EXAMINING ATTACHMENT-BASED PREDICTORS OF INTIMATE PARTNER VIOLENCE IN EMERGING ADULTHOOD RELATIONSHIPS

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ABSTRACT

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Intimate partner violence (IPV) is understood to be a reactive response to attachment threat as directed by one's standing on two dimensions of attachment (i.e., anxious or avoidant). IPV is also influenced by multiple factors related to the individual and their partner's behavior, although few studies have attempted to examine these factors together. A better understanding of the relationship between attachment and IPV may be important during emerging adulthood (18-25 years old) when rates of IPV tend to be high. I proposed that a multidimensional model of attachment that includes various attachment-related processes (i.e., dyadic influences, daily context, and individual/relational functioning) may help to clarify how adult attachment influences IPV during this developmental period. This model was examined in two studies: In Study 1, a 28-day diary study of violent couples (n = 208), I examined daily context (i.e., stress, jealousy, and commitment) as mediating and moderating influences and found generally that stress and jealousy operate to increase the influence of attachment on IPV while commitment operates to decrease the influence of attachment on IPV. In Study 2 (n = 280), I examined individual and internal processes (i.e., emotion regulation and dimensions of interpersonal functioning) as mediating influences in a different set of couples and found mixed support for these as explanatory factors. Altogether, the findings suggest that attachment anxiety and avoidance influence IPV through a variety of paths that have implications for clinical intervention for emerging adulthood couples experiencing IPV.

This dissertation is dedicated to my mom, dad, and sister, who have shaped my values through their love and support, and to my advisor, Dr. Alytia Levendosky, who taught me to be a clinician and a researcher, but most importantly, steadfastly encouraged me to find my way.

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KEY TO ABBREVIATIONS

IPV	Intimate Partner Violence
SEM	Structural Equation Modeling
APIM	Actor-Partner Interdependence Model
APIMeM	APIM with mediation
ECR-R	Experiences in Close Relationships Scale-Revised
MLM	Multilevel Modeling
REML	Restrictive Maximum Likelihood
CTS2	Conflict Tactics Scale, ver. 2
ILM	Intensive Longitudinal Methods
PAVS	Psychological Abuse Victimization Scale
CADQ	Cyber Abuse Dating Questionnaire
ERQ	Emotion Regulation Questionnaire
IIP	Inventory of Interpersonal Problems
SEM	Structural Equation Modeling
CR	Cognitive Reappraisal
ES	Expressive Suppression
EFT	Emotion-Focused Therapy

Overall Dissertation Introduction

Intimate partner violence (IPV) is common in adult relationships; national rates suggest that one in three women and one in four men experience some form of violence with a partner in the form of physical, sexual, or psychological aggression in their lifetime (Sugg, 2015). IPV is a significant predictor of multiple outcomes, including depression, anxiety, post-traumatic stress symptoms, substance abuse, and physical symptoms, including chronic pain and risk for cardiovascular disease (Clark et al., 2016; Coker et al., 2002; Golding, 1999). Rates of IPV tend to be highest in young adulthood (ages 18-25) (Hamberger et al., 2016). Between 17% and 45% of male and female college students report experiencing at least one instance of physical IPV in a current relationship (Shorey et al., 2010; Murray A. Straus, 2008). Many young adults are not aware that some acts of physical or psychological violence that they have experienced or perpetrated could be considered violent (Fass et al., 2008), suggesting that IPV may be a much more common experience than reported.

It is important to discriminate between IPV and other forms of aggressive behavior in young adulthood. Age-related changes in aggressive behavior follow a well-known pattern. Rates of overtly aggressive or violent behavior, including delinquent behavior and serious crime, increase through puberty and peak during young adulthood and decline in the early twenties (Sweeten et al., 2013). In general, rates of delinquent and criminal behavior have a later onset but longer duration for boys as compared to girls (Archer, 2004). The development of aggressive behavior can be attributed to an interaction between genetic and environmental factors and social, individual, and contextual influences (Loeber & Pardini, 2008). Changes in personality traits (Calkins & Fox, 2002), emotion regulation, particularly of anger (Berkowitz, 1990), and increased exposure to peer aggressive behavior (Werner & Crick, 2004) have all been examined

as age-related predictors. Desistance of aggressive behavior has been more difficult to explain but is thought to reflect developmentally normative stabilization in personality traits (Windle & Windle, 1995) and involvement in adult-oriented activities such as finding stable employment and more positive peer relationships (Laub & Sampson, 2001).

Age-related changes in IPV, specifically, follow similar patterns, with some important differences. Unlike other forms of violence, rates of IPV tend to be more similar across men and women (Johnson et al., 2015), suggesting non-gender-specific influencing factors. Young adulthood IPV is also characterized by the high use of covert forms of aggression, including psychological violence. For example, psychological IPV rather than physical IPV is the most common form of aggression perpetrated across age groups (Coker et al., 2000), but it is even higher in young adult samples. One study of emerging adults (M age = 19), found that more than 50% of both women and men reported perpetrating psychological aggression (e.g., yelling or insulting) against their partners, while around 20% of the same sample reported perpetrating more severe forms of psychological aggression (e.g., threatening a partner or destroying his or her property; Scott & Straus, 2007). Similar to other forms of violence, rates of IPV are highest during young adulthood and tend to decline over time (Johnson et al., 2015; Shortt et al., 2012). However, rates of IPV remain high in some individuals, even when they are no longer more generally aggressive (Johnson et al., 2015). Extant literature on age and aggression has thus far failed to explain why IPV in some individuals follows a different trajectory than other forms of violence, which has a more consistent pattern across individuals. However, it has been suggested that specific psychological and developmental tasks associated with emerging adulthood, including navigation of identity-related and relational goals, may be associated (Giordano et al., 2015).

Emerging Adulthood as a Developmental Stage

Young adulthood, the period of approximately 18-25, has been recently characterized as its own developmental period, called emerging adulthood. This developmental period is characterized by the exploration of identity, communal role, and a variety of emotion regulation strategies (Arnett, 2000). Arnett described five characteristics associated with this developmental stage: 1) instability in personal/professional responsibilities (e.g., work, school) and interpersonal relationships, 2) intensified identity exploration, 3) increased desire for agency and self-promotion, 4) ambivalence about developmental identity (e.g., feeling neither like a child nor an adult), and 5) increased goal-oriented thinking and future planning. This developmental stage may be culturally and structurally determined, such that only individuals in Westernized societies are expected to engage in self-exploration during this period (Douglass, 2007). Emerging adulthood appears to be a feature of societies in which the median age for marriage has been pushed back to accommodate the length of time spent receiving education (Arnett, 2000; Bynner, 2005; Galambos & Martínez, 2007). Given the reliance in this definition on developmental experiences such as financial autonomy, higher educational attainment, and age of marriage, the range that this stage encompasses has been described as a moving target (Hendry & Kloep, 2007), which has, in turn, been used to discount the existence of emerging adulthood. Despite this caveat, emerging adulthood appears to be an increasingly common distinct developmental period, as many countries continue to experience post-industrialization (Arnett & Schwab, 2012). As such, an increasing number of individuals are experiencing stressors that are identified as consequences of emerging adulthood, including difficulty adjusting to academic/professional and social roles, and difficulty managing conflict in romantic relationships (Shulman & Connolly, 2013).

Emerging adulthood as a developmental stage is further supported by the rapid growth of neural systems associated with identity and role development. Voxel-based morphometry studies have shown that areas of the prefrontal cortex, including the dorsal, lateral, and medial areas, continue to develop in volume through the mid-twenties (Gogtay et al., 2004). These areas are involved in executive behavior control, cognitive flexibility, decision-making, and other higher-order functions (Euston et al., 2012; Miller & Cohen, 2001; Tanji & Hoshi, 2008). Postmortem human and animal studies have shown that the frontolimbic system, which connects the limbic (affective) and frontal areas of the brain, shows increases in myelination in the period before adulthood (Benes et al., 1994; Cunningham et al., 2002). These neural changes are associated with the developmental tasks described above, including the development of self-concept (Sebastian, Burnett & Blakemore, 2008), and social cognition (Blakemore & Choudhury, 2006). Taber-Thomas and Perez-Edgar (2014) make the argument that the changes occurring in these brain regions are associated with the challenging task of identifying reliable behavioral, cognitive, and relational strategies for regulating emotion. Others have noted that these changes may be proximal influences on the development of psychopathology and socio-emotional issues (Schulenberg et al., 2004). In sum, areas of the brain that are important for many of the transitional tasks associated with adulthood are still forming during this developmental stage.

As previously noted, emerging adulthood is marked by an increased desire for longer-term romantic relationships, as well as more challenging negotiations for individual and couple-level interests within these relationships (Creasey & Hesson-McInnis, 2001). Romantic partnerships at this stage are typically marked by increased affiliation and intimacy and an emphasis on monogamy (Shulman & Scharf, 2000), and increased use of conflict resolution skills to maintain relationships (Tuval-Mashiach & Shulman, 2006). Romantic partners in

emerging adulthood tend to "know" each other more deeply than in their adolescent relationships, and this allows for more stable and satisfying partnerships (Shulman et al., 2011). Emerging adults also experience changes in identity development and desire for independence that coincide with intensified and involved relationships (Arnett, 2015). Negotiating these competing interests can be a source of conflict in relationships (Arnett, 2015; Furman & Collibee, 2014); unsurprisingly, the most commonly cited sources of conflict for couples in the period of emerging adulthood include power and resources (including money), trust and jealousy, clinginess and controlling behavior, and sex (Buss, 1989; Kurdek, 1994; Reese-Weber et al., 2015). Successful resolution of these issues within the dyad is associated with more relationship satisfaction and lower rates of relationship dissolution (Mohr & Spekman, 1994). Conversely, poor management of these concerns is related to more relationship instability and inter-partner conflict (Halpern-Meekin et al., 2013).

Emerging Adulthood and IPV

Emerging adulthood romantic relationships are associated with more conflict and volatility than other age groups (Raley et al., 2007), and heightened risk for IPV (Capaldi et al., 2005; Halpern et al., 2009). According to findings from the National Longitudinal Study of Adolescent to Adult Health (Renner & Whitney, 2012), almost half (47%) of men and women report experiencing some form of violence in their romantic relationships during emerging adulthood. Additionally, emerging adulthood rates of IPV tend to be more similar across genders than other externalizing behaviors (e.g., delinquency, peer aggression) (Caetano et al., 2008), suggesting that they may be more related to relationship factors than other forms of pathological aggression. Longitudinal studies of perpetration reflect this; data from the Toledo Adolescent Relationships Study found that rates of IPV perpetration peak around emerging adulthood and

decrease over time (Johnson et al., 2016). In addition, rates of IPV victimization and perpetration tend to be similar within individuals in this age group (Langhinrichsen-Rohling et al., 2012), implying that emerging adults who perpetrate violence are typically also victims of violence, and are partnered with individuals with similar characteristics.

Extant Theories of IPV Perpetration

Multiple theoretical models have been proposed to explain IPV perpetration; these theories range from sociological to individualistic in focus (Bell & Naugle, 2008). Sociological theories consider IPV to be a mechanism of power and control within social structures. In particular, the feminist theory of IPV maintains that violence against women is perpetuated to maintain a patriarchal societal structure (McPhail et al., 2007). This theory has been criticized for its inability to explain other patterns of IPV (female-perpetrated, bi-directional, same-sex) (Bell & Naugle, 2008). Family violence and power theory (Straus, 1977) suggest that societal beliefs about violence as a strategy for managing family hierarchy support IPV perpetration. Many studies support this theory with evidence that witnessing IPV between caregivers and other exposure to IPV in the family during childhood predicts future IPV perpetration (see Kimber et al., 2018, for a review). Like the feminist theory of IPV, the family violence and power theory suggests that family-taught beliefs about control and power within relationships predict the use of aggression against partners. Sociological theories of IPV are criticized for describing a narrow range of IPV experiences. Typically, these theories focus on unidirectional, terroristic violence, which describes the more severe and frequent violence that stems from a desire to maintain power and control within a relationship (Johnson & Ferraro, 2000).

In contrast to sociological theories, individual difference theories of IPV tend to focus on situational and psychological factors that predict IPV perpetration. Social learning theory (Copp

et al., 2019; McRae et al., 2017; Mihalic & Elliot, 1997) suggests that violence is learned through observation during childhood and that this learning is reinforced. This theory does not account for studies in which IPV perpetrators report no history of witnessing violence (Lee et al., 2013). Personality theories posit that personality pathology, particularly borderline (Dutton, 1995) and antisocial styles (Babcock et al., 2004), may increase the propensity for IPV perpetration. Both theories emphasize prior relationships and childhood experiences as factors but have only examined a narrow range of personality pathology at more severe levels.

More recently, Lawson (2012) argued for an ecological model of IPV perpetration similar to Belsky's (1980) model of child maltreatment. Ecological theories propose that individuals are nested within multiple structures that each uniquely influence risk for maladaptive behaviors. These structures range from individual (e.g., childhood experiences, psychopathology), relational (e.g., partner conflict, lack of family resources), community (e.g., poverty), and societal (e.g., rigid gender roles, cultural beliefs about conflict management) (Heise, 1998). While this model is more comprehensive than the others, it also does not account for the age-related changes in IPV noted above.

Finkel (2007; Finkel et al., 2009) proposed the I3 (or I "cubed") theory of IPV perpetration that accounts for individual differences in self-regulatory capacity and for the interdependence between individuals in a unit (couple). From this perspective, conflict is an inevitable but often reactive response to negative interactions, and IPV as an aggressive reaction to conflict is mitigated by impulse control. Finkel uses his theory to explain factors that may influence this impulse control. According to the I3 Theory, IPV perpetration is predicted through specific processes—instigation, impellance, and inhibition. Instigation refers to exposure to experiences that may result in an aggressive response, such as provocation or escalated language.

Impelling factors are those that predispose an individual to have more aggressive responses; these factors include both dispositional factors (i.e., temperament) and situational factors (i.e., lack of positive social support). Inhibiting factors, which may also be dispositional or situational, are those that may reduce the urge to respond to conflict in an aggressive way. For example, emotion regulation capacity can be considered an inhibiting factor (Lee et al., 2019). IPV perpetration is considered most likely when the presence of instigating and impelling factors is high and the presence of inhibiting factors is low. While the I3 model provides a theoretical framework for understanding the individual and situational factors that influence IPV, dyadic interactions are not directly addressed. For instance, while negative partner interactions are already considered as instigating experiences, partner dispositional and situational qualities, which may operate as impelling and inhibiting factors, have not been tested in Finkel's studies (Finkel et al., 2011).

The theories reviewed here do not sufficiently explain features associated with emerging adulthood IPV, which is typically high frequency, low severity, and high reciprocity of violent behavior (Whitaker et al., 2007). Emerging adulthood IPV may be better understood as dyadic and situational and thus is not a good fit for the various theories that have been developed about the phenomenon of IPV, as these focus on intimate terrorism. I argue that IPV seen in emerging adulthood may be better predicted by some mis-attunement or unresolved developmental difficulty than other risk factors for IPV. For example, a significant source of conflict in emerging adulthood relationships is difficulties in adult attachment (Creasey, 2002) referring to the states of mind regarding the security and dependability of one's close relationships (Shaver & Mikulincer, 2002). Thus, IPV during emerging adulthood may be the result of difficulties in conflict negotiation within a dyad, as influenced by each partner's attachment style.

Attachment and IPV in Emerging Adulthood

Childhood developmental capacities such as autonomy and self-regulation are thought to develop through the formation of attachment, or engagement with internal working models of self and others that inform expectations for exploration of the environment and reassurance from close others (Ainsworth, 1979; Bowlby, 1982). These internal working models develop in early childhood and serve as prototypes for adult relationships (Hazan & Shaver, 1994). During emerging adulthood, internal working models of childhood caregivers are templates for early romantic experiences and, as such, model expectations and behavior within these relationships. The early attachment system is "activated" in the context of romantic relationships as the partner assumes the role of the early caregiving figure, and experiences within the romantic relationship remodel or reinforce internal working models (Shaver & Mikulincer, 2002). Attachment remains highly stable from childhood to adulthood, such that attachment styles developed through interactions with the caregiver largely influence behavior with adult romantic partners (see Scharfe, 2003, for a review). Secure attachment is characterized by the capacity to seek and provide support, warmth, and trust in a romantic relationship. Insecure attachment is thought to vary along two dimensions: anxious (fearful preoccupation with the relationship and desire to maintain proximity to the attached other) and avoidant (desire for high levels of independence and cold or distant style within relationships). Insecure attachment styles are associated with a variety of relational difficulties, including dissatisfaction, increased negative emotionality and conflict, and more frequent relationship dissolution (Domingue & Mollen, 2009; Feeney & Noller, 1992; Simpson, 1990).

From an attachment perspective, violence in romantic relationships may reflect an impulsive response to feelings of threat or insecurity within the relationship (Dutton &

Starzomski, 1994; Dutton & White, 2012; Finkel, 2007). An early study of male perpetrators indicated that high levels of preoccupation, anxiety about the relationship, and disorganization were related to husband-to-wife IPV (Holtzworth-Munroe et al., 1997). Another study found that both attachment avoidance and anxiety interact between partners to predict IPV perpetration (Sommer et al., 2017). Interactions between partner attachment styles have also been implicated in predicting IPV (Bond & Bond, 2004; Doumas et al., 2008), such that different pairings result in different dyadic patterns of violence. For instance, Millwood and Waltz (2008) found that mixed pairings (i.e., secure and insecure, anxious and avoidant) were associated with higher levels of demand-withdrawal patterns of conflict, which were, in turn, associated with higher levels of IPV (Fournier et al., 2011). While many of these studies used emerging adulthood (i.e. college-age) convenience samples, they did not explicitly propose a developmental framework of attachment that focuses on emerging adulthood.

A Proposed Attachment Negotiation Model of IPV in Emerging Adult Relationships

In sum, few studies have tested developmentally informed or attachment-based models of IPV in emerging adulthood. Further, many studies fail to examine context, i.e. the dyad itself, as a factor. The current dissertation proposes a relational model of IPV in emerging adulthood as predicted by attachment and other developmentally and relationally important factors, including reactions to the context of the relationship and reactions to the romantic partner (See Figure 1). An individual's attachment style during adulthood, as indicative of their experiences with caregiving figures in childhood, represents one's general style of interacting with their romantic partner. Attachment style is also likely to inform responses to the context of one's relationship. This context is made up of shared couple (e.g., relationship stressors, conflict) and individual experiences (e.g., responses to stress, thoughts, and feelings about the relationship). Romantic

partners are also assumed to be responding to each other's behaviors within the relationship, and attachment style likely informs these responses. One's attachment-related difficulties, their responses to the shared context of their relationship, and their partner's attachment difficulties and responses may altogether predict risk for IPV perpetration within a relationship. Examining these together may help to clarify the risk for unhealthy relationship processes such as conflict and IPV both during emerging adulthood and in future adult relationships.

The first study examined daily context variables as mediators of the relationships between attachment anxiety and avoidance and IPV perpetration. 104 college-age couples completed daily dairies of their IPV perpetration and other factors over 28 days. Measures of both partners' scores on anxious and avoidant attachment, emotion regulation (perceived stress), and feelings regarding the relationship (jealousy, commitment) examined daily were used to predict IPV perpetration in actor-partner interdependence models with mediation and moderation. By examining variables for both partners with repeated measures, it is possible to examine non-independence within the couple relationship and examine the dyad itself as a context.

