .07, .12$. Significant paths were found between intimate dependence and peer dependence ($\beta = .646, p < .05$), intimate jealousy and intimate dependence ($\beta = .723, p < .05$), and intimate jealousy and intimate aggression ($\beta = .336, p < .05$). Significance was obtained for the refined model with $p < .05$, indicating that the refined model's covariance structure is significantly different from the covariance matrix of the current data set. However, closer inspection indicates that this refined model is

substantially less false than the baseline independence model ($\chi^2 = 756.84$, CFI = .000, RMSEA = .296).

Tests for Mediation

After reviewing the path coefficients for the refined model, it was discovered that a potential mediation could exist between three model components. To assess the value

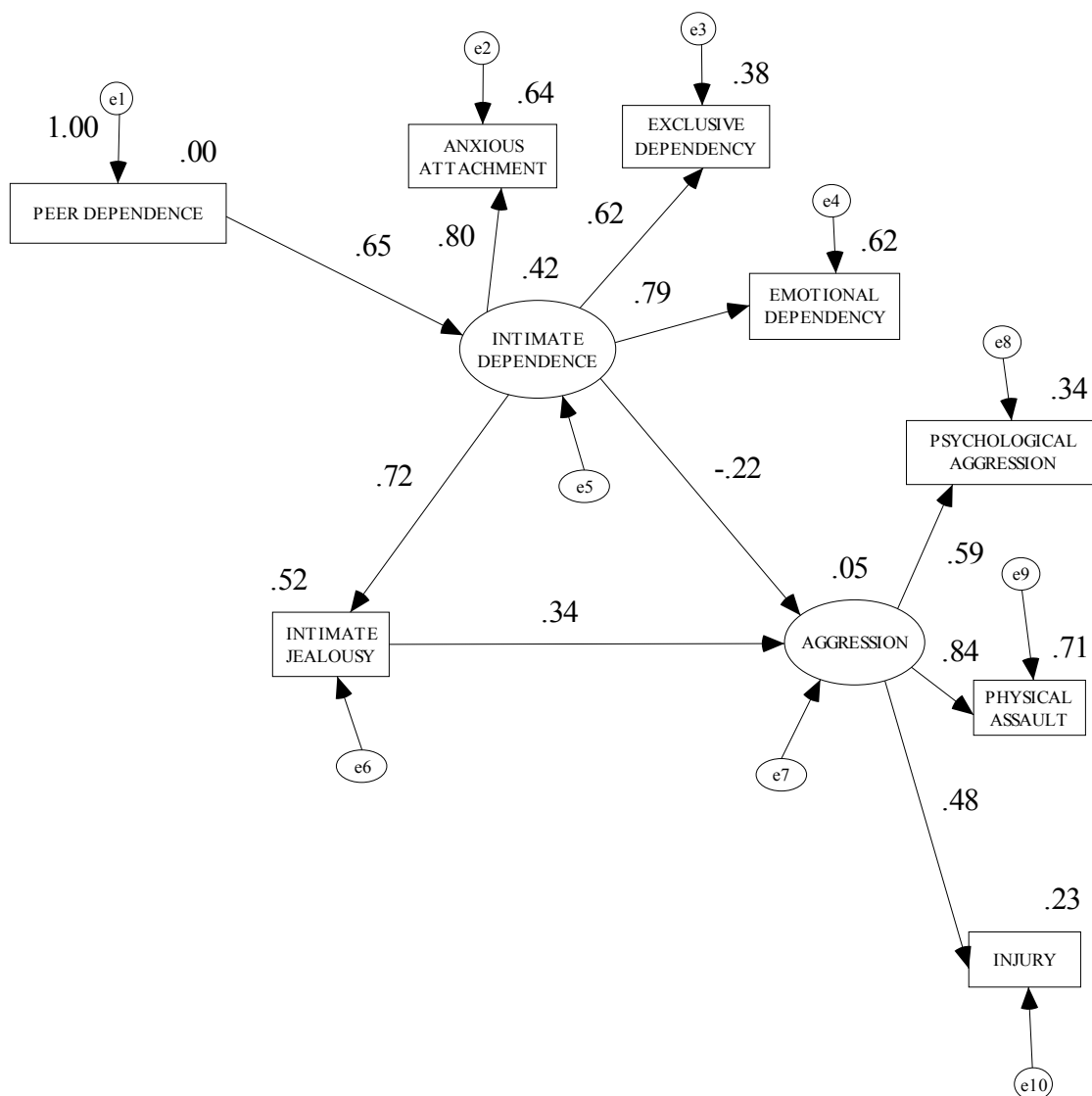


Figure 5. Structural analysis of refined model with standardized path coefficients.

of intimate jealousy as a mediator between intimate dependence and intimate aggression, bootstrapping was used in SPSS 13.0 according to the procedure suggested by Preacher and Hayes (2004). The bootstrapping method is preferred over the Sobel test and the Barron and Kenny (1986) method as it does not make normality assumptions. For estimation of the path coefficients, 10,000 bootstrap resamples were generated in order to construct an approximation of the statistic distribution.

Baron and Kenny (1986) defined a mediator as a variable that “accounts for the relation between the predictor and the criterion” (p. 1176). The following conditions must exist in order for it to be deemed that a variable is functioning as a mediator: (1) the predictor significantly predicts the criterion, (2) the predictor significantly predicts the mediating variable, (3) the mediating variable significantly predicts the criterion while controlling for the predictor (Baron & Kenny, 1986). Additionally, the criterion should not cause the mediating variable and there should be no measurement error in the mediating variable. There is no existing research or current evidence to suggest that intimate aggression causes intimate jealousy. Further, it has been argued that the final condition, the existence of no measurement error in the mediating variable, is rarely met in social science research (Preacher & Hayes, 2004). Given this, the requirements necessary for intimate jealousy to be a possible mediator are satisfactorily met.