The second study examined individual- and dyad-level attachment-related factors related to the severity of partner conflict and IPV by examining different components of attachment (interpersonal functioning, and emotion regulation) as mediators of attachment anxiety and avoidance. 150 college-aged couples who endorse conflict and/or violence in the current relationship completed measures of their current relationship functioning, perceptions of attachment, and use of both cognitive and interpersonal emotion regulation strategies. These were examined in actor-partner mediation models and included a wide range of conflictual and aggressive behaviors (romantic conflict, cyberaggression, psychological aggression) in a college

sample. I hoped to expand findings related to attachment and relationship dysfunction in emerging adulthood couples by examining more common and lower-severity forms of relational aggression.

Taken together, the two proposed studies offer some support for a developmental and relational model of IPV perpetration in young adulthood. By examining developmentally salient predictors of IPV, I hoped to better inform both prevention and intervention approaches.

STUDY 1: A Daily Diary Investigation of Relational and Contextual Predictors of IPV in Emerging Adulthood Relationships

Introduction

Individual factors related to one's experience of the romantic relationship, including jealousy, commitment, and perceptions of stress, are related to both relationship satisfaction (Scott & Straus, 2007) and IPV (Bodenmann et al., 2010; Williams & Frieze, 2005). Much of the aggression perpetrated in emerging adult romantic relationships are more mild and situational than what is seen in more established couples (often living together and/or raising children and/or otherwise financially involved) and is thought to arise from poor conflict management between romantic partners (Johnson & Ferraro, 2000; Woodin et al., 2013). As such, the presence of intimate partner violence (IPV) can be considered a maladaptive response to an otherwise developmentally normative process of learning to manage thoughts, feelings, and behaviors in an intense relational context. The dynamic attachment processes within a romantic relationship, including the perceptions and behaviors of each partner, are related to both the quality of the relationship (Levenson & Gottman, 1985) and risk for IPV (Capaldi et al., 2005). The parallels between these factors suggest that the relationship context itself is related to a propensity to use violence to manage conflict. Shifts in the quality of the relationship context likely vary over time within individuals and the dyad itself; these shifts may indicate dyadic and dynamic risk for IPV perpetration.

Attachment Styles and IPV Perpetration

According to adulthood attachment literature, individuals typically range from anxious (e.g., fear of rejection and abandonment), to avoidant (e.g., discomfort with closeness and high need for independence) in terms of their responses to the threat of loss of their primary attachment figures, their romantic partners (Hazan & Shaver, 1994). Attachment insecurity more generally has been linked to IPV perpetration (Dutton & White, 2012). Both attachment anxiety

and attachment avoidance as separate styles have also been linked to IPV perpetration (Bonache et al., 2019). Mayselees (1991) suggested that IPV perpetration may be a reaction to the attachment figure that is analogous to childhood reactions to separations or threats of separation from the parent. Attachment anxiety during adulthood is considered a maladaptive schema for expectations of abandonment. This schema is thought to inform feelings of jealousy, anger, possessiveness, and a desire to control the partner to manage this fear (Rodriguez et al., 2015). It is generally thought that high reactivity to the threat of partner loss influences the use of aggressive behavior to maintain proximity to the partner (Henderson et al., 2005). Mayseless (1991) also suggested that anxious and avoidant styles may inform risk for IPV perpetration differently. Avoidant attachment in adulthood relationships is thought to reflect a desire to maintain distance from romantic partners to protect against the threat of loss. Avoidant attachment is associated with more passive-aggressive, dismissive, and rejecting behavior toward the partner (Bookwala & Zdaniuk, 1998). Violence perpetrated against a romantic partner may be committed out of a desire to push away or maintain distance from a partner (Gormley, 2005).

Relational Context

The relationship or interactional context is made up of the thoughts, feelings, and behaviors that occur within individuals within a dyad (Bartholomew & Cobb, 2011). This context can include predispositions such as trust and jealousy, commitment to the relationship, and individual responses to stressors. These factors are thought to impact the perceived quality of a romantic relationship (Barelds & Barelds-Dijkstra, 2007; Simpson & Rholes, 2012). According to Finkel (2007), IPV is an impulsive response to conflict that is made more or less likely depending on a collection of factors that increase or decrease the likelihood of this impulsive response when exposed to a prompting event. In other words, Finkel's I3 Theory, which

indirectly supports that contextual factors, which may be dispositional (internal) or external to the individual and couple, play a role in influencing IPV perpetration.

Jealousy has been described as a manifestation of suspiciousness and anger toward the partner for real or imagined engagement with an "other" or a rival that threatens the relationship (Parrott & Smith, 1993), and may be considered a "dispositional" or internal contextual factor similar to an impelling or IPV-promoting factor from Finkel's perspective (2007). Dutton and colleagues (1996) also describe jealousy as an aspect of insecure attachment, specifically anxious attachment that reflects a fearful and angry response to the threat of loss of the attachment figure. In the context of jealousy, romantic partners are more likely to retaliate or express anger against a partner through violence (Dutton et al., 1996). Although the presence of jealousy has been examined as a "proximal" or situational risk factor for IPV (Babcock et al., 2004), no studies to date have examined a possible temporal relationship between jealousy and IPV. Further, it is unclear whether jealousy might function differently for anxious or avoidant individuals in predicting IPV perpetration.

Commitment to the romantic relationship, or the desire for the relationship to persist, is considered a predictor of relationship conflict (Stanley et al., 2002). The investment model proposed by Rusbult (1980) suggests that attachment to the partner, satisfaction with the relationship, and lack of alternative romantic partners together influence an individual's commitment to a relationship. Slotter and colleagues (2012) proposed that high commitment may act as a possible inhibitor of violence in relationships, similar to Finkel's suggestion that some relational factors may act as inhibitors to violent, impulsive responses to relationship conflict. Conversely, high commitment has also been cited as a predictive factor in understanding why victims of IPV, particularly when anxiously attached, remain in abusive relationships (Rhatigan

& Axsom, 2006; Shorey et al., 2013). Manning and colleagues (Manning & Joyner, 2018) suggest that, during emerging adulthood, many individuals face constraints (e.g., lack of emotional, social, and tangible support) on their ability to dissolve a relationship. They propose that these constraints, along with low commitment, may predict IPV perpetration. Further, instability in romantic commitment may indicate instability in attachment (Lehnart & Neyer, 2006) that may also predict risk for IPV perpetration. As a possible explanation for these mixed findings, it may be that individuals who are anxiously attached but highly committed to preserving the relationship may be engaging in more violence to maintain proximity to their partners. Conversely, individuals who are avoidant in adult attachment relationships typically report low relationship commitment (Birnie et al., 2009); this pattern may be related to lower risk for IPV perpetration due to the likelihood that the relationship would dissolve before violence occurred. Low commitment in an avoidant individual may also increase risk for IPV perpetration due to the partner's reaction to a more withdrawn style (Fournier et al., 2011).

Romantic relationships in emerging adulthood tend to be more psychologically central as compared with earlier romantic experiences, and they play an important role in how emerging adults respond to perceived stress. Evidence suggests that negative affect and aggressive responding are increased after exposure to stressors (Sprague et al., 2011). This is evident within romantic relationships as well; romantic partners are more likely to engage in maladaptive interpersonal coping behaviors like IPV in response to stressors (Bettencourt & Miller, 1996; Neff & Karney, 2002). Totenhagen and colleagues (2012) suggest that exposure to "daily hassles" or stressors activates negative feelings in response to potential threats to resources, and these may spill over into the romantic relationship. Given that exposure to stressors varies day to day (Almeida et al., 2005), it is likely that the propensity toward violence against a romantic

partner as a response to stress is also unstable. Concerning attachment style within romantic relationships, few studies have examined specific relationships between attachment anxiety and avoidance, perceived stress, and IPV. Gormley & Lopez (2010) suggested that attachment avoidance might be related to reactive aggression toward partners when self-reported stress was high. Others have suggested that anxiously attached individuals might experience and display more distress in stressful situations as a signal to seek proximity with attachment partners (Simpson et al., 1992).

IPV as a Temporally Influenced Behavior

The number of longitudinal studies of romantic relationship processes has increased in the past few decades (Karney & Bradbury, 1995), as more researchers consider the importance of examining the co-occurrence and trajectories of predictive factors. These have expanded to include intensive examinations on the daily and weekly level (Bolger et al., 2003; Laurenceau et al., 2005; Laurenceau & Bolger, 2005). Intensive longitudinal methods (ILM) broadly describe methods and analyses that use more than three time points of repeated measures in a series that are relatively close together in sequence (Bolger & Laurenceau, 2013). These fine-grained observations have the benefit of capturing important individual and relational processes in their natural contexts and with less reliance on retrospective recall. At the daily level, internal experiences like thoughts and feelings can be examined in conjunction with direct experiences and with resultant behaviors. These methods may be especially important to examining emerging adulthood relationship behavior, given the dynamic nature of this developmental stage. Applied to IPV, daily diary studies can be used to examine proximal experiences and contextual factors that might predict specific or situational instances of perpetration.

A handful of studies have used daily diaries to study IPV perpetration. These have typically focused on anger as it interacts with disinhibiting behaviors such as alcohol (Foran & O'Leary, 2008) and drug use (Shorey et al., 2014). As such, these studies ignore the possibility that other feelings concerning the romantic relationship might also predict IPV. Further, assessing negative mood states such as anger in the context of daily substance use likely limits these examinations to a more high-risk population.

IPV Perpetration as Dyadic Behavior

Romantic relationships are also inherently interactional, and behaviors within these relationships are influenced by the interplay of factors contributed by both partners in a specific context. The dyad itself can thus be considered a contextual predictor of relational behavior. In other words, one's thoughts, feelings, and behaviors specific to a particular relationship are assumed to be correlated with the partner's ratings on the same variables; this is known as non-independence (Kenny, 1996). As recommended by Ackerman, Donnellan, & Kashy (2010), dyadic analyses that account for non-independent data structures offer the opportunity to better examine relational processes and their functioning in this developmental stage. The Actor Partner Interdependence Model (APIM), in which data captured for both partners can be examined in a multi-level framework, are conceptually and analytically suited for the study of relational processes in dyads (Kenny, Kashy, & Cook, 2020).

Aside from methodological issues, many theoretical models, as reviewed above, do not consider dyadic or interactional predictors. In this field, studies that employ dyadic methods and analyses are relatively recent (Maneta et al., 2013; Marshall et al., 2011). Even if only one partner is violent, features specific to a particular relationship may contribute to risk for IPV. The exception to these theories is the dyadic model developed by Bartholomew and Cobb (2012) that

includes family, situational, relational, and individual factors related to each partner. Similar to the proposed theoretical model, factors specific to the relationship context, including individual predictors of interest (jealousy, commitment, attachment, perceptions of stress), are then thought to influence responses to situational context, including threats to the relationship and current emotional state. Situational context is considered the immediate precursor to IPV perpetration. However, my proposed model is distinct from Bartholomew and Cobb's in that it focuses on a finer-grained analysis of the current psychological and contextual state of the individual and the relationship.

The Current Study

The current study aims to examine a dyadic model of IPV perpetration in the context of emerging adulthood as predicted by individual and relational factors, including attachment, as well as jealousy, stress, and relationship commitment, as temporal predictors of IPV in an intensive longitudinal framework. I propose that IPV perpetration is predicted by attachment anxiety and avoidance in actors and partners and is mediated by daily levels of jealousy and stress. The relationships between attachment anxiety, attachment avoidance, and IPV perpetration are also expected to be moderated by daily levels of relationship commitment. The APIM with mediation (APIMeM) was used to examine a multiple mediator model such that both actor and partner mediating factors are in the same model. The analyses below propose the extent to which the multiple possible paths have indirect effects, and which sets of indirect effects explain most of the direct effects of attachment on IPV. All aims and proposed hypothesized effects are listed below. Note, "actor" and "partner" refer to the effects tested in the statistical model. The terms "individual/person" and "romantic partner" are used when proposing hypothesized relationships between romantic partners' scores on the variables of interest.

While the influence of individual gender identities (i.e., man or woman in heterosexual couples) are not proposed for the current study, as part of the planned analyses (see below), it was necessary to test for distinguishability (i.e., differences in effects for each partner as distinguished by gender identity).

The first aim of the study was to examine the direct actor and partner effects of anxious and avoidant attachment dimensions on IPV perpetration. The following direct effects were hypothesized:

Actor Anxious Attachment – IPV Perpetration. Higher actor anxious attachment was predicted to be associated with higher IPV perpetration; a person higher in anxiety may perpetrate violence out of fear of abandonment.

Partner Anxious Attachment – IPV Perpetration. Higher partner anxious attachment was expected to predict higher IPV perpetration on the part of the individual; If a person's romantic partner is higher in anxious attachment, the person may exhibit greater aggression toward the partner out of frustration with the romantic partner's proximity-seeking behavior (e.g., attention-seeking, intrusiveness).

Actor Avoidant Attachment – IPV Perpetration. Higher actor avoidant attachment was expected to predict higher IPV perpetration; an individual high in avoidant/dismissive style may perpetrate violence as a way of maintaining or managing distance from the romantic partner.

Partner Avoidant Attachment – IPV Perpetration. Higher partner avoidant attachment was expected to predict higher IPV perpetration; if a person's romantic partner has a more avoidant/dismissive style, the person may perpetrate violence as a negative reaction to the romantic partner's dismissive or rejecting behavior.

The second aim of this study was to examine daily stress and daily jealousy as contextual factors that may explain the relationships between dimensions of insecure attachment and daily IPV perpetration. The APIMeM proposes two possible cases for the mediational effects of jealousy and stress on the influence of each dimension of attachment on IPV perpetration. Specific hypothesized indirect effects are described below.

Jealousy as a Mediator: Anxious Attachment. Jealousy, as an indicator of possessiveness and insecurity related to the romantic relationship, was expected to be higher in anxious individuals. On days when jealousy is especially high, one may be more likely to engage in IPV in response to real or perceived fears related to the romantic partner's engagement in the romantic relationship. There are two possible pathways for the actor effects: regarding the first actor effect, anxious attachment is related to feelings of possessiveness toward the romantic partner (jealousy), which makes the more anxious person more likely to perpetrate IPV to preserve the relationship. Regarding the second actor effect), romantic partners who are more reactive to their fears of having their significant other leave (i.e., partners higher in anxiety) experience higher jealousy, and individuals whose partners experience more jealousy may be more likely to perpetrate violence in response.

Jealousy as a Mediator: Avoidant Attachment. In contrast to my hypotheses concerning attachment anxiety and jealousy, I proposed that the link between a person's avoidance and his or her engagement in IPV is mediated by the romantic partner's level of jealousy. That is, avoidant individuals may be more likely to respond to a romantic partner's jealousy and resultant intrusive behavior toward them by perpetrating IPV. An individual's IPV perpetration may also be elicited through the avoidant romantic partner's jealousy. A person with a romantic partner who is higher in avoidance may engage in more daily IPV perpetration

because individuals with more avoidant romantic partners may experience greater daily jealousy because the romantic partner withholds emotion. This increased daily jealousy may then trigger the person's IPV perpetration.

Stress as a Mediator: Anxious Attachment. Given that anxiously attached individuals are more hypervigilant to threat signals, they are also more likely to report higher levels of stress. I proposed that stress may explain the relationship between attachment anxiety and IPV perpetration. First, an individual's daily stress may be predicted by attachment anxiety. Alternatively, the romantic partner's attachment anxiety may increase stress; having a more anxious and intrusive romantic partner increases the individual's stress and increased stress may result in the individual engaging in greater IPV. It is not likely that an individual's attachment anxiety would predict their partner's stress and that this mediational pathway would explain the individual's IPV perpetration. Thus, only the individual's (actor) stress is proposed as an explanatory factor.

Stress as a Mediator: Avoidant Attachment. No mediational hypotheses were proposed for stress with attachment avoidance.

Stress may be considered an explanatory factor of the relationship between attachment anxiety and IPV perpetration. However, given that attachment is considered a behavioral system that is activated under conditions of threat, it is also possible that stress behaves as a moderator. Hypothesized moderating relationships are discussed below.

Stress as a Moderator: Anxious Attachment. Individuals' attachment may have a greater impact on their behavior when the attachment system is activated; daily stress may serve as a moderator of the effects of attachment anxiety and avoidance on the perpetration of IPV. I expected that the interactions between actor attachment anxiety and stress (both partners) are

likely stronger than those with partner attachment. On days when an individual's daily stress is relatively high, their attachment anxiety was expected to more strongly predict their IPV perpetration. On days when a person's romantic partner's daily stress is relatively high, the person's anxious attachment was expected to predict their own IPV perpetration. A romantic partner's level of stress may be interpreted by the anxious individual as a threat to the attachment relationship and this could cause them to behave more aggressively to manage a fear of partner abandonment.

I expected that actor and partner stress also moderates the relationship between a partner's attachment anxiety and the individual's IPV perpetration. On days when an individual's stress is high, the romantic partner's anxious attachment will more strongly predict the person's IPV perpetration. A highly anxious romantic partner may become more intrusive and controlling in response to the individual's stress, which in turn may influence increased use of IPV in response to the partner's behavior. On days when an individual's romantic partner's stress is high, their romantic partner's anxious attachment will more strongly predict their own IPV perpetration.

Stress as a Moderator: Avoidant Attachment. Interactions involving partner avoidance are likely to be weaker than those involving actor avoidance – there is the possibility though that when an avoidant attachment is activated in the presence of stress, it could be that those having a more avoidant partner makes the individual more vindictive. Thus, I predicted that on days when an individual's stress is high, their attachment avoidance more strongly predicts their IPV perpetration. On days when an individual's romantic partner's stress is high, I predicted that the individual's attachment avoidance more strongly predicts their IPV perpetration.

Daily Relationship Commitment as a Moderator: Anxious Attachment. Relationship commitment is typically considered a protective factor against IPV. For secure individuals, relationship commitment would diminish the use of IPV perpetration as a means of managing fear of relationship dissolution. In anxious or avoidant individuals, relationship commitment may function differently. For anxious individuals who report high relationship commitment, IPV may be used as a maladaptive way to control the romantic partner and manage a fear of abandonment. On days when a person's relationship commitment is high, a more anxiously attached individual may be especially motivated to manage a fear of abandonment, leading to increased use of IPV as a maladaptive means of control.

Regarding the partner's relationship commitment as a moderator, I expected a possible protective effect. On days when an individual's romantic partner's relationship commitment is high, the individual's attachment anxiety would predict *less* IPV perpetration. Under this condition, high partner relationship commitment may be reassuring to highly anxious individuals. Similarly, on days when an individual's relationship commitment is high, the romantic partner's attachment anxiety would predict *less* IPV perpetration.

The relationship between a romantic partner's attachment anxiety and the individual's IPV perpetration was also expected to be moderated by the partner's relationship commitment. On days when an individual's romantic partner's relationship commitment is high, the partner's attachment anxiety would predict IPV perpetration. The highly committed but highly anxious romantic partner may exhibit controlling and intrusive behavior that elicits IPV from the individual.

Daily Relationship Commitment as a Moderator: Avoidant Attachment. Avoidant individuals are not likely to report high relationship commitment, and they may engage in more

IPV due to a lack of concern about relationship dissolution. On days when an individual's romantic partner's relationship commitment is high, the individual's avoidance predicts greater IPV perpetration. This may result from a demand-withdrawal pattern between partners; in other words, the avoidant individual is more withdrawn from the partner, who may be seeking closeness from the individual, resulting in increased use of aggression as a means of rejecting the romantic partner.

Methods

Participants

The current study used data collected from an existing ILM study of dating violence, titled: A daily diary study of dating violence (Bogat & Levendosky, 2014), in college-age couples. 217 participants were recruited from a mid-Michigan university through campus-wide email advertising, and a small proportion of the sample was recruited through a psychology research subject pool. Individuals were screened using an online questionnaire and recruited on seven screening criteria: in a heterosexual relationship, unmarried relationship status, age (18-24 years old), length of romantic relationship $\geq$ 4 weeks, couple contact must be physically present at least 2 x per week, IPV in the current relationship (at least one episode of physical IPV before recruitment) and must own and use a smart phone with a data plan. If a participant met the criteria for the full 28-day daily diary study, their partner was also required to complete a screening questionnaire and agree to complete diary measures. Of the original 217 participants, 210 (105 couples) participated in the full study. Seven participants declined to participate in the diary portion, or their partners could not be contacted for screening. One couple dropped from the study partway through the diary portion; the final sample comprised of 104 (n = 208) couples.

The mean age of participants in the full study was 19.6 years old (*SD* = 1.3). Participants were primarily undergraduates (87%), followed by participants that were not university students, but were partnered with students (11%) and graduate students (2%). Ethnically, most participants were White (78%) followed by Black (7%), Asian American (7%), Latina/Latino (6%), and Bi- or Multi-racial (2%).

Procedure

Data collection for the current study occurred in three phases: an intake session, a 28-day daily diary period, and a follow-up session. First, recruited participants and their partners were scheduled for separate in-person intake and consent sessions with a research assistant. During the session, participants completed demographic interviews and baseline questionnaires. To ensure participant safety, participants were administered a single-item questionnaire that asked if they felt safe completing the study. If this item were negatively endorsed, participants were told that they were not eligible to continue, and they would be given referral information for IPV-related services on campus.

Participants who were eligible to continue were instructed on how to complete the daily dairy questionnaires, which also included an "opt-out" item if they endorsed that they did not feel safe continuing in the study. Once both partners in a couple completed the intake interview, they were started on the 28-day diary series, which was administered over email each day. The link to each day's questionnaires was sent each morning at 10:00 a.m., and participants were instructed to answer questions for the previous day. Participants were reminded to complete each set of questions separately from their partners. Completion of each day's questionnaires took approximately 5 minutes. After the 28-day period, participants were scheduled for individual post-diary interviews and were given compensation. As compensation for participating in this

study, participants could either earn one dollar for every daily questionnaire they completed or credit for participating in a study through a psychology course or a one-time total of twenty-five dollars.

Measures

Attachment Insecurity. Attachment insecurity was measured using the Experiences in Close Relationships Scale-Revised measure (ECR-R; Fraley et al., 2000). The ECR-R is comprised of 36 items that assess attachment-related anxiety (18 items, e.g., "I often worry that my romantic partner doesn't love me") and attachment-related avoidance (18 items, e.g., "I prefer not to show a partner how I feel deep down") rated on a 7-point scale (1 = Strongly Disagree to 7 = Strongly Agree). Each participant receives a separate score for each dimension, with higher values indicating more dysfunction. Internal consistency for the attachment anxiety subscale was .87, and internal consistency for the attachment avoidance subscale was .89.

Perceived Stress. Daily perceived stress was measured with a single item: "How stressed did you feel yesterday," (7-point scale ranging from 1- "No stress at all" to 7 -"Extremely high stress"). The average perceived stress across the sample over the 28 days was 3.10 (*SD* = 1.82).

Jealousy. A daily rating of jealousy was assessed with a single item: "In the past 24 hours, how much was the following true for you? I was jealous," (7-point scale ranging from 1- "Very untrue of me" to 7- Very true of me"). Average jealousy across the sample over the 28 days was 1.84 (*SD* = 1.57).

Relationship Commitment. A daily rating of relationship commitment was assessed with a single item: "How much did you feel committed to your dating partner yesterday," (7-point scale ranging from 1- "Far less than usual for me" to 7- "Far more than usual for me"). The average relationship commitment across the sample over the 28 days was 4.23 (*SD* = 1.07).

IPV Perpetration. Participants were asked whether any violence occurred in the relationship on the previous day ("Yesterday, did one of these incidents occur with your dating partner…? "Who did this?"). A separate question was asked for physical ("Throw something, push, shove, grab, slap, twist arm or hair (not including horseplay or joking around)?"), severe physical ("Use a gun/knife; punched or hit with something that hurt; choked, kicked, beat up, or scalded; slammed partner against a wall (not including horseplay or joking around)?"), psychological ("Name-calling, yelling and screaming, making the other person feel bad about themselves?"), controlling ("Controlling what the other person can or cannot do, monitoring where someone is and who they are with, isolating someone from family or friends?") and/or sexual violence ("Someone insisted on having sex even though the other person didn't want to?"). Occurrence was endorsed as a dichotomous "Yes/No". IPV perpetration was summed for each day, for a possible range of 0-5 (for the entire sample, across all 28 days: M = .07, SD = .30).

Data Analysis Plan/ Results

In the current study, I examined multiple models predicting daily IPV perpetration from attachment anxiety and avoidance as a function of daily contextual factors, including *daily jealousy as a mediator, daily stress as both a mediator and a moderator, and daily relationship commitment as a moderator.*

Testing Distinguishability

Given that all couples were heterosexual, I conducted preliminary analyses to determine whether gender moderated the effects in our models (e.g., are the effects of anxiety on IPV different for men and women). If no evidence of gender differences, the mediation and moderation analyses would be considerably less complex. Specifically, I tested for gender main

effects, interactions between gender and actor or partner effects, and gender differences in the random effects.

I initially planned to specify both random intercepts (i.e., variance in average IPV from person to person), random slopes in the associations between daily predictors (stress or jealousy) and IPV, and random residuals (i.e., variance in the day-to-day IPV not accounted for by predictors in the model). However, preliminary analyses suggested that there was not sufficient person-to-person variation in IPV perpetration to include either the random intercepts or random slopes. Thus, the random effects specified in the following models included only residual variance and a dyadic correlation for the residual variance (i.e., the extent to which the two partners' IPV scores were similar on a given day). To test for distinguishability by gender the models were estimated using maximum-likelihood (ML) and the deviance from the model allowing for gender differences in all parameters (i.e., the distinguishable model) was subtracted from the deviance for the model that did not include gender (i.e., the indistinguishable model). This deviance test results in a chi-square statistic with degrees of freedom equal to the difference in the number of parameters included in the two models, and it tests whether constraining all of the effects to be equal for men and women significantly worsens model fit.

Three models were tested: An APIM that included actor and partner effects for attachment anxiety and avoidance predicting daily IPV perpetration, an APIM that included actor and partner effects for daily stress predicting daily IPV perpetration, and an APIM that included actor and partner effects for daily jealousy predicting IPV perpetration. Chi-square tests indicated distinguishability across all three models, suggesting that at least some model parameters differed by gender: (anxiety and avoidance only: χ^2 (5) = 18.43, $p < .05$; daily stress: χ^2 (16) = 220.61$p < .05$; daily jealousy: χ^2 (16) = 247.20, $p < .05$). Thus, distinguishable models

that allowed for gender differences were used for all analyses. These models tested for differences in each parameter estimate for male and female actors and partners.

Mediation Models

Concerning the mediational analyses, I used multilevel modeling (MLM) to estimate the direct and indirect effects following the Baron and Kenny (1986) steps. As recommended by Kreft and colleagues (1995) predictor variables were grand mean centered to improve parameter estimation. Using this general approach, relationships were first established between the predictors (in this case, actor and partner attachment anxiety and avoidance) and the mediator of interest (i.e., the person's daily jealousy or daily stress). Given the significant tests of distinguishability, these models allowed for sex differences in the associations between the predictor and mediator. In the next step, the outcome was predicted from both the predictor and mediator variables; in this case, daily IPV perpetration was predicted to be a function of actor and partner attachment and actor and partner daily jealousy (and separately, daily stress). Again, these models allowed for sex differences (distinguishability between partners) in the estimates. However, if sex differences were not statistically significant for a parameter (e.g., the actor effect for anxiety on IPV did not differ for men and women), the parameter was estimated by pooling across men and women. In the absence of significant distinguishability, this approach results in more precise estimates and higher statistical power (Kashy & Donnellan, 2018).

After using MLM to estimate the model coefficients and their standard errors, tests of the indirect effects were conducted. To test the indirect effects, I conducted used the Sobel test using an online calculator (Preacher & Hayes, 2008; quantpsy.org, Preacher & Leonardelli, 2001). I entered the parameter estimates for the a and b paths from the multilevel models along with their

associated standard errors to calculate the critical ratio as a test of whether the indirect effect of the IV on the DV via the mediator is significantly different from zero.

Moderation Analyses

Multilevel modeling with restricted maximum likelihood (REML) was used to estimate whether actor and/or partner daily stress (and separately, commitment) moderated the association between attachment anxiety and avoidance and IPV. Main effects for actor and partner attachment, the actor and partner moderating variable, and their interactions were tested. Given that the tests of distinguishability reported above indicate that there may be differences between parameters for men and women, I included gender as a main effect and as a moderator of each of the other effects in each model. As in the MLM mediation analyses, models included a correlation between the two partners' residuals to measure day-to-day correspondence in IPV perpetration.

Descriptive Statistics. Descriptive data for the variables used in the current study are presented in Table 1. As stated above, scores for the attachment anxiety and avoidance dimensions were taken from the pre-diary surveys. The values for the items that were reported daily are presented as aggregated means across the 28 days. Correlations for these variables, separated by men and women, are presented in Table 2. It is important to note that IPV perpetration, as a sum of the number of violent or aggressive acts (i.e., psychological, physical, or sexual violence) perpetrated in a day, is expected to be small. Across the entire sample, the average number of violent acts perpetrated was 1.52 (SD = 2.30, range 1 – 15). Among individuals who reported any IPV (n = 110), the average number of violent acts perpetrated was 2.88 (SD = 2.47). Men and women both reported comparatively higher attachment anxiety than avoidance, and men reported more avoidance than women. Women reported higher daily stress

than men on average, and this difference was statistically significant. In general, the sample reported high daily commitment and low daily jealousy.

Aim 1: Direct Influences of Attachment Anxiety and Avoidance on IPV Perpetration

APIM Results for Basic Models using Attachment Anxiety/Avoidance to Predict IPV. Table 3 presents the estimates of the direct actor and partner effects of attachment anxiety and attachment avoidance on IPV perpetration for men and women. Regarding the direct influence of attachment anxiety on IPV perpetration, interactions by gender for the actor effects were not significant, thus, only the average actor effect that is estimated by pooling over men and women (i.e., the indistinguishable effect) is presented. The direct actor effect of attachment anxiety on IPV perpetration indicated that a person higher in anxiety perpetrated more IPV daily. Gender interactions for the partner effect were also not significant; a person whose partner was higher in anxiety also perpetrated more IPV. Regarding the direct influence of attachment avoidance on IPV perpetration, the interaction with gender for the actor effect was significant (b = -.01, se = .005, t = -2.15, $p < .05$). The actor effect for avoidance was positive for women and it was negative for men, however as shown in Table 3, neither differed significantly from zero. The indistinguishable partner effect was also not significant, indicating that having a partner higher in avoidance was not associated with greater IPV perpetration.

APIM Results for Basic Models using Daily Stress, Daily Jealousy, and Daily Commitment to predict IPV. Before assessing mediation, I examined the extent to which the proposed mediators predict the outcome without including the attachment variables in the models. Table 4 presents the estimates of the actor and partner effects of daily stress, daily jealousy, and daily commitment on IPV perpetration for men and women. Regarding the influence of daily stress, interactions by gender were significant for the actor effect ((b = -.01, se

= .002, t = -3.15, p < .01), and as shown in Table 4, although both actor effects of stress on IPV were statistically significant such that on days a person reported higher stress they also reported greater IPV perpetration, the effect was significantly stronger for women. The partner effect of daily stress, which was indistinguishable (not different between men and women) was not significant. Regarding the influence of daily jealousy on daily IPV perpetration, only the indistinguishable actor effect was significant. A person's report of daily jealousy predicted more IPV perpetration. Finally, the bottom section of Table 4 indicates that on days when a person reported higher commitment, both they and their partner reported lower levels of IPV.

Aim 2: Mediation Analyses Results

Attachment Anxiety and Daily Stress. Table 5 presents the estimates of the direct and indirect effects for a distinguishable mediation model of attachment anxiety and avoidance predicting daily IPV perpetration via daily stress. As discussed above, indirect effects were examined using the Sobel test. Figure 2 presents a path diagram for this mediation model. Note that in this and all other figures, blue is used to represent paths that did not differ significantly for men and women (i.e., paths that are indistinguishable) and so the parameter estimates for those paths are equal across gender. For the sake of clarity, paths that were not statistically significant are not included in the path diagram.

For both men and women, an individual's anxiety predicts their daily stress. On days of higher stress, the individual also reports more IPV perpetration. The individual's anxiety also predicts their partner's IPV perpetration indirectly through the individual's stress on a given day. That is, more anxious individuals report higher IPV perpetration on days an individual experiences higher stress. For men only, men's anxiety predicts the woman's daily stress and the woman's stress on a given day predicts increases in both men and women's IPV. Put another

way, men's anxiety plays a stronger role in predicting both partners' stress and both partners' IPV.

Attachment Avoidance and Daily Stress. The following results refer to the model in which attachment avoidance predicts daily IPV perpetration and this relationship is mediated by daily reports of stress. This model is presented in Table 6 and Figure 3 For both men and women, an individual's avoidance positively predicts their daily stress. On days of higher stress, the individual also reports more IPV perpetration. The individual's daily stress also predicts their partner's IPV perpetration against them. Men's avoidance negatively predicts the woman's daily stress; on days when the woman reports higher stress, both women and men perpetrate more IPV. Thus, as with anxiety, there is some indication that men's attachment avoidance Put another way, men's avoidance plays a slightly stronger role in predicting both partners' stress and both partners' IPV.

Attachment Anxiety and Daily Jealousy. The following results refer to the model in which I estimated an APIM in which attachment anxiety predicts daily IPV perpetration and this relationship is mediated by daily reports of jealousy. Unstandardized results are presented in Table 7, and standardized results are presented in a path model in Figure 4. There were no gender differences for the actor effect of attachment anxiety on daily jealousy, indicating that individuals who report higher attachment anxiety also report experiencing higher levels of jealousy day-to-day. On days of increased jealousy, individuals higher in attachment anxiety also report perpetrating more IPV. The man's anxiety predicts the woman's daily jealousy; on days when the woman reports higher jealousy, she also reports perpetrating more IPV. Again, because men's anxiety predicts both their own and their partner's jealousy, it seems that men's anxiety

plays a stronger role in predicting both men's and women's IPV perpetration on days when either partner experiences higher jealousy.

Attachment Avoidance and Daily Jealousy. The following results refer to the model in which I estimated the APIM in which attachment avoidance predicts daily IPV perpetration and this relationship is mediated by daily reports of jealousy. This model is presented in Table 8 and Figure 5. There were no gender differences for the actor effect of attachment avoidance on daily jealousy, indicating that individuals who report higher attachment avoidance also report experiencing lower levels of jealousy day-to-day. The individual's jealousy on a day predicts higher IPV by that person on that day. Men's avoidance positively predicts the woman's daily jealousy, and on days the woman reports higher jealousy, she also reports perpetrating less IPV. In other words, women's daily jealousy is associated with a reduction in the effect of men's avoidance on women's IPV perpetration.

Aim 3: Moderation Analyses Results

Interaction Model of Attachment Anxiety and Daily Stress. First, I examined the interaction model with actor and partner daily stress, actor and partner attachment anxiety, and effect coded gender (-1,1). Significant interactions between stress and anxiety are followed up with a simple slopes analysis for high and low anxiety as defined by 1 standard deviation above or below the mean attachment anxiety score.

Table 9 shows the unstandardized and standardized regression coefficients for the actor and partner effects, gender, and their interactions. Results indicate significant main effects for actor and partner daily stress and gender on IPV perpetration, as well as significant two-way interactions. Note that because I have discussed the basic APIM effects for attachment and the daily variables, in the sections on moderation only interactions between attachment and the

moderating variable are discussed in the text. Specifically, breaking down the analysis of the simple slope for individuals higher in anxiety, the association between stress on a particular day and IPV on that day is significantly positive (b = .03, se = .004, t = 9.51, p < .001). For individuals low in anxiety, the association is similar, but to a lesser degree (b = .001, se = .004, t = 3.14, p < .001). In addition, the actor anxiety by partner daily stress interaction shows that on days that a partner is high in stress, more anxious individuals also report more IPV (b = .03, se = .004, t = 6.93, p < .001). Low-anxiety individuals also report more IPV perpetration on days of increased stress, although to a lesser degree (b = .01, se = .004, t = 3.14, p < .01).

Finally, there was a significant interaction between partner anxiety and actor daily stress. Regarding simple slopes, on days of increased stress, individuals paired with high-anxiety partners perpetrate more IPV (b = .03, se = .004, t = 8.81, p < .001). Individuals paired with low-anxiety partners also perpetrated more IPV on days when their stress was increased (b = .01, se = .004, t = 3.76, p < .01).

Interaction Model of Attachment Avoidance and Daily Stress. Only one two-way interaction with attachment avoidance was significant: the interaction between actor attachment avoidance and partner daily stress (see Table 10). Investigating the simple slopes more closely, on days when their partner reports increased stress, high-avoidance individuals perpetrate more IPV (b = .02, se = .004, t = 5.11, p < .001). Low-avoidance individuals similarly perpetrate more IPV on days of increased partner stress (b = .02, se = .004, t = 3.43, p < .001).

Interaction Model of Attachment Anxiety and Daily Commitment. Table 11 shows moderation model results with anxiety and commitment. Two significant interactions emerged involving actor anxiety. The first was an interaction with actor commitment. Simple slopes indicate that on days when their commitment was high, individuals higher in anxiety reported

lower IPV perpetration (b = -.03, se = .01, t = -5.26, p < .001). The simple slope effect for low anxiety individuals was similar (b = -.02, se = .01, t = -2.57, p < .01). The second interaction between actor anxiety and partner commitment shows that on days when partner commitment was high, individuals higher in anxiety reported lower IPV perpetration (b = -.02, se = .01, t = -2.56, p < .01). The result for low-anxiety individuals was not significant (b = .01, se = .01, t = 1.17, p = .24).

In addition, there were multiple significant three-way interactions involving partner anxiety and gender. To break down these three-way interactions, a simple slopes model was computed to identify effects separately by gender. Results from this model that are central to interpreting the three-way interactions are included in the final six rows of Table 12. Breaking this down further, on days when their commitment was higher than average, men paired with high-anxiety women reported perpetrating less IPV (b = -.04, se = .08, t = -4.49, p < .001). The effect for men paired with low-anxiety women was not significant (b = .004, se = .01, t = .44, p < .66). On days when their commitment was higher than average, women paired with low-anxiety men reported perpetrating less IPV (b = -.04, se = .01, t = -4.41, p < .001). The effect of women's commitment when paired with high-anxiety men was not significant (b = -.01, se = .01, t = -.88, p = .38). On days when their partners reported higher commitment than average, high-anxiety women reported perpetrating less IPV (b = -.02, se = .01, t = -2.32 p < .05). The effect for low-anxiety women was not significant (b = -.01, se = .01, t = -.74, p = .46). On days when their (male) partners report higher commitment than average, women paired with high-anxiety men reported perpetrating less IPV (b = -.02, se = .01, t = -3.01, p < .01). The effect for women paired with low-anxiety men was not significant (b = -.002, se = .01, t = -.22, p = .83).