The simple mediation model being tested is presented in Figure 6. The total effect of intimate dependence on intimate aggression was .2459 ($p < .05$). The effect of intimate dependence on intimate jealousy was .8683 ($p < .05$). The effect of intimate jealousy on intimate aggression while controlling for intimate dependence was .0995 (p

< .05). The direct effect of intimate dependence on intimate aggression while controlling for intimate jealousy was .1594 ($p < .05$). All four of these effects were statistically significant from zero. This indicated that intimate jealousy was functioning as a partial mediator of the effect of intimate dependence on intimate aggression. If intimate

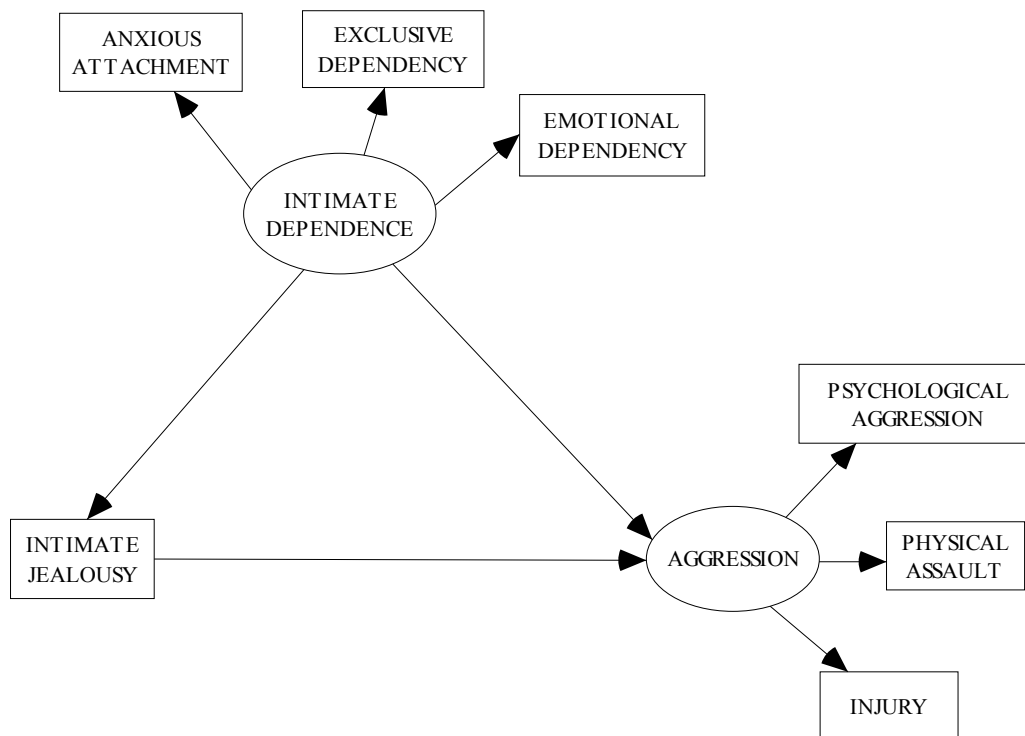


Figure 6. Model of mediation with structural and measurement components.

jealousy were functioning as a full mediator, then the direct effect of intimate dependence on intimate aggression while controlling for intimate jealousy would have become non significant, indicating no relationship between intimate dependence and intimate aggression after controlling for intimate jealousy. Partial mediation could indicate the presence of unaccounted for additional mediators (Baron & Kenny, 1986).

In an attempt to confirm these results, estimation of the indirect effect was conducted in order to assess if the total effect of the predictor (intimate dependence) on the criterion (intimate aggression) was significantly reduced with the inclusion of the mediator (intimate jealousy) in the model. The bootstrap estimate for the indirect effect was .0872, and was estimated to be between -.0041 and .1816 with 95% confidence. Because zero was included in the 95% confidence interval, the indirect effect was not statistically significant at $p > .05$ (two tailed). This indicated that the total effect of intimate dependence on intimate aggression through intimate jealousy was not significantly decreased by the addition of mediation to the model. The value of the Sobel test was .0864, and was estimated to be between .0025 and .1703 with 95% confidence. This result was statistically significant ($z = 2.0190$, $p < .05$, two tailed). The conflicting results of tests of the indirect effect of intimate dependence on intimate aggression through intimate jealousy could be attributed to the non-normality of the data set, thereby possibly invalidating the accuracy of the Sobel test. Yet, the 95% confidence interval around the bootstrapping estimate is not symmetrical around zero, with a very small percentage of the confidence interval falling below zero. This was consistent with the previous analysis that failed to find intimate jealousy as a complete mediator of the effect between intimate dependence and intimate aggression as it indicated that the indirect effect of intimate dependence on intimate aggression through intimate jealousy was not statistically significant. However, the results indicated the need for further investigation.

To gain further clarity on the functioning of intimate jealousy as a mediator in the effect of intimate dependence on intimate aggression, mediation analyses were run for each type of intimate aggression (negotiation, physical assault, sexual coercion, injury, and psychological aggression). The total effect of intimate dependence on negotiation was .4311 ($p < .05$). The effect of intimate dependence on intimate jealousy was .8604 ($p < .05$). The effect of intimate jealousy on negotiation while controlling for intimate dependence was $-.1349$ ($p > .05$). The direct effect of intimate dependence on negotiation while controlling for intimate jealousy was .5472 ($p < .05$). The total effect of intimate dependence on negotiation was significant. However, the third condition necessary for mediation was not met. The third condition required that the mediating variable significantly predict the criterion while controlling for the predictor (Baron & Kenny, 1986). The effect of intimate jealousy on negotiation while controlling for intimate dependence was not significantly different from zero.

However, the bootstrap estimate for the indirect effect was $-.1179$, and was estimated to be between $-.2978$ and $.0513$ with 95% confidence. Because zero was included in the 95% confidence interval, the indirect effect was not statistically significant at $p > .05$ (two tailed). Similarly, the value of the Sobel test was $-.1161$, and was estimated to be between $-.2874$ and $.0553$ with 95% confidence. This result was not statistically significant ($z = -1.3275$, $p > .05$, two tailed). These indicated that there existed no evidence of intimate jealousy functioning as a mediator of the effect between intimate dependence and negotiation. Further, no evidence existed of a significant indirect effect of intimate dependence on negotiation through intimate jealousy.