Interaction Model of Attachment Avoidance and Daily Commitment. Table 13 shows the unstandardized and standardized regression coefficients for the actor and partner effects, gender, and their interactions. Regarding the two-way interactions: an interaction between actor avoidance and partner daily commitment emerged. Regarding the simple slopes, on days when partner commitment was high, low avoidance individuals perpetrated less IPV (b = -.01, se = .01, t = -2.22, p < .05). The simple slope for high avoidance individuals was not significant (b = .03, se = .01, t = .53, p = .59).

Because gender moderated the partner avoidance by partner commitment interaction, I focused on breaking down the three-way interaction. Results from the simple slopes model that separates effects for men and women (presented in Table 14), indicated that although the partner avoidance by partner commitment interaction was not statistically significant for men, it was significant for women. Regarding the simple slopes, on days when their male partners report higher commitment, women paired with men higher in avoidance report more IPV perpetration (b = .05, se = .01, t = -4.33, p < .001). Conversely, on days when their male partners report higher commitment, women paired with men lower in avoidance report less IPV perpetration (b = -.06, se = .01, t = -5.11, p < .001).

Discussion

In the current study, I examined a theoretical dyadic model predicting day to day IPV perpetration in response to attachment insecurity (anxiety and avoidance) and other relational/contextual factors (daily reports of stress, relationship commitment, and jealousy) that are considered to be interactive in emerging adulthood relationships. The purpose of this investigation was to build support for a developmental and relational theory of IPV perpetration using intensive longitudinal and dyadic analytic methods, which are important for investigating

complex processes that are suspected to be nonindependent between individuals. In general, the results support that attachment insecurity influences individual IPV perpetration within romantic partners and between them; in other words, one's experience of attachment threat within a relationship is associated with an increase in one's use of relationship violence, and in some circumstances, also with an increase in the partner's use of relationship violence. Further, the relational context factors proposed (daily reports of stress, jealousy, and commitment) have some bearing on the relationship between attachment insecurity and IPV perpetration, in both expected and unexpected ways. Findings are presented below by each aim.

Aim 1 Primary Findings*:* *The anxious dimension of attachment insecurity, but not the avoidant dimension, was directly related to one's own IPV perpetration.*

Anxiety. Regarding the anxious dimension of attachment, I found support for the prediction that anxious attachment would be related to more IPV perpetration. Specifically, higher attachment anxiety was related to higher endorsement of daily IPV perpetration for actors, but not for partners. In other words, an individual's anxious style of responding to threats to the relationship is predictive of their use of violence. The actor influence of anxious attachment may be explained by a need to maintain security in the status of the relationship through proximity-seeking and attempts to keep the partner focused on them (Godbout et al., 2009; Mayseless, 1991; Simpson & Rholes, 2012). Others have suggested that anxious individuals are more ambivalent in relationships and this ambivalence leads to more escalation and conflict. This ambivalence results from a desire to satisfy worry about the partner leaving through control, and fear that maintaining this dominance will lead the partner to leave (Mikulincer & Shaver, 2012). Violent behavior may also be in the service of resolving conflict quickly, as conflict may be threatening to the relationship (Bonache et al., 2019). Anxious individuals tend to catastrophize

about the stability of their relationships leading to more escalation in attempts to resolve conflict (Campbell et al., 2005). Contrary to my hypothesis, partner anxious attachment was not directly related to IPV perpetration in men or women, meaning that the relationship between anxious attachment and IPV perpetration is internal to the individual rather than reactive to the partner's anxious behavior. Violent behavior may be an extreme extension of response to attachment threat. In general, the individual's interpretation of the partner's anxiety or distress about the status of the relationship may not be experienced as threatening.

Avoidance. Like anxious attachment, the avoidant dimension of attachment was hypothesized to predict more IPV perpetration for both actors and partners. In the current sample, avoidant attachment was not found to be directly related to IPV perpetration. Avoidant attachment is associated with discomfort with closeness in interpersonal relationships and is characterized by high self-sufficiency and disengagement from the romantic partner when under stress or threat; this is sometimes framed as "deactivation" of the attachment system, while the anxious dimension is framed as increased activation of the attachment system (Bond, 2009). Prior research indicates that the relationship between avoidant attachment and IPV is weaker than or more inconsistent than the relationship between anxious attachment and IPV. Due to these inconsistent findings for avoidant attachment and IPV, authors of a recent meta-analysis suggested that future work should focus on identifying important mediators and moderators to explain these inconsistencies (Velotti et al., 2018). Lack of a direct relationship between avoidant attachment and IPV suggests that this "deactivation" of the attachment system may indicate that mediators/moderators that predict increases in IPV perpetration operate as barriers to escape rather than threats to the relationship.

Aim 2 Primary Findings. *On days of increased stress, individuals that are higher in anxiety or higher in avoidance report perpetrating more IPV. Notably, the effect of daily stress was more important for women's IPV perpetration compared with men's. On days of higher jealousy, individuals who were higher in anxiety reported more IPV perpetration, but, in contrast, individuals who were higher in avoidance reported less IPV perpetration.*

Anxiety and Daily Stress. As proposed, I did find partial mediation effects of actor daily stress on the relationship between actor attachment anxiety and IPV perpetration. In other words, an individual's assessment of their stress operates as an additional mechanism/pathway that explains the association between attachment anxiety on their IPV perpetration. Relationships between attachment insecurity (anxiety specifically) and perceived stress are frequently established in the literature (Kidd et al., 2011) and are thought to indicate overlaps in neural pathways for threat assessment and biological reactivity to stress (Maunder et al., 2006). Individuals who report higher attachment anxiety also tend to report more intense distress generally (Mikulincer et al., 2000); this is proposed to lead to a desire to manage fears of abandonment through aggressive behavior toward the partner due to hypervigilance about the partner's availability to them (Mikulincer et al., 2002).

While gender-based effects were not proposed in the current study, effects that were distinguishable between partners were investigated further. Partner effects were found for women, but not for men, indicating that, in the current sample, women who report higher perceived stress as influenced by their male partner's anxiety also report more IPV perpetration. This may indicate a gender-socialized tendency to attend more to threats to the relationship (partner anxiety) and a greater need for conflict management by women. In contrast to my findings, a study by Jakupcak (2003) found that college-age men who perpetrated psychological

IPV reported higher levels of perceived stress, higher fear of emotional expressiveness, and difficulty managing tense relationship situations and, that fear of emotions mediated the relationship between stress and IPV perpetration. Given these mixed findings, these gender differences warrant further investigation in future studies.

Avoidance and Daily Stress. While I did not initially propose hypotheses for mediation or moderation relationships between avoidant attachment and daily stress, there was some support for daily stress as a mediator that predicted increased IPV perpetration, similar to the relationship between anxious attachment and daily stress. These mediation models indicted a similar, but weaker, pattern of influence as the anxiety model: daily stress exacerbated the relationship between avoidance and IPV perpetration, and men's avoidance specifically was mediated by their female partner's daily stress to predict women's IPV perpetration. I suggest that daily stress perpetuates a need to distance from the partner, and thus increases the risk of violent behavior is in the service of that separation. It also appears that, as a gender effect, women are more aggressive toward their male partners as a function of their stress. Women may be more socialized toward attachment activation when under stress and may perceive their male partners' avoidance as threatening to the status of the relationship (Hadden et al., 2014).

Anxiety and Daily Jealousy. As proposed, jealousy was higher for anxious individuals. Recent research (Laursen et al., 2020) provides support for internalizing problems as a mechanism for jealousy, which in turn signals more negativity, dissatisfaction, and distrust (Rodriguez, DiBello, Overup, & Neighbors, 2015). These features are thought to undermine the stability of emerging adulthood relationships (Dandurand & Lafontaine, 2014), and as indicated in our findings, are related to increased IPV perpetration within individuals. Experiences of jealousy are both temporally unstable and vary between individuals from normative to

pathological (Marazziti et al., 2010). Specifically, for men, anxious attachment was mediated by their levels of daily jealousy to predict more IPV perpetration for themselves and their female partners. One recent study suggested that men's internalizing symptoms (i.e., anxiety) predicted their female partner's ratings of jealousy, which in turn predicted males' negative ratings of relationship quality (Laursen et al., 2020). The authors discussed this pattern as an indication of "negative affective contagion," or the phenomenon of negative perceptions about the relationship by one partner influence the perceptions of the other. As an extension of these findings, the current results suggest that perceptions of a partner's (particularly the male partner) anxiety may be amplified by the female partner's jealous sentiments and that this contagion effect increases the risk for female-to-male violence in heterosexual relationships.

Avoidance and Daily Jealousy. One unexpected finding was that the effect of actor avoidant attachment in the models was mediated by jealousy and predicted less IPV perpetration. As stated above, excessive jealousy signifies a negative response to a perceived threat to the status of the relationship and a lack of trust in the partner (Pavela et al., 2014). Regarding attachment, prior studies have generally agreed that fearful or anxious attachment would be more related to violent reactions to jealousy than discomfort with closeness (Mattingly et al., 2012). It is suspected that avoidant individuals are less preoccupied with fears and concerns for the status of the relationship and that this influences lower reports of jealousy within individuals (Guerrero et al., 2005). The current findings support that higher jealousy mediates "deactivation" of the attachment system (i.e., attachment avoidance) and that the resultant distancing or reduced concern about the status of the relationship would also then lead to reduced IPV perpetration.

Regarding partner influences, I also initially proposed that the link between a person's avoidance and their engagement in IPV would be mediated by the romantic partner's level of

jealousy. That is, avoidant individuals may be more likely to respond to a romantic partner's jealousy and resultant intrusive behavior toward them by perpetrating IPV. Only men's avoidance was mediated by their female partner's daily jealousy to predict less IPV perpetration for women. In other words, women with more avoidant partners express higher jealousy, but this also appears to result in less female-to-male aggression, potentially due to increased distancing/avoidance. Findings from the current study are in line with the risk regulation model (Murray et al., 2006), which proposes that individuals alternate between closeness-seeking and protection from rejection to manage their risk of relationship dissolution. The avoidant attachment dimension may indicate internal working models of rejection by the other, resulting in increased jealousy and distancing behavior (Murray et al., 2008).

Aim 3 Primary Findings. *In general, higher than average stress acts as an eliciting factor in the relationship between attachment anxiety and IPV and attachment avoidance and IPV. Higher than average commitment generally acts as a protective or mitigating factor, except in some circumstances.*

Anxiety, Avoidance, and Daily Stress. Although perceived stress can be considered an explanatory factor for the relationship between attachment insecurity and IPV perpetration, alternative theories propose that perceived stress may be eliciting factor instead. Thus, daily stress was investigated as a moderator of the influence of attachment anxiety and attachment avoidance, and IPV perpetration. As suspected, on days when an individual's daily stress is relatively high, their attachment anxiety will more strongly predict their IPV perpetration. On a particularly stressful day, stress may activate a need to seek proximity with the romantic partner, which may lead to aggressive behavior.

Anxiety and Daily Commitment. I proposed that the reported level of commitment day-to-day would operate as a protective factor, such that interactions between commitment and attachment insecurity may produce lower levels of IPV perpetration. In the current study, daily reports of commitment moderated the effects of women's attachment anxiety to predict less IPV perpetration. Women's daily report of commitment also moderated their response to their partner's attachment anxiety. In other words, anxious women who also report high relationship commitment engage in less IPV, possibly out of fear that aggressive behavior may cause their male partners to leave. Previous findings have been mixed; one study indicated that lower commitment to the relationship was related to more IPV, as well as increased likelihood of relationship dissolution (Shortt et al., 2006). Another study found that higher commitment was related to higher IPV, as couples resolve conflict with violence rather than terminate the relationship (Hammock & O'Hearn, 2002). The Investment Model proposes that relationship commitment is indicated by relationship satisfaction, quality of available alternatives to the current partner, and the number of investments tied to the relationship (Rhatigan & Axsom, 2006; Rhatigan et al., 2006). Women, particularly younger adult women, may be more likely to commit to and therefore preserve their relationships for two reasons: 1) there are real and perceived consequences to leaving the relationship, and 2) women may be more socialized to maintain or invest in relationships (Stanley & Markman, 1992). Broadly speaking, women may generally be more likely to identify with prosocial values (i.e., commitment) that are also associated with relationship functioning.

Avoidance and Daily Commitment. I initially proposed that, due to a demand-withdrawal pattern between partners (Fournier et al., 2011), an avoidant individual would report low commitment to their partner, who in turn may seek proximity to the individual, resulting in

increased use of aggression as a means of rejecting the romantic partner. Alternatively, the current findings indicated more IPV perpetration by women when their male partners reported higher commitment and higher avoidance. As discussed elsewhere, individuals in romantic partnerships may vacillate between desiring more control in the relationship and feeling fearful that their partner will leave if they instigate more control (Mikulincer & Shaver, 2010). High commitment endorsed by the male partner may signal less concern about relationship dissolution, thereby increasing the risk for IPV. The Investment Model described above has been shown to predict stay/leave decisions for victims of IPV (Rhatigan et al., 2006), but it may also have implications for perpetrators. The findings of the current study suggest that partner commitment may also signal fewer alternatives to the current relationship, therefore there may be more tolerance for aggression and conflict.

Limitations. Several limitations in this study are noted that influence the generalizability of the current findings across different relationships and groups of individuals. First, the current sample is limited to heterosexual couples; these findings may not reflect the experiences of non-heterosexual (i.e., gay, lesbian, bisexual, pansexual, etc.) college students. This limitation is discussed and addressed in Study 2, in which sample recruitment was not limited to heterosexual couples. Second, due to low daily endorsement of some types of IPV (sexual, physical), IPV perpetration was collapsed to a sum of all forms of IPV queried each day (physical, sexual, psychological). As an extension of the current findings, it would be important to investigate specific relationships between different attachment orientations, important mediating/moderating factors, and different types and severities of IPV. Finally, while the ability to collect daily responses from participants is preferable to retrospective reporting, all of the data collected were

self-report rather than observational. Participant report of IPV perpetration or other experiences may not be an entirely accurate reflection of their true behavior.

Future Directions and Implications. The current findings altogether indicate the importance of understanding how attachment insecurity is either activated or deactivated in response to daily context, and how this response predicts IPV perpetration. The suggested next step in these investigations would be to identify how different pairings of couples based on attachment style (i.e., anxious and anxious, anxious and avoidant, avoidant and avoidant) would increase or decrease the risk of IPV perpetration. To my knowledge, this has been explored only once previously using dyadic analyses (Sommer et al., 2017), but this study was limited to heterosexual couples and did not include other influencing factors. Attachment insecurity is treated as a continuous variable in this study, as dimensions of attachment rather than distinct styles are considered by some researchers to be a more accurate description of attachment behavior (Ravitz et al., 2010). However, using categorical definitions for attachment styles is considered more clinically useful (Maunder & Hunter, 2009). Lastly, there may be differences between reporters (self vs. partner report of perpetration) that may be meaningfully related to the factors investigated here. For instance, one partner may either inflate or minimize their perpetration or victimization experiences based on a combination of variables, including the intensity and style of their attachment dysfunction, and their ratings on factors such as relationship commitment or perceptions of stress. Ratings that differ between partners may indicate more relationship dysfunction.

The current findings suggest that there may be multiple points of intervention for individuals in emerging adulthood who are experiencing or perpetrating violence in their relationships. Managing general stress, assessing relationship health and attitudes toward one's

partner, and general psychoeducation regarding healthy conflict management and communication skills may help to reduce rates of IPV in college populations. Extant clinical interventions may be improved by incorporating skills to address attachment insecurity themes between partners via functional analysis of violence. For example, Emotion-Focused Therapy (EFT) for couples (Johnson & Zuccarini, 2010) addresses issues of attachment-related to partner conflict and is currently being investigated as an intervention for violent couples (Slootmaeckers & Migerode, 2020; Sprenkle, 2012). Current IPV intervention strategies are largely criticized for being ineffective; one possible reason for this is that many interventions target one partner as a batterer without considering relationship factors that may be triggering or maintaining partner violence (Babcock et al., 2004). As stated elsewhere, there is growing evidence that IPV in this age group is typically bi-directional (Schneider & Brimhall, 2014). Thus, both partners receiving treatment, either in individual, couples, or a hybrid treatment format, may improve effectiveness in IPV treatment and preventions efforts. This study importantly guides what should be targeted in intervention efforts to reduce IPV in relationships during emerging adulthood.

STUDY 2: Differentiating the Influences of Interpersonal Functioning and Emotion Regulation on Conflict and IPV in Emerging Adulthood Relationships

Introduction

The formation and maintenance of important romantic relationships is an important developmental task of young adulthood (Conger et al., 2000). However, difficulties in navigating this process may result in increased interpersonal conflict and, at more severe levels, intimate partner violence (IPV) (Giordano et al., 2015). Emerging adulthood, the period of development between 18 and 25 characterized by significant changes in autonomy, identity, and intensified romantic relationships (Arnett, 2000), is also marked by high rates of IPV (Catalano, 2012). It is theorized that processes related to the transfer of attachment relationships from childhood caregivers to adult romantic partners may result in conflict and IPV if poorly managed (Bonache et al., 2019; Orcutt et al., 2005; Sommer et al., 2017). Fraley and Davis (1997) suggest that the transfer of this basic function during emerging adulthood is signified by the perception of the romantic partner as the primary secure base for exploring interpersonal interactions and meeting primary needs. Unlike early attachment, romantic attachment is reciprocal; romantic partners can be considered both caregivers and care seekers within the relationship, and therefore they react to each other's attachment styles (Hazan & Shaver, 1994). It also may be that romantic partners are reacting to specific relationship processes aside from general attachment style. Difficulties related to interpersonal functioning and emotion regulation have been associated with IPV (Roberton et al., 2012), but have not been examined as possible mechanisms through which different attachment styles influence the severity of the conflict and IPV perpetration within romantic relationships. I propose that decomposing attachment into different styles (anxious and avoidant) and different processes, including interpersonal functioning and emotion regulation may help to elucidate the specific processes through which IPV manifests in emerging adulthood.

Attachment during Emerging Adulthood

The attachment system is purported to regulate responses to threat through patterns of proximity-seeking behaviors derived from experiences with early caregivers (Cassidy, 1994). In infancy and early childhood, proximity-seeking behaviors (e.g., crying, reaching) signal for the attachment/caregiving figure to respond with regulating behaviors, such as comforting or feeding. Repeated experiences of caregiver responsivity influence the infant's expectations for security and modulate patterns of regulation throughout development (Cassidy, 1994; Thompson, 1994). Across development, the behaviors and patterns that make up the attachment system become more varied and flexible. As Mikulincer and colleagues (2000) suggest, attachment becomes more influential at other levels (cognitive, emotional) as the individual relies more on internal working models of caregiver behavior rather than continued real-world responses. Adult relationships, particularly romantic ones, are characterized by multiple intense, proximal, and affectionate experiences that become part of one's internal working models of attachment (Hazan & Shaver, 1994). When secure, romantic attachment relationships help to regulate responses to stress similarly to the child attachment figure; namely, romantic partners offer warmth, responsivity, and a sense of security that allow individuals to better manage responses in distressing situations (Mikulincer & Shaver, 2019). Thus, adult romantic relationships play a significant role in regulation in response to stress (Mikulincer & Florian, 2000; Mikulincer & Shaver, 2012).

Romantic Conflict, Psychological Aggression, and IPV

Conflict in interpersonal relationships is loosely defined as mutual or dyadic behavioral opposition or disagreement that can occur with or without negative affect (Barki & Hartwick, 2004). In adult romantic relationships, conflict can be considered both a threat to the attachment

system (Mikulincer & Shaver, 2012), as well as a reaction to perceived threats to the attachment system (Feeney & Karantzas, 2017). Conflicts between romantic partners that can be easily resolved are often considered opportunities to develop intimacy and communication and to strengthen the attachment bond (Laurenceau et al., 1998). As such, conflicts in emerging adulthood relationships are considered important for developing the capacity to maintain meaningful, lasting, and healthy relationships. However, not all conflict is resolved in healthy ways, and negative responses to conflict can range from low-consequence reactions such as disagreements to more interpersonally damaging threatening language or putdowns, and violent actions such as physical aggression or controlling behavior (Feeney & Karantzas, 2017). Virtually all couples experience psychological aggression or the use of put-downs or threats or withholding of affection from a romantic partner, (Shortt et al., 2012). Because psychological aggression is highly common and does not itself, result in physical injury, it typically considered a low-severity form of violence. Psychological aggression is more common than physical IPV during emerging adulthood (Capaldi et al., 2007), and given the rise of technology-based forms of interpersonal interaction, such as using mobile devices and through social media, psychological aggression in emerging adulthood dating relationships is more common than in previous generations (Stonard et al., 2014). Psychological aggression is also considered qualitatively different from romantic conflict (Ro & Lawrence, 2007). However, research suggesting that high romantic conflict is predictive of psychological aggression and physical violence (Bond & Bond, 2004; Burk & Seiffge-Krenke, 2015) may indicate that conflict, psychological aggression, and IPV more generally may exist on a spectrum of aggressive relational interactions. Further, severe responses to relationship conflict, when inclusive of uni- and bidirectional violence, are related to negative physical health outcomes (Braithwaite et al.,

2010), psychopathology (Connolly et al., 2014), and risk for later IPV victimization and perpetration (Kuijpers et al., 2012). Despite these findings, conflict, psychological aggression, and IPV are rarely examined together; doing so may help to clarify how otherwise normal developmental and relational experiences such as romantic conflict may escalate to more severe levels.

Attachment, Psychological Aggression, and IPV

Engagement in romantic relationships is a normative developmental task that involves transitioning between the parental caregiver and the romantic partner as the primary attachment figure (Exner-Cortens, 2014). One way this transition is managed is through opportunities for conflict and reconciliation in the romantic relationship (Simon & Furman, 2010). The ability to manage conflict successfully without the use of aggressive or violent behavior may be related to one's attachment functioning (Bonache et al., 2017). Rahim (1983) and others (Cohn et al., 1992; Kobak & Hazan, 1991) have suggested that the severity of aggressive behavior within relationships may be related to insecure attachment. Fearful-anxious attachment, characterized by high self-doubt, preoccupation with the relationship, and low assertiveness (Bartholomew & Horowitz, 1991) is associated with the use of psychological aggression and violent behavior (Cameranesi, 2016; Dutton & White, 2012; Feeney et al., 1994). This may be due to a "hyperactivation attachment strategy," as evidenced by heightened fear of abandonment and intensified expressions of negative affect (Fraley et al., 1998). Avoidant attachment style, which is characterized by dismissiveness, negative attributions of others, and distrust (Bartholomew & Horowitz, 1991), is typically only associated with IPV when an anxious attachment is also present in the relationship context, possibly as an outcome of the interactions between anxious and avoidant partners in conflict. Bélangier and colleagues (2015) described this as a possible

gendered “mispairing” of avoidant attachment styles in men and anxious styles in women. Godbout, Dutton, Lussier, & Sabourin (2009) also found that both anxious and avoidant styles were related to IPV perpetration, but they did not investigate an interactional effect between partners. Others have suggested that the demand-withdrawal pattern (Holtzworth-Munroe et al., 1997; Roberts & Noller, 1998), in which one partner makes active attempts to engage in conflict resolution while the other partner withdraws and becomes silent in response, may be a result of interactions in attachment styles (Millwood & Waltz, 2008). Violent couples have higher rates of demand-withdrawal when in conflict as compared to non-violent couples (Babcock et al., 1993). Altogether, these findings suggest relational, regulatory, and possibly interactive influences that manifest through the navigation of emerging adulthood attachment may be particularly important for understanding psychological aggression and IPV perpetration at this developmental stage.

The Mediating Role of Emotion Regulation

The capacity to regulate emotional distress is thought to stem in part from reliably sensitive and responsive caregiving during early childhood (Cassidy, 1994). Concerning emerging adulthood, emotion regulation strategies become more flexible and adaptive as individuals continue to develop insight into the thoughts, feelings, and behavioral reactions of self and others (Zimmerman, 2000). There is significant evidence to suggest that emotion regulation in adulthood continues to be modulated in part by close attachment relationships (Mikulincer & Shaver, 2008). Specifically, the intensity of felt distress (Meredith et al., 2016), ability to manage the expression of emotional reaction (Nisenbaum & Lopez, 2015), and downregulation of physiological stress responses (Powers et al., 2006) are related to attachment security in romantic relationships. Powers and Pietromonaco (2015) proposed that romantic attachment styles promote specific patterns of behavior that regulate or exacerbate responses to

stress, both within individuals and their partners. Base patterns of regulatory strategies are generally divided into approach (moving toward a goal) and avoidance (moving away from an anti-goal) behavior (Carver, 2006). This framework can readily be applied to attachment; individuals differ in their use of security/proximity seeking and distancing when in emotional distress. There is also some evidence that individuals differ in their sensitivities to approach/avoidance regulatory strategies in others, and that these may also be a source of psychological distress (Park, 2010).

Emerging adulthood is characterized by increased intensity of emotional experiences and potentially increased reliance on maladaptive strategies for managing psychological distress (Hessler & Katz, 2010; Raffaelli & Crockett, 2003). This concept has been expanded to IPV literature; Finkel (2007) suggested that aggressive reactions within relationships are the result of poor self-regulation. Violence may serve as a maladaptive regulatory strategy (Bushman et al., 2001), and the tendency to use this strategy may be influenced by one's attachment style and the availability of other emotion regulation strategies. For example, one study found that IPV-perpetrating women reported aggressive behaviors to express negative emotion and release tension (Stuart et al., 2008). Another found that IPV perpetration in men was related to self-reported difficulties in impulse control and goal-directed behaviors (Gratz & Roemer, 2004).

While difficulties in emotion regulation are related to violent behavior, it is unclear how differences in attachment style and regulation strategies might differentially influence risk for perpetration. According to Shaver and Mikulincer (2002), adults with anxious attachment styles tend to engage in hyperactivating strategies, including the use of rumination, increased threat monitoring, and more intense expression of negative affect. These behaviors are designed to increase threat-detection and awareness of attachment figure availability or unavailability but are

generally considered reactive rather than suppressive emotion regulation strategies. This reactive style has also been related to IPV perpetration (McNulty & Hellmuth, 2008).

Conversely, attachment avoidance has been associated with more suppressive strategies for emotion regulation, including the use of avoidance and restricted emotional expression (Gillath et al., 2005). Langer and Lawrence (2009) note that the use of these strategies "paradoxically" increases and prolongs emotional distress, and that use of these strategies over approach-oriented styles can lead to more interpersonal dysfunction. Highly conflictual or aggressive behaviors in romantic relationships can be considered attempts to control or avoid discomfort within the relationship when suppressive regulatory strategies are insufficient (Jakupcak et al., 2005).

The Mediating Role of Interpersonal Behavior

Despite the significant evidence base for the relationship between attachment and IPV perpetration, it is unclear what the mechanisms are. I propose that attachment can be decomposed into two of its primary functions – interpersonal behavior and emotion regulation – to understand the relationship between attachment and IPV perpetration. Each of these functions of attachment has been examined as predictors of conflict and IPV perpetration (Lawson & Malnar, 2011; Shorey et al., 2014). Examining these factors as mechanisms of attachment may help to clarify how specific attachment styles (anxious and avoidant) within romantic partners differentially predict psychological aggression and IPV perpetration.

Interpersonal theory proposes that interpersonal behaviors can be organized along two dimensions: affiliation (ranging from cold/hostile to warm/friendly) and agency (ranging from dominant to submissive) (Wiggins, 1979). The development of interpersonal style, or typical patterns of interacting with others, is also thought to occur primarily in emerging adulthood

(Skowron et al., 2009), as individuals have more opportunities to explore identity in interactions with peers. Interpersonal styles are also purported to be interactive, such that one may organize their behaviors based on their perceptions of the styles and reactions of others (Markey et al., 2003). Interpersonal problems, features of one's interpersonal style, and broader personality functioning that influence dysfunctional patterns in interactions (Horowitz et al., 1993) tend to emerge through interactions with caregivers (Murphy & Blumenthal, 2000) and persist through adulthood relationships (Skowron et al., 2009).

Horowitz and colleagues have described interpersonal problems as they relate to the attachment as an internal conflict between one's desire to behave in a way that would elicit a response from an attachment partner, while also experiencing distress due to an anticipated negative response from the partner (Horowitz et al., 1993). IPV can thus be considered a form of interpersonal conflict that results from disruptions in both dimensions of interpersonal functioning. Several researchers have suggested relationships between interpersonal problems, attachment, and risk for IPV perpetration (Dutton & White, 2012; Haggerty et al., 2009; Lawson & Malnar, 2011), generally finding that negative, hostile, and intrusive patterns of interpersonal problems at more severe levels are related to IPV perpetration. In clinical populations, interpersonal patterns related to both Borderline Personality Disorder and Antisocial Personality Disorder have been observed in perpetrators of IPV (Agrawal et al., 2004).

Despite some research associating different patterns of interpersonal problems with IPV perpetration, it is yet unclear how patterns of difficulties in interpersonal problems as related to specific attachment styles differentially predict relationship conflict/IPV. Interpersonal problems are also likely related to difficulties in managing specific patterns of attachment-related needs. Anxious attachment may result in fearful patterns of behavior that are meant to maintain

proximity even in maladaptive ways (Hilsenroth et al., 2007). Research on self-reported interpersonal problems indicates a relationship between submissive and a high need for affiliation and attachment anxiety (Horowitz et al., 1993). Personality features such as neuroticism and dependency have also been associated with both attachment anxiety and IPV perpetration (Holtzworth-Munroe et al., 1997). Demanding and intrusive conflict resolution style has also been examined as a mediator between attachment anxiety and IPV perpetration (Fournier et al., 2011), suggesting that a highly dependent interpersonal style is associated with both anxiety in romantic relationships and propensity for aggressive behavior.

A history of unresponsive or frightening caregivers may result in more avoidant attachment that manifests as distrustful, antagonistic, and domineering interpersonal behavior (Lawson, 2012). The patterns of interpersonal problems associated with attachment avoidance, including passive-aggressive or cold submissive (White & Gondolf, 2000) and hostile-dominant (Lohr et al., 2006) styles have also been linked to IPV perpetration. However, relationships between attachment avoidance, specific patterns of interpersonal problems, and conflict/IPV have less consistent support as compared to the literature on attachment anxiety.

The Current Study

As reviewed above, a rich body of literature has examined the relationships between general attachment style and key functions of attachment (i.e. interpersonal behavior, emotion regulation) to IPV perpetration. However, much of the available research fails to separate attachment into patterns of avoidance and anxiety and associate these with corresponding interpersonal and regulatory strategies to better predict the severity of psychological aggression and IPV. I proposed that aggressive behavior in romantic relationships (IPV perpetration, psychological abuse, and cyber abuse), which I term relationship aggression going forward,

would be predicted by actor and partner attachment anxiety and avoidance and would be mediated by problems in interpersonal functioning and emotion regulation. Mediational models were proposed to either involve emotion regulation as a mediator or interpersonal function as a mediator. In both cases, however, multiple mediators were included; for emotion regulation, the models included both actor and partner scores for reappraisal and suppression, and for interpersonal functioning, the models included both actor and partner scores for dominance and warmth.

The direct effects hypothesized below are identical to those proposed in Study 1:

Actor Anxious Attachment – Relationship Aggression. Higher actor anxious attachment was hypothesized to predict higher relationship aggression; a person higher in anxiety may perpetrate violence out of fear of abandonment.

Partner Anxious Attachment – Relationship Aggression. Higher partner anxious attachment was hypothesized to predict higher relationship aggression on the part of the individual; if a person's partner is higher in anxious attachment, the person may exhibit greater aggression toward the partner out of frustration with the partner's proximity-seeking behavior (e.g., clinginess, intrusiveness).

Actor Avoidant Attachment – Relationship Aggression. Higher actor avoidant attachment was hypothesized to predict higher relationship aggression; an individual high in avoidant/dismissive style may perpetrate violence as a way of maintaining or managing distance from the partner.

Partner Avoidant Attachment – Relationship Aggression: Higher partner avoidant attachment was hypothesized to predict higher relationship aggression; if a person's partner has a

more avoidant/dismissive style, the person may perpetrate violence as a negative reaction to the partner's dismissive or rejecting behavior.

As in Study 1, the APIMeM suggests two possible cases for the mediational effects of emotion regulation (or interpersonal functioning) on the relationship between attachment on relationship: First, the individual's levels of emotion regulation (or interpersonal functioning) may explain the relationship between their attachment and their relationship aggression. Second, an individual's partner's levels of emotion regulation (or interpersonal functioning) may mediate the influence of the individual's attachment on their relationship aggression.

The partner's attachment may also predict a person's relationship aggression through the person's standing on the mediator. The partner's attachment may predict the individual's relationship aggression through the partner's scores on the mediator.

Anxious Attachment, Reappraisal, and Suppression. A person who is higher in attachment anxiety would exhibit more relationship aggression due to their *low* use of reappraisal to regulate emotions. Individuals who are more anxious exhibit more emotion dysregulation, which would result in higher aggression. Regarding the partner's ability to regulate using reappraisal, a person with a partner who is higher in attachment anxiety would exhibit more relationship aggression due to their partner's *low* use of reappraisal to regulate emotions. The partner's dysregulation may be experienced aversive, thus influencing their aggressive behavior.

Similarly, a person who is higher in attachment anxiety would exhibit more relationship aggression due to their *low* use of suppression to regulate emotions. A person with a partner who is higher in attachment anxiety will exhibit more relationship aggression due to their partner's *low* use of suppression to regulate emotions.

Avoidant Attachment, Reappraisal, and Suppression. A person who is higher in attachment avoidance was expected to exhibit more relationship aggression due to their *low* use of reappraisal to regulate emotions. A person's attachment avoidance may decrease their partner's use of adaptive emotion regulation (reappraisal), as the person's withdrawn and dismissive style may be more dysregulating. In turn, the partner's dysregulation may be more aversive to an avoidant individual, thus influencing their desire to reject or gain distance from a partner and their aggressive behavior.

A person who is higher in attachment avoidance was expected to exhibit relationship aggression due to their *high* use of suppression to regulate emotions. Avoidant individuals are also more restricted and withholding with their emotional expression, which may result in explosive or aggressive behavior toward the partner due to poorer emotion regulation ability.

Anxious Attachment and Problems in Dominance and Submissiveness. Regarding the actor effects, I expected that more anxious individuals may be more domineering, intrusive, and controlling, leading to higher use of relational aggression to maintain the status of the relationship. The individual's attachment anxiety may also influence their partner's domineering behavior. Both partners may struggle with managing control in the relationship, which would influence an increase in the person's aggressive behavior toward the partner. Although an individual's attachment anxiety may influence problems related to submissive behavior, it is not expected that actor or partner submissive behavior would mediate the relationship between actor or partner attachment anxiety and relationship aggression.

Avoidant Attachment, Dominance, and Submissiveness. A person who is higher in attachment avoidance may also be more domineering; being dominant or controlling in the relationship may be a strategy of maintaining distance from the partner. The person's more

controlling behavior may also lead to more aggressive behavior. A person who is higher in attachment avoidance will cause their partner to become more domineering and controlling. The partner may respond to the person's avoidance by trying to gain more control over the person, which the person may resist through more aggressive behavior.

Although an individual's attachment avoidance may predict their submissiveness, it is not likely that their submissive behavior would predict their relationship aggression. It is also not likely that an individual's avoidance would predict their partner's submissiveness. However, it may be that a partner's attachment avoidance, which would influence their submissive style, would predict the individual's aggression. In other words, problems with submissiveness may expose an avoidant person to experiences of aggression.

Anxious Attachment and Problems in Warmth and Coldness. A person who is higher in attachment anxiety will exhibit difficulty related to being overly warm, which may lead to higher use of aggression to maintain the status of the relationship. It is not likely that an individual's attachment anxiety would influence their partner's overly warm behavior. However, a partner who is higher in attachment anxiety would exhibit more relationship aggression due to their difficulty with intrusiveness. The anxious partner's behavior toward the person may be experienced as highly aversive, thus resulting in increased use of aggressive behavior toward the partner.

Avoidant Attachment and Problems in Warmth and Coldness. I expected problems in coldness to explain the relationship between actor and partner avoidance and aggression. I predicted that a person who is higher in attachment avoidance would exhibit difficulty related to coldness. A person with a partner who is higher in attachment avoidance would exhibit more

cold and uncaring interpersonal behavior. It is not likely that a partner's coldness would influence an individual's IPV perpetration.

Methods

Participants

Data were collected from an online survey given to both partners in emerging adult dating couples at a large Midwestern university. One-hundred and forty couples (280 individuals) were included in the final sample. See Table 15 for sample characteristics. While the sample demographic skewed toward the majority in terms of race/ethnicity, recruitment was not limited to heterosexual couples, and thus the sample is representative of population diversity in terms of gender identity (Male: 47.5%, Female: 51.1%, Trans Male: .4%, Trans Female: 4%, Not identified: .7%), and sexual orientation (Straight/Heterosexual: 81.4%, Bisexual/Pansexual: 12.1%, Gay/Lesbian: 4.6%, Not identified: 1.8%). The sample consists of undergraduates from the home university (75%), undergraduates from other universities, (23%), and graduate students (2%). The average age of the sample was twenty years old (*SD* = 1.62 years) and the average relationship length was 29 months (*SD* = 19.50) for the current relationship.

Procedure

This research project was reviewed and approved by the Michigan State University (MSU) Institutional Review Board (IRB). Plans to conduct these procedures in-person were disrupted by the state of Michigan's COVID-19 pandemic response "Stay at Home" order (instituted on March 11, 2020), which halted in-person academic and research activities. Due to modifications to the study for re-approval, all recruitment and study procedures were conducted remotely. Couples between the ages of 18-25 were screened via online questionnaires for endorsement of four specific criteria: 1) must be between the ages of 18-25, 2) must be in a

romantic relationship for longer than 6 months, and 3) unmarried relationship status, and 4) one instance of physical and/or multiple instances of psychological violence in their current dating relationship. Couples were recruited online, through a psychology subject pool, and University-wide email advertisements. Each partner in a couple was contacted individually via email to complete consent and online questionnaires. Both partners were required to consent individually to be eligible.

Eligible couples were independently emailed links to an online questionnaire form and assigned paired ID numbers. Participants completed questionnaires assessing victimization and perpetration of IPV, attachment and interpersonal functioning, couple conflict, emotion regulation strategies, and health outcomes. After completing the list of measures, each participant was compensated with an e-gift card valued at $20 per person. A small percentage of participants (10%) were compensated with psychology subject pool credit (1.5 hours) upon request. All participants were emailed a list of community and mental health (individual and couples therapy), and a brief debriefs description of the aims of the study.