The total effect of intimate dependence on physical assault was .0089 ($p > .05$). The effect of intimate dependence on intimate jealousy was .8604 ($p < .05$). The effect of intimate jealousy on physical assault while controlling for intimate dependence was .0766 ($p < .05$). The direct effect of intimate dependence on physical assault while controlling for intimate jealousy was -.0570 ($p > .05$). The total effect of intimate dependence on physical assault was non significant. Without the existence of an initial direct effect, a mediating effect is not possible (Preacher & Hayes, 2004).

However, the bootstrap estimate for the indirect effect was .0664, and was estimated to be between .0136 and .1299 with 95% confidence. Because zero was not included in the 95% confidence interval, the indirect effect was statistically significant at $p < .05$ (two tailed). Similarly, the value of the Sobel test was .0659, and was estimated to be between .0117 and .1201 with 95% confidence. This result was statistically significant ($z = 2.3822$, $p < .05$, two tailed). These indicated that there existed an indirect effect of intimate dependence on physical assault through intimate jealousy but no evidence of mediation.

The total effect of intimate dependence on sexual coercion was .0215 ($p > .05$). The effect of intimate dependence on intimate jealousy was .8604 ($p < .05$). The effect of intimate jealousy on sexual coercion while controlling for intimate dependence was .0280 ($p < .05$). The direct effect of intimate dependence on sexual coercion while controlling for intimate jealousy was -.0026 ($p > .05$). The total effect of intimate dependence on sexual coercion was non significant. Again, without the existence of an initial direct effect, a mediating effect is not possible (Preacher & Hayes, 2004).

Yet, the bootstrap estimate for the indirect effect was .0241, and was estimated to be between .0009 and .0548 with 95% confidence. Because zero was not included in the 95% confidence interval, the indirect effect was statistically significant at $p < .05$ (two tailed). Similarly, the value of the Sobel test was .0241, and was estimated to be between .0028 and .0454 with 95% confidence. This result was statistically significant ($z = 2.2207$, $p < .05$, two tailed). These indicated that there existed an indirect effect of intimate dependence on sexual coercion through intimate jealousy but no evidence of mediation.

The total effect of intimate dependence on injury was $-.0023$ ($p > .05$). The effect of intimate dependence on intimate jealousy was $.8604$ ($p < .05$). The effect of intimate jealousy on injury while controlling for intimate dependence was $.0056$ ($p > .05$). The direct effect of intimate dependence on injury while controlling for intimate jealousy was $-.0071$ ($p > .05$). The total effect of intimate dependence on injury was not significant. While the effect of intimate dependence on intimate jealousy was significant, the first and third conditions necessary for mediation was not met. The first condition required that the predictor significantly predict the criterion (Baron & Kenny, 1986). The second condition required that the mediating variable significantly predict the criterion while controlling for the predictor. Neither of these effects was significantly different from zero.

The bootstrap estimate for the indirect effect was .0049, and was estimated to be between $-.0024$ and $.0164$ with 95% confidence. Because zero was included in the 95% confidence interval, the indirect effect was not statistically significant at $p > .05$ (two

tailed). Similarly, the value of the Sobel test was .0048, and was estimated to be between -.0030 and .0127 with 95% confidence. This result was not statistically significant ($z = 1.2065$, $p > .05$, two tailed). These indicated that there existed no evidence of intimate jealousy functioning as a mediator of the effect between intimate dependence and injury. Further, no evidence existed of a significant indirect effect of intimate dependence on injury through intimate jealousy.

The total effect of intimate dependence on psychological aggression was .2107 ($p < .05$). The effect of intimate dependence on intimate jealousy was .8604 ($p < .05$). The effect of intimate jealousy on psychological aggression while controlling for intimate dependence was .2037 ($p < .05$). The direct effect of intimate dependence on psychological aggression while controlling for intimate jealousy was .0354 ($p > .05$). These results appear to support the functioning of intimate jealousy as a complete mediator, as the direct effect of intimate dependence on psychological aggression while controlling for intimate jealousy became non significant, indicating no relationship between intimate dependence and psychological aggression after controlling for intimate jealousy.

The bootstrap estimate for the indirect effect was .1742, and was estimated to be between .0476 and .3094 with 95% confidence. Because zero was not included in the 95% confidence interval, the indirect effect was statistically significant at $p < .05$ (two tailed). Similarly, the value of the Sobel test was .1753, and was estimated to be between .0668 and .2838 with 95% confidence. This result was statistically significant ($z = .0015$, $p < .05$, two tailed). These results indicated that the total effect of intimate dependence

on psychological aggression through intimate jealousy was significantly decreased by the addition of mediation to the model. It appears that intimate jealousy functions as a complete mediator of the effect between intimate dependence and psychological aggression.

To further assess the mediating power of intimate jealousy on the relationship between intimate dependence and intimate aggression, separate analyses of covariance were run to ascertain the effect of intimate jealousy on each of the five types of intimate aggression while holding intimate dependency constant. Intimate jealousy was divided into two groups (high and low) using the mean. Results indicated that three of the subscales (negotiation, sexual coercion, and injury) revealed no significant differences between the high and low intimate jealousy groups. Results of these analyses are presented in Table 7. However, two types of intimate aggression, psychological aggression and physical assault, exhibited significant differences between the high and low intimate jealousy groups. Results of these analyses are presented in Table 8. Mean values for the intimate jealousy groups are reflected in Table 9.