Measures

Demographic information. Age, gender identity, sexual orientation, racial/ethnic identity were collected. Relationship length, particularly when longer than 6 months, has been shown to predict risk for IPV exposure (Luthra & Gidycz, 2006; Wiersma et al., 2010). Thus, 6 months relationship length was used as an inclusion criterion.

Adult Attachment. The Experiences in Close Relationships Scales-Revised (ECR-R; Fraley et al., 2000) is a widely used measure of adult attachment orientations concerning romantic partners. The ECR-R is comprised of 36 items that assess attachment-related anxiety (18 items, e.g., “I often worry that my romantic partner doesn’t love me”) and attachment-related

avoidance (18 items, e.g., “I prefer not to show a partner how I feel deep down”) rated on a 7-point scale (1 = Strongly Disagree to 7 = Strongly Agree). Internal consistency for both continuous subscales are reported at α = .92 for attachment anxiety (Test-retest reliability r = .84, p < .01) and α = .94 for attachment avoidance (Test-retest reliability r = .82, p < .01) (Kooiman et al., 2013). Cronbach’s alphas for the anxious and avoidant dimensions were .93 and .93, respectively.

Interpersonal Problems. Problems in interpersonal functioning were assessed using the short form of the Inventory of Interpersonal Problems (IIP-SC; Soldz et al., 1995). The IIP-SC contains 32 items that measure eight subscales (Domineering, Vindictive, Cold, Socially Avoidant, Submissive, Exploitable, Overly-Warm, and Intrusive). Each subscale indicates interpersonal distress related to two intersecting dimensions, agency (i.e., Domineering, Submissive) and affiliation (i.e., Overly-Warm, Cold). These subscales correspond to a circumplex model of interpersonal problems (Horowitz & Vitkus, 1986). Items are scored on a Likert scale that ranges from 0 (“Not at all”) to 4 (“Very much like me”); higher scores reflect greater distress related to interpersonal problems. Soldz and colleagues reported that the coefficient alphas for the IIP-SC subscales ranged from .88 to .89. The IIP-SC can be scored for each of its eight subscales. A total score for general interpersonal distress can also be calculated by summing across all items. Continuous ratings of dominance and warmth that range from -1.00 to 1.00 can also be calculated. Positive values indicate distress related to excessive dominance and warmth, while negative values indicate distress related to deficient dominance and warmth (or submissiveness and coldness). For the current study, subscale scores for the Domineering (IIP-SC, subscale PA) and Submissive (IIP-SC, subscale HI) and Overly Warm (IIP-SC, subscale LM) and Cold (IIP-SC, subscale DE) were used in the proposed analyses. Cronbach’s

alphas for the current sample were: Domineering α = .51, Submissive α = .85, and Overly-Warm α = .80, and Cold α = .74.

Emotion Regulation. The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item measure that assesses two general strategies: Cognitive Reappraisal (CR) (6 items; e.g., "When I want to feel more positive emotion, I change the way I'm thinking about the situation") and Expressive Suppression (ES) (4 items; ex. "I control my emotions by not expressing them"). Items are rated on a 1 ("Strongly disagree") to 7 ("Strongly Agree") scale, and items for each area are summed to show comparative reliance on each strategy. The ERQ has been demonstrated to have high internal consistency (α = 0.79 for Reappraisal, α = 0.73 for Suppression) (Gross & John, 2003). In the current study, Cronbach's alphas were .86 for CR and .78 for ES.

Intimate Partner Violence. The Conflict Tactics Scale-Revised, Short form (CTS-2S; (Straus & Douglas, 2004) is a self-report measure designed to assess multiple forms of aggressive acts in romantic relationships. The CTS-2 (Straus et al., 1996) was developed to assess a range of physically and psychologically aggressive acts, sexual coercion, injury, and negotiation. As a shortened version, the CTS-2S includes 20 items that are scored by the number of occurrences for each act (1 = "Once in the past year," 6 = More than 20 times in the past year," 8 = "This never happened"). Each area is assessed with two items for each partner (e.g., "My partner pushed, shoved, or slapped me"/"I pushed, shoved, or slapped my partner"). The CTS-2S has demonstrated similar psychometric properties to the CTS-2, and subscales for the short and long forms were adequately correlated (.64–.94). For the purposes of the current study, the questionnaire instructions were modified to assess for violence in the current relationship for

the past year. Cronbach's alpha for the total CTS-2S score for perpetration in the current sample was .70.

Psychological Abuse. The Safe Dates Psychological Abuse Victimization Scale (PAVS; (Foshee et al., 1998) is a widely used measure designed to assess psychological aggression in adolescents. The measure consists of 14 items (i.e., "How often has someone…Insulted me in front of others?") rated on a 4-point scale ranging from 0 ("Never") to 3 ("Very often"). Internal consistency for the measure is high (α =.94). The measure was modified to assess for psychological aggression perpetrated against the current partner (ex. "How often have you insulted your partner in front of others?"). Cronbach's alpha for the total CTS-2S score for perpetration in the current sample was .87.

Cyber abuse. The Cyber Dating Abuse Questionnaire (CDAQ; Zweig et al., 2013) consists of 20 items that assess for victimization and perpetration of various types of cyber dating abuse, including threats, identity theft, control, and humiliation (e.g., ''My partner or former partner commented on a wall of a social network to insult or humiliate me''). Items are rated on a 6-point scale ranging from 1 ("Never") to 5 ("Always, more than 20 times") for the past year. The CDAQ assesses for sexual (α = .81) and nonsexual (α = .88) cyber abuse. Items were modified to reflect experiences and behaviors only experienced with the current partner in the past year. Cronbach's alpha for the current sample's CDAQ perpetration score was .86.

Data Analysis and Results

The current study examined several models predicting relationship aggression from anxious and avoidant attachment and different aspects of emotion regulation and interpersonal problems. More specifically, I tested multiple mediator actor-partner interdependence models with mediation (APIMeMs) in which the actor and partner effects of attachment on aggressive

behavior are mediated by actor and partner interpersonal problems or by actor and partner emotion regulation. Each of these mediational models included two aspects of the mediator. That is, for interpersonal problems, the models included both domineering and submissive problems in one set and overly warm and cold problems in one set. For emotion regulation, the models included cognitive reappraisal and expressive suppression. Actor and partner effects were tested for all mediating variables.

Data were modeled in Mplus (Mplus version 8.1, Muthén & Muthén, 2017). Missing data were handled using full-information maximum likelihood estimation (Enders & Bandalos, 2001). Analyses were conducted using structural equation modeling (SEM) to bootstrap the tests of the indirect effects. These models used a dyad data set or one record per dyad, and predictors were grand-mean centered. As recommended by Ledermann and colleagues (Ledermann et al., 2011) bias-corrected bootstrap 95% CIs were used for the unstandardized effects and were tested with 5000 bootstrap samples.

Given that over twenty percent of the current sample is non-heterosexual couples, conducted preliminary analyses to determine whether gender moderated the effects in our models (e.g., are the effects of anxiety on IPV different for men and women). Gender did not consistently predict any outcomes; therefore, I was able to estimate models for which the parameters did not differ by gender for the main analyses. Individuals in non-heterosexual couples were arbitrarily assigned as Partner 1 and Partner 2. Men and women in heterosexual couples were assigned Partner 1 and Partner 2, respectively, and all results were pooled within and between dyads.

The dependent variable of relationship aggression was specified as a latent variable and was indicated by scores from the three measures of abuse or aggression perpetration: the CTS-2,

the PAVS, and the CDAQ. The variance of each latent factor was fixed at one so that each indicator's factor loading could be freely estimated. See Figures 6-11 for standardized factor loadings of the latent variable indicators in each tested model.

Regarding model fit for indistinguishable APIMeM using SEM, misfit (as indicated by examining the chi-square statistics) comes from two sources: arbitrary assignment of individuals in dyads to be either Partner 1 or Partner 2, and from the use of a latent factor (the DV in the current study) as a variable. Conventional fit statistics are not appropriate for APIMeM using indistinguishable data; therefore, the fit was not assessed for these models.

Results

Descriptive Statistics. Bivariate correlations and other descriptive data for all study variables are presented in Table 16. Attachment anxiety was correlated with all other study variables. In general, the sample reported mild levels of IPV (psychological, physical, and sexual violence collectively), psychological abuse, and cyber abuse. Regarding the mediating variables, the sample endorsed using more emotional suppression as compared to cognitive reappraisal. The sample also endorsed comparatively more interpersonal dysfunction related to non-assertiveness and overly-warm/nurturant behavior as compared to domineering problems and cold behavior.

Aim 2: Emotion Regulation

APIMeM Results for a Model using Anxious Attachment and Emotion Regulation (i.e., CR and ES) to predict Relationship Aggression. Unstandardized coefficients for all direct and indirect effects in this model are presented in Table 17. A path diagram with standardized coefficients for the hypothesized effects only is presented in Figure 6. In the tables, all effects are labeled 'actor' and 'partner' despite the data being indistinguishable; 'actor' and

'partner' here referred to the pooled effects for all individuals for the actor effects (e.g., the effect of my anxiety on my reappraisal) and pooled effects for all individuals for the partner effects (e.g., the effect of my anxiety on my partner's reappraisal). As shown in the Table, the actor's attachment anxiety was positively associated with their relationship aggression, but the partner's anxiety did not predict the person's relationship aggression. Actor attachment anxiety was negatively associated with CR and positively associated with ES. In other words, an individual's attachment anxiety predicted decreased use of CR as an emotion regulation strategy and increased use of ES as an emotion regulation strategy. Partner attachment anxiety was positively associated with an individual's increased use of CR as an emotion regulation strategy. Attachment anxiety was positively associated with relational aggression. Actor ES was negatively associated with relationship aggression, suggesting that an individual's use of this strategy predicted less aggression. Neither CR nor ES significantly mediated the influence of attachment anxiety on relational aggression.

APIMeM Results for a Model using Avoidant Attachment and Emotion Regulation (i.e., CR and ES) to predict Relationship Aggression. Unstandardized coefficients for all direct and indirect effects in this model are presented in Table 18. A path diagram with standardized coefficients for the hypothesized effects only is presented in Figure 7. Actor attachment avoidance was positively associated with relationship aggression, indicating that an individual's attachment avoidance predicted increased relationship aggression. Actor attachment avoidance was also positively associated with ES but was not significantly related to CR. ES was negatively associated with relational aggression and negatively mediated the effect of attachment avoidance on relationship aggression; in other words, the use of this regulation strategy weakens

the relationship between avoidance and aggression. No partner effects were significant in this model.

Aim 3: Interpersonal Problems

APIMeM Results for a Model using Anxious Attachment and Interpersonal Problems in Agency (i.e., Domineering and Submissive Problems) to predict Relationship Aggression. Unstandardized coefficients for all direct and indirect effects in this model are presented in Table 19. A path diagram with standardized coefficients for the hypothesized effects only is presented in Figure 8. Only relationships between attachment anxiety, domineering problems, and relationship aggression were hypothesized. Actor attachment anxiety was positively associated with domineering problems. Like the emotion regulation models, actor attachment anxiety was positively associated with relational aggression. Actor domineering problems also predicted increased relationship aggression. Actor domineering problems positively mediated the relationship between attachment anxiety and relationship aggression; in other words, an individual's interpersonal dominance strengthened the association between their anxiety and their aggressive behavior. Although not hypothesized, the individual's anxiety was positively associated with their submissiveness, and the partner's submissiveness was associated with the individual's relationship aggression. The significant indirect effect of partner anxiety on the individual's relationship aggression via the partner's submissiveness also indicated modest evidence that having a more anxious partner may predict lower relationship aggression.

APIMeM Results for a Model using Avoidant Attachment and Interpersonal Problems in Agency (i.e., Domineering and Submissive Problems) to predict Relationship Aggression. Unstandardized coefficients for all direct and indirect effects in this model are presented in Table 20. A path diagram with standardized coefficients for the hypothesized effects

only is presented in Figure 9. Actor attachment avoidance was positively associated with both domineering and submissive interpersonal problems in this model. Actor attachment avoidance did not directly predict relationship aggression in this model. Actor domineering problems were positively associated with relational aggression and mediated the relationship between an individual's avoidance and more use of relational aggression. Alternatively, partner submissive problems predicted relationship aggression, such that a partner's endorsement of problems with interpersonal submissiveness predicted less aggression. Partner submissive problems also fully negatively mediated the relationship between avoidance and aggression; in other words, a partner's submissiveness explained the relationship between an actor's avoidance and less use of aggressive behavior.

APIMeM Results for a Model using Anxious Attachment and Interpersonal Problems in Affiliation (i.e., Overly-warm and Cold Problems) to predict Relationship Aggression. Unstandardized coefficients for all direct and indirect effects in this model are presented in Table 21. A path diagram with standardized coefficients for the hypothesized effects only is presented in Figure 10. Only relationships between attachment anxiety, overly-warm problems, and relationship aggression were hypothesized. Actor attachment anxiety was positively associated with overly-warm interpersonal problems. Actor attachment anxiety was also positively associated with relational aggression. Partner overly-warm problems were negatively associated with relationship aggression, such that individuals who report more warm and intrusive interpersonal problems also report less aggressive behavior in their relationships. Partner overly-warm behavior negatively mediated the relationship between the partner's anxiety and the individual's relationship aggression; in other words, the partner's warmth was associated

with less aggression by the individual and was associated with a reduction in the influence of the partner's anxiety on the individual's relationship aggression.

Although not hypothesized, the individual's anxiety was positively associated with their problems with coldness. The individual's coldness was also positively associated with their relationship aggression, and positively mediated the effect of the individual's anxiety on their relationship aggression.

APIMeM Results for a Model using Avoidant Attachment and Interpersonal Problems in Affiliation to predict Relationship Aggression. Unstandardized coefficients for all direct and indirect effects in this model are presented in Table 22. A path diagram with standardized coefficients for the hypothesized effects only is presented in Figure 11. Only relationships between attachment avoidance, cold problems, and relationship aggression were hypothesized. Actor (but not partner) attachment avoidance was positively associated with cold interpersonal problems. Avoidance was not directly associated with relational aggression. Actor cold interpersonal problems were positively associated with relational aggression and fully positively mediated the relationship between attachment avoidance and aggression. In other words, an individual's difficulty with coldness in relationships explained the association between their avoidance and their increased use of aggression.

Discussion

The purpose of this investigation was to clarify the associations between the two dimensions of attachment insecurity (i.e., anxiety, avoidance) with theoretically correspondent interpersonal (i.e., agency and affiliation) and regulatory strategies (i.e., reappraisal and suppression) that may serve to explain, weaken, or strengthen the relationships between attachment functioning and aggression in romantic partnerships. Decomposing emotion

regulation and interpersonal functioning into different processes were expected to help elucidate the specific processes through which relationship aggression manifests in emerging adulthood dyads. Given the evidence of variation in typologies and severity of violence in relationships, ranging from severe terroristic IPV to less severe couple conflict (Ali, Dhingra, & McGarry, 2016), the use of a latent factor for relationship aggression (as indicated by IPV perpetration, psychological abuse, and cyber abuse) was meant to allow for a more global descriptor of couple violence. I proposed multiple mediation APIM models to test these associations, as these models allowed me to parse apart specific indirect effects to compare the relative impacts of different aspects of each mediator. For example, the models testing mediating influences of emotion regulation contained two aspects, cognitive reappraisal (CR) and expressive suppression (ES). The models testing the mediating influences of two dimensions of interpersonal functioning (i.e., agency and affiliation) contained either domineering or submissive problems or overly warm and cold problems.

Aim 1 Primary Findings*:* *The individual's attachment anxiety was consistently associated with their relationship aggression, but the individual's attachment avoidance was not.*

As expected, attachment anxiety was positively related to relational aggression. (See Study 1 for a similar interpretation of this effect). Contrary to my hypothesis, attachment avoidance was generally not associated with relational aggression. Actor avoidance was only positively associated with aggression in one model. Lack of a clear and direct relationship between avoidance and relationship aggression is consistent with current literature which finds that avoidance is not consistently associated with intimate partner violence (Velotti et al., 2020). Avoidance is characterized by both devaluation of close relationships and a need to control

access to the romantic partner. Inconsistent or weak findings related to avoidance may be explained by differences in the presentation of these features.

Aim 2 Primary Findings: *Expressive Suppression was associated with reduced relationship aggression and negatively mediated the influence of avoidance on relational aggression.*

Anxiety, Cognitive Reappraisal, and Expressive Suppression. I had initially proposed that an individual's (actor's) anxiety would predict lowered use of both CR and ES as regulatory strategies that might reduce an individual's use of aggression in the romantic relationship. As a result, both CR and ES were predicted to weaken the association between anxiety and aggression. Neither CR nor ES operated as mediators, although there was evidence of a direct negative association between ES and relational aggression. Cognitive reappraisal involves re-assessing an emotion-eliciting event to reduce one's emotional response. In contrast, expressive suppression involves inhibiting physical responses or emotional expression (e.g., managing facial expression or vocal tone) in response to the eliciting event (Ehring et al., 2010). These strategies are purported to operate at different stages in an emotional appraisal sequence, in which a stimulus is perceived and evaluated. This process then leads to multi-component behavioral and physiological responses (Goldin et al., 2008).

In the current study, actor attachment anxiety was negatively associated with CR while partner anxiety was positively associated with CR. As such, more anxious individuals have more difficulty using reinterpretation and evaluation as a means of reducing their emotional responses in stressful situations. However, having a highly anxious partner may allow for more perspective-taking, which thereby increases the use of this emotion regulation strategy. The positive association between actor anxiety and their ES fits with prior findings suggesting that anxious individuals tend to be more outwardly distressed and perceive more negativity in their

relationships (Campbell et al., 2005). The differential associations between anxiety, CR, and ES are also consistent with a review that suggested that anxiety is broadly characterized by an overreliance on ES and ineffective use of CR, which inhibits its benefit as an adaptive regulation strategy (Dryman & Heimberg, 2018). Regarding an age-related explanation, there is some data to suggest that cognitive control components of reappraisal increase linearly with age, and that these components come online during emerging adulthood (McRae et al., 2008). Neither CR nor ES operated as mediators, although there was evidence of a direct negative association between ES and relational aggression. Monitoring of physical responses in eliciting events (e.g., romantic conflict) may help to manage physical aggression toward the partner as an in-the-moment reaction (Horne et al., 2020).

Avoidance, Cognitive Reappraisal, and Expressive Suppression. I proposed that attachment avoidance would differentially predict the use of CR and ES as emotion regulation strategies; specifically, that avoidance would be associated with decreased use of CR and increased use of ES, as, there may be differences in the use of "approach" versus "avoid" regulation strategies that are associated with attachment avoidance (Elliot & Reis, 2003). As such, I predicted that CR would negatively mediate the association between avoidance and aggression, and ES would positively mediate the association between avoidance and aggression. This hypothesis was partially supported by the ES findings and fits with prior data. One previous study of couples found that avoidant individuals reported greater use of ES, especially when they held more negative perceptions of their partners. This study also found a partner effect for avoidance and use of ES (Winterheld, 2017). Contrary to my hypothesis, ES negatively mediated the association between avoidance and aggression; in other words, the use of this strategy may offer a protective benefit for reducing conflict in couple relationships. Prior research generally

suggests that high use of ES is associated with negative individual and relational outcomes (Aldao et al., 2010; Webb et al., 2012). Alternatively, ES may involve withholding negative emotions from the partner, which in turn leads to reduced escalation in partner conflicts (Winterheld, 2017).