Clear understanding of these results requires the review of the nature of the questions on these two subscales. As discussed earlier, participants were asked to indicate the frequency with which they committed a number of behaviors using the following response options: (1) once in the past year, (2) twice in the past year, (3) 3-5 times in the past year, (4) 6-10 times in the past year, (5) 11-20 times in the past year, (6) more than 20 times in the past year, (7) not in the past year, but it did happen before, and (8) this has never happened (Straus, Hamby, et al., 1996). Data was recoded to reflect the

midpoint of each response category. Consequently, responses of 1 and 2 remained the same, while a response of 8 was recoded as 0. Responses of 3, 4, 5, 6, and 7 were

Table 7

Univariate Analyses of Covariance for Intimate Jealousy Indicating Nonsignificance

<i>Negotiation</i>							
Source	Type III Sum of Squares	df	Mean Square	F	Significance	Partial Eta Squared	Observed Power*
Corrected Model	28165.32	2	14082.66	8.54	.00	.055	.97
Intercept	11065.92	1	11065.92	6.71	.01	.022	.73
Intimate Dependence	23416.95	1	23416.95	14.20	.00	.046	.96
Jealousy Group	82.71	1	82.71	.05	.82	.000	.06
Error	488277.64	296	1649.59				
Total	2016327.00	299					
Corrected Total	516442.96	298					
<i>Sexual Coercion</i>							
Source	Type III Sum of Squares	df	Mean Square	F	Significance	Partial Eta Squared	Observed Power*
Corrected Model	105.94	2	52.97	2.13	.12	.014	.44
Intercept	.01	1	.01	.00	.98	.000	.05
Intimate Dependence	24.42	1	24.42	.98	.32	.003	.17
Jealousy Group	33.05	1	33.05	1.33	.25	.004	.21
Error	7373.85	296	24.91				
Total	8042.00	299					
Corrected Total	7479.79	298					
<i>Injury</i>							
Source	Type III Sum of Squares	df	Mean Square	F	Significance	Partial Eta Squared	Observed Power*
Corrected Model	4.31	2	2.16	.64	.53	.004	.16
Intercept	7.20	1	7.20	2.12	.15	.007	.31
Intimate Dependence	2.71	1	2.71	.80	.37	.003	.15
Jealousy Group	3.54	1	3.54	1.04	.31	.004	.17
Error	1004.20	296	3.39				
Total	1035.00	299					
Corrected Total	1008.51	298					

* Computed using alpha = .05.

recoded as 4, 8, 15, 25, and 0, respectively. A total subscale score was achieved through summing of the recoded subscale responses. In this manner, the subscale total score

reflects an estimated average of the number of times those acts have been committed in the past year.

Table 8

Univariate Analyses of Covariance for Intimate Jealousy Indicating Significance

<i>Psychological Aggression</i>							
Source	Type III Sum of Squares	df	Mean Square	F	Significance	Partial Eta Squared	Observed Power*
Corrected Model	10532.58	2	5266.29	8.15	.00	.052	.96
Intercept	538.77	1	538.77	.83	.36	.003	.15
Intimate Dependence	2305.00	1	2305.00	3.57	.06	.012	.47
Jealousy Group	3423.56	1	3423.56	5.30	.02	.018	.63
Error	191277.65	296	646.21				
Total	315018.00	299					
Corrected Total	201810.23	298					
<i>Physical Assault</i>							
Source	Type III Sum of Squares	df	Mean Square	F	Significance	Partial Eta Squared	Observed Power*
Corrected Model	980.56	2	490.28	2.95	.05	.020	.57
Intercept	559.06	1	559.06	3.36	.07	.011	.45
Intimate Dependence	144.85	1	144.85	.87	.35	.003	.15
Jealousy Group	973.85	1	973.85	5.85	.02	.019	.67
Error	49252.28	296	166.39				
Total	53458.00	299					
Corrected Total	50232.84	298					

* Computed using alpha = .05.

Table 9

Intimate Jealousy Covariance Statistics Comparison

Intimate Jealousy Group	Psychological Aggression		Physical Assault	
	High	Low	High	Low
N	148	151	148	151
Mean	24.76	14.26	4.97	1.63
Standard Deviation	29.12	21.44	3.28	5.17

With this in mind, the differences between the low and high intimately jealous groups on psychological aggression while controlling for intimate dependence are clinically significant, as they indicate an average of ten more psychological aggressive acts being committed by the high jealousy group during the past year. Similarly, the differences between the low and high intimately jealous groups on physical assault are clinically significant, as they indicate an average of three more physical assault acts being committed by the high jealousy group during the past year.

CHAPTER V

CONCLUSION AND DISCUSSION

Structural equation modeling and analysis of mediation allowed this study to make unique and significant contributions to the current literature base on female perpetrated intimate aggression. This study adds to the growing body of evidence implicating females as intimate aggressors, revealing that 87% of female participants committed psychological aggression, 37% committed physical assault, 20% committed sexual coercion, and 6.7% committed injury that required medical attention against their male intimate partners in the past year. Contrary to gender stereotypes and consistent with the growing empirical focus, this study confirms that females are, in fact, initiating intimate aggression and not merely acting in retaliation or self-defense.

Using existing research as a foundation, the primary goal of this empirical endeavor was to study the nature of the relationship between characteristics of same sex peer relationships, characteristics of intimate relationships, and the perpetration of intimate aggression as a means of assessing the applicability and relevance of a proposed theory for conceptualizing male intimate aggressors to female intimate aggressors.

Jennings and Murphy (2000) proposed that male perpetrated intimate aggression is tied to unmet relational needs. The authors theorized that males suffer relational impairments stemming from their disappointments of gender role socialization and traditional masculine expectations, and consequently look to their female partners for provision of the emotional bonding, affection, and intimacy that went unfulfilled in the male-male relationships. The resulting inability of the male to depend on his peer

relationships leads to increased reliance upon and jealousy within the intimate relationship. Thus, aggression was conceptualized as a maladaptive attempt to maintain the partner's role as surrogate peer in order to compensate for relational deficits and unmet needs. The current study proposed that if male perpetrators experience relational displacement as a correlate to intimate aggression, females should demonstrate those patterns to a greater degree as relational constructs are highly salient to the female identity.

Model Interpretation

The initial proposed model, while theoretically driven in design, was a poor fit to the data. Number of same sex peer relationships failed to contribute to the proposed path model with paths leading from number of same sex peer relationships to peer dependence and intimate jealousy. Given the previously discussed violations of skewness and kurtosis, it is clear that this variable violated the assumption of normality. There were also problems with outliers on this variable. These outliers can possibly be attributed to a failure to clearly operationalize the concept of "significant female friendships." It is suspected that this lack of clarity resulted in subjective interpretations of what defined a significant peer relationship, increasing the amount of error associated with this variable.

Despite the fact that peer interpersonal competence and intimate interpersonal competence exhibited a strong correlation with each other, they failed to contribute to the proposed model in a meaningful manner. As noted earlier, confirmatory factor analyses were performed on each separately in order to ensure that the factors were

loading properly on the latent variables. Results of these analyses indicated adequate loadings to ensure sufficient functioning of the measurement of the latent construct.

It is possible that there exists a moderator between intimate interpersonal competence and intimate jealousy, such as a prior experience with infidelity or relationship betrayal. This type of experience could result in a partitioning of intimate interpersonal competence into subgroups whose influence on intimate jealousy is differentially affected based on the prior history. Similarly, a possible moderating variable could also exist between intimate interpersonal competence and intimate aggression. This variable would more likely reflect a learned relational skill, such as communication. In this way, the relationship between intimate interpersonal competence and aggression would change dependent upon one's ability to effectively communicate emotional needs and distress.

Results of the current study suggest a model that indicates that peer relationships contribute to the perpetration of intimate aggression. Specifically, peer dependence predicted intimate dependence. Intimate dependence and intimate jealousy predicted intimate aggression. Further, intimate jealousy completely mediated the ability of intimate dependence to predict psychological aggression. The findings are distinctive in light of the theoretical framework driving this analysis (Jennings & Murphy, 2000).

Interpretation of this model illustrates that relational connection and needs are capable of serving as predictors of intimate aggression for females and may function differently than for males. With greater numbers of friendships, the need to rely upon each friend in order to define the self is lowered as investment is spread across the

relationships. As the level of peer dependence increases, intimate dependence also increases. As research shows that for females, peer relationships and intimate relationships do not compete for emotional energy, females who are more dependent on their peer relationships would not necessarily be expected to experience a compensatory decrease in intimate dependence (Oliker, 1989; Sheehy, 2000). Conceptually, this is best understood when taking into consideration the qualitative differences that exist for women between peer and intimate relationships, making relational displacement unlikely for females.

Theories in this vein assert that female friendships serve to facilitate the maintenance of the female individual identity while allowing for emotional growth that enhances the intimate relationship. In essence, the existence of similar levels of dependence on both the peer and intimate relationships, whether high or low, is likely reflective of the saliency of multiple relational connections to the female identity and the unique contributions each of these relationships offer. This is in contrast to the framework of Jennings and Murphy (2000), who argued that males who suffer from impaired peer relationships experience heightened dependence on the intimate relationship and transfer the emotional demand for the unmet relational needs to the female partner. This infers that qualitative differences between peer and intimate relational connections may not exist for males, allowing for the compensatory nature of relational substitution.

Consistent with previous research into male aggression, the current study supports intimate dependence as a predictor of intimate aggression. However, the current

results suggest a directional relationship that seems inconsistent with the theoretical framework of male intimate aggression. Males who are more dependent on their female partners exhibit greater levels of investment in the intimate relationship as it serves as the only source of fulfillment of relational needs. Therefore, loss of this relationship is particularly devastating. For this reason, males who exhibit greater intimate dependence would be more likely to aggress in an effort to maintain the only relational connection they have.

The current investigation suggests that females who exhibit heightened intimate dependence are less likely to engage in intimate aggression. Given the relational nature of the female identity, it could be that females who are intimately dependent value that connection just as males do. However, if the peer and intimate relationships serve to fulfill qualitatively different emotional needs, then the female is unlikely to be able to compensate for the loss of the intimate relationship. The inimitable nature of the intimate relationship could serve as a deterrent to intimate aggression from the female, who may fear loss of the relationship if she does aggress. So, the female may choose to abstain from intimate aggression in an effort to maintain the intimate relationship, rather than intimately aggressing to accomplish sustained connection.

Results of this analysis indicated that for women, the predictive capability of intimate dependence on psychological aggression was completely mediated by intimate jealousy. Females who exhibited heightened dependence on the intimate relationship also exhibited greater levels of intimate jealousy. This relationship is consistent with the male theoretical framework (Jennings & Murphy, 2000). Greater reliance upon the

intimate relationship likely results in heightened concern over the risks to continuation of the relationship. The uniqueness of the intimate relationship in serving emotional fulfillment makes this relational connection highly valued and necessary for females.

The current study revealed that for females, differential effects of intimate dependence on intimate aggression were found based on intimate jealousy. As discussed previously, heightened intimate dependence alone predicted lower likelihood of intimate aggression. This seemingly conflicting result actually sheds light on the female emotional process. If a female were to aggress against her male partner, the threat to relationship stability then comes from within the relationship. The saliency of the intimate relationship to the female identity probably results in the female making concerted efforts to maintain the connection. To this end, she may avoid intimate aggression as it would be an internal threat to the relationship.

Differentially, females who exhibited increased intimate dependence with high intimate jealousy were more likely to aggress against their partner than females who exhibited intimate dependence with low intimate jealousy. It appears that highly dependent females, while not likely to aggress if low in intimate jealousy, are more likely to aggress against their male partners if high on intimate jealousy, inferring that there exists concern that the relationship may be at risk. This result is consistent with existing research that implicated the positive correlation between intimate dependence and intimate jealousy (Buunk, 1982; O'Neill & O'Neill, 1972; White, 1981). As described previously, females low on intimate jealousy may not intimately aggress despite intimate dependence because it may result in loss of the relationship due to an

internal threat. On the other hand, jealousy, defined for this study as the “negative emotion resulting from the actual or threatened loss of love to a rival,” infers the presence of a rival or external threat to the relationship (Mathes & Severa, 1981, p. 24). Previous studies have shown when jealousy is manifested as anger and blame, it is more likely to be directed at the intimate partner than the rival (Mathes & Verstraete, 1993). External threats are not likely to be controlled by the female from within the relationship. Further, females exhibiting intimate jealousy are unlikely to aggress against the rival. Consequently, she may aggress against her male partner in a desperate effort to counteract the external threat and maintain internal connection. The maintenance of negative relational connection may be far less damaging to the female identity than the loss of the relational connection in its entirety.