Aim 3 Primary Findings*: Domineering and Cold Interpersonal Problems generally influence the relationships between attachment insecurity and relational aggression.*

Anxiety, Domineering, and Submissive Interpersonal Problems. I proposed that actor anxious attachment would be associated with an individual's domineering, but not submissive interpersonal behavior. I had also proposed that partner domineering problems would influence relationship aggression, as partners in a relationship may struggle to negotiate the dominant role in the dyad. In the current study, domineering interpersonal problems mediated the influence of actor attachment anxiety and relationship aggression, suggesting support for prior theories suggesting that dominance functions as a maladaptive method of protecting against attachment threat, thereby increasing aggression toward the partner. There is some evidence that submissive styles in relationships are more associated with aggression/violence victimization rather than perpetration (Chen & Mallinckrodt, 2002). Further, interpersonal control or dominance in relationships is often considered a response to attachment threat (Mikulincer & Shaver, 2012). While not hypothesized, there was some support for the mediating influence of the partner's submissive problems; partner submissiveness was associated with a reduction in the influence of the partner's anxiety on the individual's aggression. There is some evidence that complementarity in interpersonal presentations between partners (i.e., a more dominant partner paired with a more submissive partner) reduces conflict in relationship negotiations (Wiltermuth

et al., 2015). Perhaps the individual's need to control or manage the relationship is balanced by the partner's submissive presentation such that relational aggression is reduced.

Avoidance, Domineering, and Submissive Interpersonal Problems. I predicted that attachment avoidance would predict increased domineering behavior and increased aggression, as dominance could be a strategy for maintaining distance within the relationship. In the current sample, the individual's domineering problems fully explained the association between an individual's avoidance and aggression. This is in line with prior data; specifically, attachment avoidance and vindictive, domineering interpersonal styles were implicated in a study of IPV in young couples (Lawson & Malnar, 2011). This pattern suggests that avoidant individuals' domineering behavior indicates a desire to maintain control and distance in the relationship.

Alternatively, an individual's avoidance may be associated more with submissiveness and would not be associated with an individual's relationship aggression, as avoidant individuals may have less need to control the relationship. Instead, I proposed that partner submissiveness would potentially influence the individual's aggression. I found a different result; instead, the individual's submissiveness, as influenced by their distant and avoidant attachment style, was related to less partner aggression. This fits with our current understanding of responsiveness of interpersonal style; it is suggested that more submissive individuals tend to "pull" for de-escalation and submissiveness from their partners (Cundiff et al., 2015). In this case, disengagement is generally protective from relationship aggression.

Anxiety, Overly-Warm, and Cold Interpersonal Problems. For this model, I proposed explanatory paths between the individual's anxiety and their overly-warm behavior and both their own and their partner's aggression. As in, the influence of an individual's anxiety on their relationship aggression could be explained through the influence of their own warm/intrusive

behavior (which may be experienced as a form of psychological aggression) or as a response to their partner's warm/intrusive behavior. The individual's overly-warm problems negatively mediated the influence of their anxiety on their partner's relationship aggression. While the IIP subscale for this mediator captures *problems* when overly agreeable and intrusive, it appears that this presentation does not necessarily escalate the partner's behavior. Instead, while this presentation is implied to be problematic at the individual level, at the level of the dyad, overly-warm behavior would likely "pull" for similarly agreeable behavior from the partner, thereby reducing conflict and aggression (Burleson et al., 1994).

While not hypothesized in the current study, it is notable that the individual's interpersonal problems in coldness positively mediated the influence of their anxiety on their aggressive behavior. Previous studies have identified associations between interpersonal problems in coldness, avoidant attachment, and violent behavior in relationships but not with anxious attachment (Lawson & Malnar, 2011). This is understood as a pattern of distancing from the partner and devaluing the relationship. It is possible that, for individuals who are higher in anxiety, problems with a cold interpersonal style explain some of the association between a need to manage access to the romantic partner and violent behavior.

Avoidance, Overly-Warm, and Cold Interpersonal Problems. For this model, I proposed explanatory paths between an individual and their partner's avoidance and their cold behavior to predict their relationship aggression. More specifically, an individual's need for distance in the relationship would predict their coldness and this would explain their aggressive behavior, and alternatively, interpersonal coldness could be responsive to the partner's avoidance and this would explain their aggressive behavior. However, only the actor effects were supported in the current study, and cold interpersonal problems fully mediated the relationship between

avoidance and aggression. Avoidant attachment is characterized by discomfort in close relationships and high self-reliance, which, as a result, presents as a hostile orientation to others (Fraley & Davis, 1997). This finding is consistent with Lawson and Marks (2019) who found that avoidance of closeness and intimacy were related to IPV through interpersonal problems, more rigid interaction patterns, and emotional disengagement. Thus, interpersonal coldness may operate as a disengagement strategy for avoidant individuals, although as evidenced by current findings, this may lead to more and not less aggression within romantic partnerships.

Limitations

While the findings of the current study clarify some associations between attachment, regulatory/interpersonal functioning, and aggression, two limitations should be considered. First, all measures in the current study are self-report, which are likely limited by social desirability and differences in self-perception, particularly of one's own aggressive or violent behavior. One potential solution is to compare reports of perpetration and victimization between partners to evaluate discrepancies in reports. Second, I was unable to assess model fit using the SEM framework, due to the inapplicability of conventional fit statistics for indistinguishable APIM models with a latent factor. This should be resolved in future studies by using a corrected fit statistic that accounts for indistinguishability. Finally, due to restrictions on in-person research activities during the COVID-19 pandemic, I was unable to conduct in-person interviews and collect video-recorded or observed couple interactions; these additions in the future could offer increased insight into moment-to-moment experiences during couple conflict and aggression and reduce the need for self-reported measures.

Clinical Implications

The findings altogether emphasize emotion regulation strategies and interpersonal skills training as important components of treatments for relationship conflict and, by extension, IPV. While these components have been examined as mechanisms of change for multiple extant individual and couples' interventions, this study provides empirical support for deficits in emotion regulation and interpersonal style as contributing factors for relational aggression. Capitalizing on ES as a strategy, withholding negative emotions, or reducing physical responses in conflict could be useful as skill-based training in interventions for relationship aggression or IPV. Using the I3 model of IPV instigation (Finkel & Eckhardt, 2013), one group found evidence for emotion regulation skills training as an intervention to reduce partner aggression (Maldonado et al., 2015). Regarding interpersonal functioning, multiple psychological interventions, particularly those from psychodynamic and interpersonal orientations, are aimed at reevaluating current attachment relationships and experiences of attachment threat while increasing interpersonal skills (Reiter, & Chenail, 2017). Dialectical behavior therapy for couples has been indicated as an intervention for couples experiencing interpersonal aggression and general relationship dysfunction (Kirby & Baucom, 2007). Finally, Emotion-Focused Therapy for couples (EFT; Greenburg & Johnson, 1988), which is focused on addressing unmet attachment needs and repairing attachment injuries, in the romantic relationship, has been demonstrated to reduce aggression and improve relationship functioning for violent couples (Schneider & Brimhall, 2014; Slootmaeckers & Migerode, 2020). This study seems to support the use of attachment-based perspectives in treatment for relationship aggression and general dysfunction for individuals and couples.

Overall Dissertation Conclusion

The purpose of the current dissertation was to support a theoretical model of attachment dysfunction and IPV/aggression as understood through self-regulatory and interpersonal factors that are relevant to the emerging adulthood period and relationship functioning. One foundational assumption of the current dissertation is that attachment between romantic partners in adulthood relationships functions similarly to parent-child attachment, which serves to promote survival, the development of emotion regulation capacity, and the internal working models of others (Shaver & Hazan, 1987). Violence, aggression, and conflict, all behaviors that are destructive to adulthood relationships, are thought to result from distorted working models of self and others when an individual is under attachment threat (Sierau & Herzberg, 2012). These distortions are likely to be related to relationship distress in adulthood relationships across the lifespan; however, the relative newness and complexity of interpersonal romantic relationships in emerging adulthood may provide a developmental context for these distortions predicting more extreme, and by extension, violent reactions to attachment threats.

As demonstrated in the current dissertation, attachment insecurity in the form of anxious and avoidant dimensions predicts reactivity within the relationship in the form of IPV perpetration and aggression. This finding is generally consistent with previous literature (Sommer et al., 2017) and may be explained by developmental theories of attachment. In early childhood, unmet attachment needs are thought to result in a psycho-physiological state of dysregulation/arousal for long periods, resulting in what Bowlby considers “anger born of fear” in infants (Bowlby, 1982). IPV perpetration has also been consistently linked to angry temperament (Dannisworo et al., 2019), and personality dysfunction (Crawford et al., 2006), suggesting that relationship violence in adulthood may correspond to the angry infant reactions

that Bowlby and others proposed were responsive to attachment dysfunction (Dutton & White, 2012).

I supported the above conclusions through two studies that examined attachment from multiple perspectives. In the first study, I examined contextual experiences (i.e., day-to-day stress, jealousy, and commitment) as explanatory factors through which attachment anxiety and avoidance might influence IPV perpetration. The use of repeated measures in this study demonstrated the importance of contextual experience ("How I feel on a given day") as an indicator of risk for IPV within a relationship. Further, despite small effect sizes, I was able to demonstrate the robustness of attachment as an influence on IPV with good precision, given that these results are at the daily level. Finally, the ability to detect actor and partner effects also at the daily level lends credibility to the assertion that IPV is interactive as well as individually produced.

In the second study, I examined emotion regulation skills and interpersonal problems as explanatory factors through which attachment anxiety and avoidance might be related to aggressive behavior in relationships more generally. The use of multiple mediations in this study allowed for more precision in identifying the specific pathways through which attachment manifests behavior. For example, this study demonstrated that interpersonal coldness, as opposed to warm intrusiveness, explained the relationship between anxiety and aggression and that higher submissiveness was protective for the partner's relational aggressive behavior. Finally, the use of a broader outcome measure for relationship aggression allowed me to capture effects that predicted a wider range of problematic relationship behavior that may be more common in this age group.

Together, these two studies confirm some prior assumptions and also invite new questions about the relationships between attachment and avoidance. For instance, the relationship between anxiety and IPV is relatively consistent across the two studies and suggests that individuals are more likely to respond to their partners with aggression when under threat. However, this finding was not consistent for avoidance, which was either not related to IPV in some cases, or in others, was positively or negatively mediated by specific processes. I suggest that, altogether, our current understanding of attachment does not fully capture the overlapping and distinct presentations of attachment dysfunction; mixed findings, particularly related to avoidance, are indications that our definitions for attachment should be continuously revised through new research.

The current dissertation demonstrates the foundational importance of attachment, and attachment dysfunction by extension, as forces that shape adult relationship behavior. Relationship violence is borne of an interplay between individual, interdependent, and contextual factors; despite the complexity of this problem, attachment theory is evidenced to be demonstrably important for our understanding of how to intervene in this process. These findings stress the importance of attachment-based psychological interventions for reducing aggression, conflict, and violence in young adults and potentially all adulthood relationships. Emotion regulation, interpersonal skills training, stress management, and psychoeducation regarding attachment are all worthwhile avenues for reducing rates of violence in this age group and promoting healthy relationships at a pivotal developmental period. In sum, attending to the emotional, interpersonal, and regulatory needs of emerging adults may prepare them for more secure, dependable, and safe relationships in the future.

APPENDICES

Appendix A: Tables

Table 1

Descriptive Statistics for Study Variables

	Male			Female				
	M	*SD*	Range	*M*	*SD*	Range	t-test (df)	*p*
Attachment Anxiety	2.59	1.32	4.94	2.77	1.27	5.28	-1.08 (96)	.28
Attachment Avoidance	2.35	1.06	4.00	2.01	.91	3.83	2.78 (96)	<.01
IPV Perpetration	.05	.08	3.00	.08	.13	4.00	-2.04 (103)	< .05
Daily Stress	2.92	1.09	6.00	3.29	1.04	6.00	-3.03 (103)	< .01
Daily Jealousy	1.71	1.02	6.00	1.94	1.14	6.00	-1.52 (103)	.13
Daily Commitment	4.23	.60	6.00	4.24	.60	6.00	-.04 (103)	.97

Table 2

Correlations Between Men and Women on Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Male Anxiety											
2. Male Avoidance	.49**										
3. Male IPV Perpetration	.40**	.17									
4. Male Daily Stress	.36**	.30**	.26**								
5. Male Daily Jealousy	.38**	.21*	.31**	.45**							
6. Male Daily Commit	-.13	-.21*	-.02	-.06	-.05						
7. Female Anxiety	.18	.26*	.25*	.32**	.14	-.16					
8. Female Avoidance	.28**	.27**	.22*	.05	.00	-.26*	.51**				
9. Female IPV Perpetration	.11	.09	.31**	.04	.03	.23*	.16	.16			
10. Female Daily Stress	.00	-.05	.06	.31**	.07	-.02	.22	.15	.19		
11. Female Daily Jealousy	.04	.05	-.02	.19	.05	.05	.39**	.17	.07	.36**	
12. Female Daily Commit	-.07	.08	-.01	-.17	.02	.27**	-.05	-.17	-.18	-.06	-.07

Note: * $p < .05$, ** $p < .01$. Correlation table uses aggregated mean values; daily variables are averaged across the 28 days of daily data collection.

Table 3

Direct Effects for Distinguishable Mediation Model of Attachment Anxiety and Attachment Avoidance Predicting Daily IPV

	b	*SE*	*t*	*p*
Attachment Anxiety				
Actor Effect	.019	.004	5.04	< .001
Partner Effect	.008	.004	2.03	< .05
Attachment Avoidance				
Actor Effect - Woman	.013	.006	1.99	.13
Actor Effect - Man	-.009	.005	-1.50	.11
Partner Effect	.004	.005	.73	.47

Table 4

Models of Daily Stress, Daily Jealousy, and Daily Commitment Predicting IPV

	b	*SE*	*t*	*p*
Daily Stress on IPV Perpetration				
Actor Effect - Woman	.030	.004	7.90	< .001
Actor Effect - Man	.014	.003	4.59	< .001
Partner Effect	.001	.004	.28	.40
Daily Jealousy on IPV Perpetration				
Actor Effect	.020	.003	7.05	< .001
Partner Effect	.004	.003	1.22	.22
Daily Commitment on IPV Perpetration				
Actor Effect	-.021	.004	-4.89	< .001
Partner Effect	-.010	.004	-2.48	< .01

Table 5

Indirect Effects for Distinguishable Mediation Model of Attachment Predicting Daily IPV Perpetration via Daily Stress

	b	*SE*	*t*	*p*
Attachment Anxiety on Daily Stress (c')				
Actor Effect	.240	.024	10.21	< .001
Partner Effect - Woman	.012	.034	.35	.73
Partner Effect - Man	.282	.032	8.68	< .001
Indirect Effects (a*b)			Sobel test	*p*
Actor Effect - Woman	.007		6.25	< .001
Actor Effect - Man	.003		4.19	< .001
Actor Effect through Partner Daily Stress	.004		5.22	< .001
Man's Anx. through Woman's Daily Stress on Woman's IPV	.008		5.84	< .001
Woman's Anx Man's Daily Stress on Man's IPV	.001		.35	.73
Man's Anx. through Man's Daily Stress on Woman's IPV	.004		4.98	< .001
Woman's Anx. through Women's Daily Stress on Man's IPV	.001		.35	.73

Note. Actor/Partner Effect refers to the indistinguishable (i.e., not different between men or women) effects. Actor/Partner Effect – Woman/Man refers to the distinguishable effects.

Table 6

Indirect Effects for Distinguishable Mediation Model of Attachment Avoidance Predicting Daily IPV Perpetration via Daily Stress

	b	*SE*	*t*	*p*
Attachment Avoidance on Daily Stress (c')				
Actor Effect	.104	.032	3.30	< .01
Partner Effect - Woman	-.077	.044	-1.75	.08
Partner Effect - Man	-.319	.046	-6.98	< .001
Indirect Effects (a*b)			Sobel test	*p*
Actor Effect - Woman	.003		3.04	< .01
Actor Effect - Man	.001		2.68	< .01
Actor Effect through Partner Daily Stress	.002		2.90	< .01
Man's Avoid. through Woman's Daily Stress on Woman's IPV	-.001		-5.23	< .001
Woman's Avoid. through Man's Daily Stress on Man's IPV	-.001		-1.58	.11
Man's Avoid through Man's Daily Stress on Woman's IPV	-.005		-4.58	< .001
Woman's Avoid. through Women's Daily Stress on Man's IPV	-.001		-1.61	.11

Note. Actor/Partner Effect refers to the indistinguishable (i.e., not different between men or women) effects. Actor/Partner Effect – Woman/Man refers to the distinguishable effects.

Table 7

Indirect Effects for Distinguishable Mediation Model of Attachment Anxiety Predicting Daily IPV Perpetration via Daily Jealousy

	b	*SE*	*t*	*p*
Attachment Anxiety on Daily Jealousy (c')				
Actor Effect	.397	.020	20.09	< .001
Partner Effect - Woman	-.032	.030	-1.06	.29
Partner Effect - Man	.073	.026	2.84	<.01
Indirect Effects (a*b)			Sobel test	*p*
Actor Effect	.008		5.22	.001
Actor Effect through Partner Daily Jealousy	.001		1.22	.22
Man's Anx. through Woman's Daily Jealousy on Woman's IPV	.001		2.41	< .05
Woman's Anx. through Man's Daily Jealousy on Man's IPV	-.001		-1.04	.30
Man's Anx. through Man's Daily Jealousy on Woman's IPV	.001		1.12	.26
Woman's Anx. through Women's Daily Jealousy on Woman's IPV	-.001		-.80	.42

Note. Actor/Partner Effect refers to the indistinguishable (i.e., not different between men or women) effects. Actor/Partner Effect – Woman/Man refers to the distinguishable effects.

Table 8

Indirect Effects for Distinguishable Mediation Model of Attachment Avoidance Predicting Daily IPV Perpetration via Daily Jealousy

	b	*SE*	*t*	*p*
Attachment Avoidance on Daily Jealousy (c')				
Actor Effect	-.059	.027	2.19	< .05
Partner Effect - Woman	.054	.038	1.41	.16
Partner Effect - Man	-.260	.036	-7.24	< .001
Indirect Effects (a*b)			Sobel test	*p*
Actor Effect	-.001		2.03	< .05
Actor Effect through Partner Daily Jealousy	.000		-1.07	.29
Man's Avoid. through Woman's Daily Jealousy on Woman's IPV	-.010		-3.88	< .001
Woman's Avoid. through Man's Daily Jealousy on Man's IPV	.001		1.37	.17
Man's Avoid. through Man's Daily Jealousy on Woman's IPV	.001		-1.21	.23
Woman's Avoid. through Women's Daily Jealousy on Man's IPV	.002		.93	.35

Note. Actor/Partner Effect refers to the indistinguishable (i.e., not different between men or women) effects. Actor/Partner Effect – Woman/Man refers to the distinguishable effects.