The results suggest that the level of intimate jealousy can in fact greatly influence the likelihood of intimate aggression. Accordingly, the complete mediation of the relationship between intimate dependence and psychological aggression by intimate jealousy could reflect a qualitative difference between sources of the threat to the relationship. The fact that empirical support for mediation could not be found for physical assault, injury, sexual coercion, or negotiation yet was found for psychological aggression likely speaks to the foundational commonalities of emotional threat and tension that jealousy and psychological aggression share.

Thus, the results of the current study are consistent with the extensive literature base that speaks to the role of relational connection in females’ sense of self. This study adds to the growing empirical investigation of female perpetrated aggression that calls

into question the belief that intimate aggression is a male epidemic and implicates the relational underpinnings of female aggression. It is evident that females do aggress against their male partners and cause harm. It would seem that conceptualization of female aggression from a male framework is inappropriate and inadequate in capturing the relational roots that serve to feed the aggressive behavior.

Limitations of the Current Study

While concerted efforts were made to construct the most comprehensive empirical investigation possible, there exist several limitations of the current study that may have influenced the reported results. These must be taken into account when evaluating the present study and findings.

The use of retrospective self-report to assess and describe relationships of interest could be clouded by memory, current relational issues, and/ or faulty perceptions. Due to the face validity of the instruments used, social desirability could have influenced participant responses (Rathus & Feindler, 2004). In attempts to moderate the influence of social desirability, great care was taken to ensure anonymity during data collection. Data was collected in large groups in spacious classrooms wherein participants were invited to spread out in order to ensure privacy while completing their assessments. Further, completed protocols were collected in a receptacle located near the door while the investigator was seated on the opposite side of the room. Lastly, the investigator sat in such a way as to not be able to note the order of protocol completions. Despite these accommodations made to encourage candor in responses, the sensitive nature of the questionnaires could inhibit total disclosure. Given the awareness that parts of the

protocol asked the participants to disclose participating in violent and/ or illegal acts of assault, it is highly likely that social desirability still influenced responses.

Additionally, the demographic designed for this study presented some possibly significant limitations. First, it did not differentiate between cohabitating and non-cohabitating dating partners. It is possible that attachment differences exist between these two groups that influenced the likelihood and frequency of intimate aggression. Furthermore, relational dimensions measured for the intimate relationship, such as jealousy and dependence, could also be influenced by the increased proximity to the intimate partner. In this vein, inquiry should have also been made as to whether the current relationship is a long distance relationship. Second, the demographic questionnaire did not clearly define the nature of a significant female friendship, possibly resulting in increased error when measuring that variable. Given the developmental stage of college students and the dynamics of social engagement processes, clearer definition of significant female friendships would have been beneficial.

Further, the restrictions of the sample place limitations on the generalizability of these results. Drawing the sample from a university population could have resulted in socioeconomic confounds or other types of regional biases. Sampling error is an inherent difficulty in using convenience samples. White, Smith, Koss, and Figueredo (2000) argue that “college samples are unrepresentative of the community in general” (p. 694). Inferences should only be made to heterosexual females from this major university who are unmarried and within the age range. It should be noted that life experiences and

circumstances surrounding females who fall outside of these sample restrictions could significantly influence the results found.

Lastly, generalizability of the model fit should be done with caution (Hoyle & Panter, 1995). The proposed model was constructed a priori, driven by existing empirical research and theoretical conceptualizations. However, the final model was refined after the initial model fit on the basis of the current sample data and guided by the standardized path coefficients estimated from that sample. Consequently, the refined model, while an adequate fit to the data, requires further testing on additional samples to assess replicability. Despite these limitations, this study is significant in its potential to contribute to the empirical research base for the development and treatment of female perpetrators of intimate partner abuse.

Future Directions

As research into the etiology and dynamics of female perpetrated intimate aggression is relatively new and no empirical endeavor can explore every prospective variable of relevance, there are numerous dimensions that are still left to be explored. Future research should expand upon ethnic and religious diversity as an influencing variable in intimate aggression. Variations in cultural world views and spiritual beliefs could have significant effects upon the role that peer relationships play in influencing intimate behavior. In the same manner, different cultural expectations and beliefs could influence the saliency of intimate dependence as gender role expectations vary across culture and religion.

In addition, lesbian women should be assessed for emotive relational connections that contribute to intimate violence. In general, admission of battering within a lesbian relationship goes against the commonly held perception that lesbian relationships are egalitarian and non violent (Coleman, 1994). This reinforces continued societal and empirical disinclination to explore lesbian battering. Early investigation into lesbian battering has found personality parallels between female lesbian batterers and heterosexual male batterers (Coleman, 1994). If lesbian gender roles are viewed differently, gender role socialization contributions could factor uniquely in relational dynamics. In considering the current study results, would the theoretical framework for male intimate aggression by Jennings & Murphy (2000) fit for lesbian batterers? Would lesbian intimate aggression shift as a function of the nature of the threat to the relationship? Do differences exist between lesbian batterers, heterosexual male batterers, and heterosexual female batterers such that lesbian battering stems from a unique combination of factors that fully fits with the conceptual framework of neither male nor female heterosexual intimate aggression? This is fertile ground for empirical investigation.

Finally, the present study should be extended to study the role of motherhood in female perpetration of intimate aggression. If relational connections are not interchangeable and each serves a distinctive role in the development of the female identity, then what is the function of the maternal relationship in intimate aggression? Does having children influence the likelihood that a female will intimately aggress? Further, is there a difference in this influence depending on the paternity of the male

partner to the female's children? As intimate aggression has been shown to be generationally transmitted, greater insight into the operation of family dynamics and roles could prove crucial to minimizing the risk of intimate aggression to children (Kaura & Allen, 2004; Nicholas & Bieber, 1996; Riggs and O'Leary, 1996; Shook et al., 2000; Straus, 1992).

Clinical Implications

Because it implicates crucial differences between male and female intimate aggression, this study has far-reaching implications for the assessment and treatment of female perpetrated intimate aggression. Empirical data that sheds light upon contributive and correlative factors of female perpetrated partner abuse are few. In addition, expanding awareness of the pivotal role of same sex peer relationships could allow for much more effective intervention and insight into the interactions between intimate aggression and social support dynamics.

To date, few treatment programs for female aggressors have been proposed. These argue that treatment should address basic needs and safety, psychopathology, alcohol and substance abuse, suicidality risk, parenting skills, emotional regulation skills, posttraumatic stress, and power and control issues (Leisring, et al., 2003; Seamans, 2003). Of these, none have been empirically validated. The paucity of clear treatment avenues for female aggressors has resulted in the assumption that females can receive effective treatment when provided with interventions guided by male violence conceptualizations and validated on male aggressors. Sadly, this falls far short of best care practices and likely does not ameliorate female aggression.

Instead, awareness that intimate aggression is “qualitatively and quantitatively different” for males and females must translate into treatment design, allowing for the construction of interventions that are specific to the unique etiology of intimate aggression for each gender (Perilla, Frndak, Lillard, & East, 2003, p. 18). One treatment program was found that appears to be consistent with the results of the current study, as it addresses female roles, identity of the self, and attachment (Chavez, 2004). In order to effectively treat intimate aggression, more interventions must be designed that are informed by empirical investigation.

This study presents new information regarding the role of relationships in the female identity. It appears that relational connection is not transferable for females, and unmet intimate relational needs are unlikely to be met in peer relationships. Thus, relational displacement does not seem a viable option for females with unmet relational needs. Fulfillment of relational needs appears to be specific to the type of relationship and the nature of the connection. That being said, treatment for men that encourages increased peer relational competence and connection as a means of reducing the level of dependence upon and aggression towards the female partner are unlikely to produce the same results for female aggressors. Instead, treatment for female aggressors must be conceptualized from within the intimate relationship and explore the function of unfulfilled intimate relational needs as an internal means of influencing intimate aggression.

Further, this study reveals that the act of intimately aggressing is not linearly predicted by intimate dependence. The realization that intimate jealousy increases the

risk of perpetration of aggression by the female also speaks to a need for interventions to provide avenues for females to explore self-esteem as it relates to level of confidence in the intimate relationship. It would appear that females who aggress against their male partner may differ on an internal sense of security and self regard, such that those who are highly dependent but self assured may feel less threatened by external rivals, resulting in less perpetration of intimate aggression. This could provide additional means of understanding the origins of intimate aggression.

Expanded empirical focus on this dilemma is propitious. While early efforts at exploring female aggression were impeded by criticisms that exposing females as perpetrators would result in victim blaming for intimate aggression, perspectives are shifting and recent research has been able to differentiate between initiatory and retaliatory female aggressors. Distilling the true victims from the perpetrators has helped to diminish the reluctance to explore this area. Given this new awareness and recognition of female aggression, research in this area can serve to truly inform clinical practice by penetrating the boundary of gender role expectations and delving to new depths of insight into female perpetration of intimate aggression.

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APPENDIX A

NEWSPAPER ADVERTISEMENT

FEMALES: want the chance to earn \$50? Seeking participants for dissertation research investigating effects of female friendships on dating aggression. Email psycstudyXX@yahoo.com.

APPENDIX B
DEMOGRAPHIC

Please fill out the following information on *yourself*:

1. Age _____
2. Major

3. Ethnicity (please check one):
 Caucasian _____
 Asian American _____
 African-American _____
 Hispanic _____
 Other (please describe) _____
4. Intended Occupation:

5. Religion: _____
6. How many female friendships do you currently have that you would consider significant?

7. Current relationship status
 ___ Single ___ Dating
 ___ Married ___ Divorced
 ___ Separated ___ Widowed
8. Children
 ___ Yes, how many _____
 When was your last child born? _____
 ___ No
9. Have you been in a romantic relationship in the last five years? _____
10. If you answered yes to #9, please complete the chart below and question #11.
 Please describe your last 3 romantic relationships:

	Length	Approximate start and end date	Your approximate age	Check which relationships you consider to be significant
Most recent/current relationship				
Previous relationship				
Previous relationship				

11. How many significant romantic relationships have you had with men in the last five years? _____

12. Average family income:

___ <15,000

___ 15,000-35,000

___ 35,000-55,000

___ 55,000-75,000

___ >75,000

APPENDIX C

CONSENT FORM I

Female Perpetrated Intimate Aggression: The Role of Relational Dimensions

I have been asked to participate in a research study investigating the role of relational dimensions in female perpetrated intimate aggression. I was selected because I am a female undergraduate student that is currently or has been involved in a romantic relationship with a male for at least four months at some point during the past five years. A total of 300 females have been asked to participate in this study. The purpose of the study is to provide empirical support for the value of female to female relationships, intimate dependency, and intimate jealousy as moderators of female perpetrated intimate aggression. This study is part of the researcher's dissertation. If I agree to be in this study, I will be asked to complete seven questionnaires regarding my relationships with my current or past romantic partner and same sex peers. These questionnaires will ask me disclose aggressive, illegal, and/ or violent acts I have been a party to. The study will only take approximately 1 to 1 ½ hours. There will be no video or audio taping.

The risks associated with this study are minimal. There is a possibility of slight emotional discomfort as I fill out the assessments, which are of a personal nature. I am aware that I will be asked to disclose personal information, but I am also assured that all of this data will be kept anonymous. I acknowledge that I have been provided a list of local support and/ or counseling services that I may access after participating in the study if necessary.

No identifying information will be included in the research data. My consent form will be collected immediately after I sign it so it will not be tied to any of my responses. My responses will be coded and stored separately from my consent form in order to ensure anonymity. My completed consent form will be used for the random drawings. The records of this study will be kept private. No identifiers linking me to the study will be included in any sort of report that might be published. Research records will be stored securely and only the principal investigator, Jeanette Madkins, and the faculty advisor, Dr. Dan Brossart, will have access to the records. The compensation of participation this study will be my opportunity to be entered into a drawing for six cash awards of \$50 upon completion of all questionnaires. When 50 participants have completed the study, a random drawing will take place for one \$50 cash award.

My decision whether or not to participate will not affect my current or future relations with Texas A&M University or any campus organization I am affiliated with. If I decide to participate, I am free to refuse to answer any of the questions that may make me feel uncomfortable. I can withdraw at any time without my relations with the university, job, benefits, etc., being affected. I can contact the following with any questions about this study:

Jeanette Madkins, MS or Dr. Dan Brossart
Department of Educational Psychology
Mail Stop 4225
College Station, Texas 77843-4225
(979) 845-1831
jmadkins@tamu.edu brossart@tamu.edu

This research has been reviewed and approved by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, the Institutional Review Board may be contacted through Ms. Angelia Raines, Director of Research Compliance, Office of the Vice President for Research, at (979) 458-XXXX.

I have read the above information. I have asked questions and received answers to my satisfaction. I have been given a copy of this consent document for my records. By signing this document, I consent to participate in this study.

Printed Name: _____

Email: _____

Phone Number: _____

Signature: _____

Date: _____

Signature of Investigator: _____

Date: _____

APPENDIX D

CONSENT FORM II

Female Perpetrated Intimate Aggression: The Role of Relational Dimensions

I have been asked to participate in a research study investigating the role of relational dimensions in female perpetrated intimate aggression. I was selected because I am a female undergraduate student that is currently or has been involved in a romantic relationship with a male for at least four months at some point during the past five years. A total of 300 females have been asked to participate in this study. The purpose of the study is to provide empirical support for the value of female to female relationships, intimate dependency, and intimate jealousy as moderators of female perpetrated intimate aggression. This study is part of the researcher's dissertation. If I agree to be in this study, I will be asked to complete seven questionnaires regarding my relationships with my current or past romantic partner and same sex peers. These questionnaires will ask me disclose aggressive, illegal, and/ or violent acts I have been a party to. The study will only take approximately 1 to 1 ½ hours. There will be no video or audio taping.

The risks associated with this study are minimal. There is a possibility of slight emotional discomfort as I fill out the assessments, which are of a personal nature. I am aware that I will be asked to disclose personal information, but I am also assured that all of this data will be kept anonymous. I acknowledge that I have been provided a list of local support and/ or counseling services that I may access after participating in the study if necessary.

No identifying information will be included in the research data. My consent form will be collected immediately after I sign it so it will not be tied to any of my responses. My responses will be coded and stored separately from my consent form in order to ensure anonymity. My completed consent form will be used for the random drawings. The records of this study will be kept private. No identifiers linking me to the study will be included in any sort of report that might be published. Research records will be stored securely and only the principal investigator, Jeanette Madkins, and the faculty advisors, Dr. Dan Brossart and Dr. Antonio Cepeda-Benito, will have access to the records. The compensation of participation this study will be one hour of study participation credit towards my course requirement in Psychology 107. I understand that credit will be verified through one of the investigators signing my subject credit form; none of my responses will be disclosed to my instructor.

My decision whether or not to participate will not affect my current or future relations with Texas A&M University or any campus organization I am affiliated with. If I decide to participate, I am free to refuse to answer any of the questions that may make me feel uncomfortable. I can withdraw at any time without my relations with the university, job,

benefits, etc., being affected. I can contact the following with any questions about this study:

Jeanette Madkins, MS
jmadkins@tamu.edu

Dr. Dan Brossart
brossart@tamu.edu

Dr. Antonio Cepeda-Benito
acb@tamu.edu

This research has been reviewed and approved by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, the Institutional Review Board may be contacted through Ms. Angelia Raines, Director of Research Compliance, Office of the Vice President for Research, at (979) 458-XXXX.

I have read the above information. I have asked questions and received answers to my satisfaction. I have been given a copy of this consent document for my records. By signing this document, I consent to participate in this study.

Printed Name: _____

Email: _____

Phone Number: _____

Signature: _____

Date: _____

Signature of Investigator: _____

Date: _____

APPENDIX E

COUNSELING RESOURCES FOR CONSENT FORM

Texas A&M Student Counseling Services
979.845.XXXX

Texas A&M Counseling and Assessment Clinic
979.595.XXXX

Texas A&M Psychology Clinic
979.845.XXXX

The Counseling Center
979.776.XXXX

VITA

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 704 Harrington Education Center, 4225 TAMU
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 College Station, Texas 77843-4225

EDUCATIONAL EXPERIENCE

- 2007 Doctor of Philosophy, *Counseling Psychology* (APA Accredited)
 Texas A&M University, College Station, Texas
- 2004 Master of Science, Educational Psychology
 Texas A&M University, College Station, Texas
- 1996 Bachelor of Science, Psychology
 Texas A&M University, College Station, Texas

PUBLICATIONS

- Madkins, J. P., & Lawson, D. M. (in process). Female-on-male intimacy violence: Descriptions, consequences, and treatment implications. In D.M. Lawson (Ed.), *Intimacy Violence: Research, theory, and practice*. Pacific Grove, CA: Brooks/Cole. Under contract with anticipated publication date in summer of 2007.
- Lawson, D. M., Barnes, A. D., Madkins, J. P., & Francois-Lamonte, B. M. (2006). Changes in male partner abuser attachment styles in group treatment. *Psychotherapy: Theory, Research, Practice, Training, 43*, 232-237.

PRESENTATIONS

- Madkins, J., Barnes, A., Francois, B., Rivera, S., Sikes, T., & Leffingwell, A. (2004, November). *Toward a typology of female violence*. Research paper presented at the annual convention of the Texas Psychological Association. San Antonio, TX.

CLINICAL EXPERIENCE

- 2006-2007 Predoctoral Intern, Texas A&M Student Counseling Service
 College Station, Texas
- 2005 Psychology Contractor, Federal Women's Prison Camp,
 Bryan, Texas
- 2004 Group Facilitator, Brazos County Probation Department
 Bryan, Texas