Table 9

Parameter Estimates from an Actor-Partner Interdependence Model using Gender, Daily Stress, and Attachment Anxiety to Predict IPV Perpetration

Predictor	*B*	*SE*	*β*	*t*	*p*
Intercept	0.068	0.005	-0.001	13.03	< .001
Gender	-0.013	0.004	-0.043	-2.94	< .01
Actor Daily Stress	0.023	0.002	0.144	9.36	< .001
Partner Daily Stress	0.016	0.003	0.098	6.22	< .001
Gender x A. Daily Stress	-0.010	0.003	-0.046	-2.89	< .01
Gender x P. Daily Stress	-0.002	0.003	-0.013	-0.78	0.44
A. Anxiety x A. Daily Stress	**0.005**	**0.002**	**0.039**	**2.18**	**< .05**
A. Anxiety x P. Daily Stress	**0.006**	**0.002**	**0.049**	**2.67**	**< .01**
P. Anxiety x A. Daily Stress	**0.005**	**0.002**	**0.040**	**2.22**	**< .05**
P. Anxiety x P. Daily Stress	0.001	0.002	0.010	0.58	0.57
Gender x A. Anxiety x A. Daily Stress	0.001	0.002	0.009	0.53	0.60
Gender x A. Anxiety x P. Daily Stress	0.001	0.002	0.012	0.62	0.53
Gender x P. Anxiety x A. Daily Stress	-0.003	0.002	-0.023	-1.25	0.21
Gender x P. Anxiety x P. Daily Stress	0.001	0.002	0.005	0.30	0.76

Note. b = unstandardized regression coefficient, SE = standard error of unstandardized regression coefficient, *β* = standardized regression coefficient. Significant effects that were probed further for simple slopes analyses are **bolded**

Table 10

Parameter Estimates from an Actor-Partner Interdependence Model using Gender, Daily Stress, and Attachment Avoidance to Predict IPV Perpetration

Predictor	*B*	*SE*	*β*	*t*	*p*
Intercept	0.068	0.005	- 0.001	13.03	< .001
Gender	-0.013	0.004	- 0.043	-2.94	< .01
Actor Daily Stress	0.023	0.002	0.144	9.36	< .001
Partner Daily Stress	0.016	0.003	0.098	6.22	< .001
Gender x A. Daily Stress	-0.010	0.003	- 0.046	-2.89	< .01
A. Gender x P. Daily Stress	-0.002	0.003	- 0.013	-0.78	0.44
A. Avoidance x A. Daily Stress	-0.002	0.002	-.012	-.66	0.51
A. Avoidance x P. Daily Stress	**0.008**	**0.003**	**.047**	**2.321**	**< .05**
P. Avoidance x A. Daily Stress	0.004	0.003	0.026	1.37	0.17
P. Avoidance x P. Daily Stress	-0.004	0.003	- 0.023	-1.36	0.18
Gender x A. Avoidance x A. Daily Stress	-0.005	0.003	- 0.033	-1.83	0.07
Gender x A. Avoidance x P. Daily Stress	-0.003	0.003	- 0.018	-0.88	0.38
Gender x P. Avoidance x A. Daily Stress	0.002	0.003	0.015	0.80	0.43
Gender x P. Avoidance x P. Daily Stress	0.002	0.003	0.012	0.66	0.51

Note. b = unstandardized regression coefficient, SE = standard error of unstandardized regression coefficient, *β* = standardized regression coefficient. Significant effects that were probed further for simple slopes analyses are **bolded.**

Table 11

Parameter Estimates from an Actor-Partner Interdependence Model using Gender, Daily Commitment, and Attachment Anxiety to Predict IPV Perpetration

Predictor	*B*	*SE*	*β*	*t*	*p*
Intercept	0.074	0.005	0.020	14.76	< .001
Gender	-0.017	0.004	-0.056	-4.16	< .001
Actor Daily Commitment	-0.021	0.004	-0.077	-4.91	< .001
Partner Daily Commitment	-0.010	0.004	-0.035	-2.26	< .05
Gender x A. Daily Commitment	0.009	0.004	0.018	1.11	0.27
Gender x P. Daily Commitment	-0.002	0.004	-0.009	-0.54	0.59
A. Anxiety x A. Daily Commitment	**-0.010**	**0.004**	**-0.045**	**-2.49**	**< .05**
A. Anxiety x P. Daily Commitment	**-0.009**	**0.004**	**-0.043**	**-2.34**	**< .05**
P. Anxiety x A. Daily Commitment	-0.001	0.004	-0.005	-0.30	0.76
P. Anxiety x P. Daily Commitment	-0.022	0.004	-0.101	-5.96	< .001
Gender x A. Anxiety x A. Daily Commitment	0.007	0.004	0.034	1.85	0.06
Gender x A. Anxiety x P. Daily Commitment	0.004	0.004	0.019	1.02	0.31
Gender x P. Anxiety x A. Daily Commitment	**-0.015**	**0.004**	**-0.067**	**-3.80**	**< .001**
Gender x P. Anxiety x P. Daily Commitment	**0.014**	**0.004**	**0.065**	**3.75**	**< .001**

Note. b = unstandardized regression coefficient, SE = standard error of unstandardized regression coefficient, *β* = standardized regression coefficient. Significant effects that were probed further for simple slopes analyses are **bolded.**

Table 12

Parameter Estimates from an Actor-Partner Interdependence Model using Daily Commitment and Attachment Anxiety to Predict IPV Perpetration for both Men and Women

Predictor	*B*	*SE*	*β*	*t*	*p*
Male	0.058	0.006	-0.037	10.37	< .001
Female	0.091	0.007	0.076	12.59	< .001
Male x A. Anxiety	0.029	0.005	0.124	6.02	< .001
Female x A. Anxiety	0.011	0.006	0.049	1.76	0.08
Male x P. Anxiety	0.008	0.005	0.034	1.61	0.11
Female x P. Anxiety	0.002	0.006	0.009	0.32	0.75
Male x A. Daily Commitment	-0.016	0.005	-0.059	-3.03	< .05
Female x A. Daily Commitment	-0.026	0.007	-0.095	-3.70	< .001
Male x P. Daily Commitment	-0.012	0.005	-0.044	-2.22	< .05
Female x P. Daily Commitment	-0.007	0.007	-0.026	-1.05	0.29
Male x A. Anxiety A. Daily Commitment	-0.002	0.004	-0.011	-0.57	0.57
Female x A. Anxiety x A. Daily Commitment	-0.017	0.007	-0.079	-2.54	< .05
Male x P. Anxiety A. Daily Commitment	***-0.016***	***0.005***	***-0.073***	***-3.07***	***< .01***
Female x P. Anxiety x A. Daily Commitment	***0.013***	***0.006***	***0.062***	***2.38***	***< .05***
Male x A. Anxiety x P. Daily Commitment	*-0.005*	*0.004*	*-0.024*	*-1.18*	*0.24*
Female x A. Anxiety x P. Daily Commitment	***-0.013***	***0.007***	***-0.061***	***-2.00***	***< .05***
Male x P. Anxiety x P. Daily Commitment	*-0.008*	*0.005*	*-0.036*	*-1.53*	*0.13*
Female x P. Anxiety x P. Daily Commitment	***-0.036***	***0.005***	***-0.166***	***-6.69***	***< .001***

Note. b = unstandardized regression coefficient, SE = standard error of unstandardized regression coefficient, *β* = standardized regression coefficient. Relevant three-way interactions with gender are *italicized*. Significant effects that were probed further for simple slopes analyses are **bolded.**

Table 13

Parameter Estimates from an Actor-Partner Interdependence Model using Gender, Daily Commitment, and Attachment Avoidance to Predict IPV Perpetration

Predictor	*B*	*SE*	*β*	*t*	*p*
Intercept	0.074	0.005	0.020	14.76	< .001
Gender	-0.017	0.004	-0.056	-4.16	< .001
Actor Daily Commitment	-0.021	0.004	-0.077	-4.91	< .001
Partner Daily Commitment	-0.010	0.004	-0.035	-2.26	< .05
Gender x A. Daily Commitment	0.009	0.004	0.018	1.11	0.27
Gender x P. Daily Commitment	-0.002	0.004	-0.008	-0.54	0.59
A. Avoidance x A. Daily Commitment	0.004	0.005	0.014	0.73	0.47
A. Avoidance x P. Daily Commitment	**0.012**	**0.005**	**0.042**	**2.21**	**< .05**
P. Avoidance x A. Daily Commitment	-0.001	0.004	-0.026	-0.30	0.76
P. Avoidance x P. Daily Commitment	**0.029**	**0.004**	**0.107**	**5.96**	**< .001**
Gender x A. Avoidance x A. Daily Commitment	0.004	0.005	0.013	0.71	0.48
Gender x A. Avoidance x P. Daily Commitment	-0.004	0.005	-0.014	-0.73	0.47
Gender x P. Avoidance x A. Daily Commitment	0.007	0.005	0.026	1.44	0.15
Gender x P. Avoidance x P. Daily Commitment	**-0.023**	**0.005**	**-0.084**	**-4.61**	**< .001**

Note. b = unstandardized regression coefficient, SE = standard error of unstandardized regression coefficient, *β* = standardized regression coefficient. Note. Significant effects that were probed further for simple slopes analyses are **bolded.**

Table 14

Parameter Estimates from an Actor-Partner Interdependence Model using Gender, Daily Commitment, and Attachment Avoidance to Predict IPV Perpetration for Both Men and Women

Predictor	*b*	*SE*	*β*	*t*	*p*
Male	0.058	0.006	-0.037	10.37	< .001
Female	0.091	0.007	0.076	12.59	< .001
Male x A. Avoidance	-0.009	0.006	-0.031	-1.48	0.14
Female x A. Avoidance	0.017	0.009	0.057	0.32	0.75
Male x P. Avoidance	-0.002	0.01	-0.006	-0.27	0.79
Female x P. Avoidance	0.015	0.008	0.050	1.84	0.07
Male x A. Daily Commitment	-0.016	0.005	-0.059	-3.03	< .05
Female x A. Daily Commitment	-0.016	0.007	-0.095	-3.70	< .001
Male x P. Daily Commitment	-0.012	0.005	-0.044	-2.22	< .05
Female x P. Daily Commitment	-0.007	0.007	-0.026	-1.05	0.29
Male x A. Avoidance x A. Daily Commitment	0.007	0.006	0.027	1.26	0.20
Female x A. Avoidance x A. Daily Commitment	0.000	0.009	0.001	0.02	0.99
Male x P. Avoidance x A. Daily Commitment	0.000	0.006	0.000	-0.03	0.99
Female x P. Avoidance x A. Daily Commitment	-0.014	0.007	-0.052	1.97	0.05
Male x A. Avoidance x P. Daily Commitment	0.008	0.006	0.028	1.38	0.17
Female x A. Avoidance x P. Daily Commitment	0.015	0.009	0.056	1.74	0.08
Male x P. Avoidance x P. Daily Commitment	*0.006*	*0.007*	*0.023*	*0.97*	*0.33*
Female x P. Avoidance x P. Daily Commitment	***0.052***	***0.008***	***0.192***	***6.90***	***< .001***

Note. b = unstandardized regression coefficient, SE = standard error of unstandardized regression coefficient, β = standardized regression coefficient. Relevant three-way interactions with gender are *italicized*. Significant effects that were probed further for simple slopes analyses are **bolded.**

Table 15

Sample Characteristics

	N (%)
Gender Identity	
Male (He/Him)	133 (47.5%)
Female (She/Her)	143 (51.1%)
Trans Male (He/Him)	1 (.4%)
Trans Female (She/Her)	1 (.4%)
Prefer not to say	2 (.7%)
Sexual Orientation	
Straight or Heterosexual	228 (81.4%)
Gay or Lesbian	13 (4.6%)
Bisexual or Pansexual	34 (12.1%)
Prefer not to say	5 (1.8%)
Racial/Ethnic Identity	
White	197(70.4%)
Black	10 (3.6%)
Hispanic/Latino	10 (3.6%)
Asian/Asian American/Pacific Islander	35 (12.5%)
Bi/Multi-Racial	22 (7.9%)
Prefer not to disclose	6 (2.1%)
Total *N*	280

Table 16

Descriptive Statistics and Bivariate Correlations for Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. ECR - Anxiety											
2. ECR - Avoidance	.39**										
3. CTS2 - IPV Perp.	.20**	.07									
4. PAVS-Psych. Abuse	.40**	.35**	.33**								
5. CADQ – Cyberabuse	.27**	.09	.44**	.53**							
6. ERQ - CR	-.15*	-.07	-.05	.03	-.07						
7. ERQ - ES	.23**	.48**	-.05	.22**	-.08	.11					
8. IIP – Dom.	.42**	.21**	.34**	.34**	.29**	-.23**	.12*				
9. IIP- Sub.	.28**	.17**	.05	.21**	.06	-.11	.14*	.26**			
10. IIP – Warm.	.35**	.09	.11	.21**	.19**	-.07	.04	.47**	.56**		
11. IIP – Cold.	.35**	.41**	.23**	.29**	.22**	-.15*	.37**	.41**	.32**	.17**	
M	2.94	2.36	4.49	6.34	25.05	27.79	14.51	4.50	6.20	7.17	4.00
SD	1.29	1.07	4.09	5.82	7.70	7.33	5.52	2.71	4.15	4.08	3.23
Minimum	1.	1.	0	0	20	6	4	0	0	0	0
Maximum	6.50	5.50	32	35	98	42	28	16	16	16	16

Note. Experiences in Close Relationships Scale (ECR). Conflict Tactics Scale, ver. 2 (CTS2). Psychological Abuse Victimization Scale (PAVS), modified for perpetration. Cyber Abuse Dating Questionnaire (CADQ). Emotion Regulation Questionnaire (ERQ). Inventory of Interpersonal Problems (IIP).

Table 17

Direct and Indirect Effects of an Actor Partner Multiple Mediation Model Testing the Influence of Anxiety and Emotion Regulation (Cognitive Reappraisal and Expressive Suppression) on Relationship Aggression

Parameters	*Estimate*	*SE*	*p*	*95% CI*
Direct Effects on Relationship Aggression				
Actor Anxiety	**.125**	**.040**	**< .01**	**.063 - .225**
Partner Anxiety	-.011	.020	.59	-.054 - .024
Actor CR	.000	.003	.92	-.006 - .005
Partner CR	.004	.003	.17	-.002 - .009
Actor ES	-.012	**.005**	**< .01**	**-.023 - -.004**
Partner ES	-.005	.005	.56	-.017 - .004
Direct Effects of Attach. Anxiety on the Mediators				
Actor Anxiety on CR	**-.984**	**.252**	**< .001**	**-1.46 - -.047**
Partner Anxiety on CR	**.551**	**.245**	**< .05**	**.070 - 1.03**
Actor Anxiety on ES	**.908**	**.217**	**< .001**	**.488 - 1.322**
Partner Anxiety on ES	.219	.215	.31	-.213 - .632
Indirect Effect of Anxiety on Rel. Agg.				
Actor Anxiety → Actor CR → Rel. Agg	.000	.003	.92	-.006 - .005
Actor Anxiety → Partner CR → Rel. Agg	.002	.002	.23	.000 - .007
Partner Anxiety → Actor CR → Rel. Agg	.000	.002	.92	-.004 - .003
Partner Anxiety → Partner CR → Rel. Agg	-.004	.003	.22	-.063 - .001
Actor Anxiety → Actor ES → Rel. Agg	-.011	.005	.05	-.027 - .003
Actor Anxiety → Partner ES → Rel. Agg	-.001	.002	.60	-.009 - .001
Partner Anxiety → Actor ES → Rel. Agg	-.003	.003	.31	-.010 - .001
Partner Anxiety → Partner ES → Rel. Agg	-.004	.005	.39	-.015 - .003

Note. Significant effects are **bolded**. Cognitive Reappraisal (CR). Emotional Suppression (ES).

Table 18

Direct and Indirect Effects of an Actor Partner Multiple Mediation Model Testing the Influence of Avoidance and Emotion Regulation (Cognitive Reappraisal and Expressive Suppression) on Relationship Aggression

Parameters	*Estimate*	*SE*	*p*	*95% CI*
Direct Effects on Relationship Aggression				
Actor Avoidance	**.097**	**.039**	**< .05**	**.036 - .196**
Partner Avoidance	.069	.048	.15	-.003 - .202
Actor CR	.003	.003	< .42	-.010 - .003
Partner CR	**.007**	**.004**	**< .05**	**.002 - .015**
Actor ES	**-.015**	**.005**	**< .01**	**-.029 - -.007**
Partner ES	-.010	.009	.26	-.033 - .003
Direct Effects of Attach. Avoidance on the Mediators				
Actor Avoidance on CR	-.469	.295	.11	-1.054 - .107
Partner Avoidance on CR	-.026	.260	.92	-.546 - .472
Actor Avoidance on ES	**2.480**	**.192**	**< .001**	**2.103 – 2.854**
Partner Avoidance on ES	.085	.212	.69	-.324 - .472
Indirect Effect of Avoidance on Rel. Agg.				
Actor Avoidance → Actor CR → Rel. Agg	.001	.002	.50	-.001 - .007
Actor Avoidance → Partner CR → Rel. Agg	.000	.002	.92	-.006 - .003
Partner Avoidance → Actor CR → Rel. Agg	.000	.001	.94	-.002 - .003
Partner Avoidance → Partner CR → Rel. Agg	-.003	.003	.69	-.013 - .000
Actor Avoidance → Actor ES → Rel. Agg	**-.038**	**.014**	**< .01**	**-.074 - -.016**
Actor Avoidance → Partner ES → Rel. Agg	-.001	.003	.75	-.011 - .002
Partner Avoidance → Actor ES → Rel. Agg	-.001	.003	.69	-.010 - .004
Partner Avoidance → Partner ES → Rel. Agg	-.024	.021	.25	-.080 - .007

Note. Significant effects are **bolded**. Cognitive Reappraisal (CR). Emotional Suppression (ES).

Table 19

Direct and Indirect Effects of an Actor Partner Multiple Mediation Model Testing the Influence of Anxiety and Interpersonal Problems in Agency (Domineering and Submissive Problems) on Relationship Aggression

Parameters	*Estimate*	*SE*	*p*	*95% CI*
Direct Effects on Relationship Aggression				
Actor Anxiety	**.057**	**.028**	**< .05**	**.012 - .126**
Partner Anxiety	.010	.021	.64	-.028 - .056
Actor Dom.	**.101**	**.029**	**.001**	**.053 - .173**
Partner Dom.	.002	.010	.87	-.017 - .024
Actor Sub.	-.005	.006	.40	-.017 - .007
Partner Sub.	**-.032**	**.011**	**< .01**	**-.060 - -.010**
Direct Effects of Attach. Anxiety on the Mediators				
Actor Anxiety on Dom.	**.862**	**.091**	**< .001**	**.689 – 1.046**
Partner Anxiety on Dom.	-.057	.077	.46	-.214 - .088
Actor Anxiety on Sub.	**.866**	**.128**	**< .001**	**.617 – 1.116**
Partner Anxiety on Sub.	.129	.134	.33	-.125 - .392
Indirect Effect of Anxiety on Rel. Agg.				
Actor Anxiety → Actor Dom.→ Rel. Agg	**.087**	**.030**	**< .01**	**.042 - .172**
Actor Anxiety → Partner Dom.→ Rel. Agg	.000	.001	.92	-.003 - .001
Partner Anxiety → Actor Dom.→ Rel. Agg	-.006	.008	.47	-.027 - .006
Partner Anxiety → Partner Dom.→ Rel. Agg	.001	.009	.87	-.015 - .021
Actor Anxiety → Actor Sub. → Rel. Agg	-.004	.005	.41	-.016 - .006
Actor Anxiety → Partner Sub. → Rel. Agg	-.004	.004	.34	-.016 - .002
Partner Anxiety → Actor Sub. → Rel. Agg	-.001	.001	< .58	-.004 - .001
Partner Anxiety → Partner Sub. → Rel. Agg	**-.028**	**.011**	**< .01**	**-.059 - -.013**

Note. Significant effects are **bolded**. Domineering Problems (Dom.) Submissive Problems (Sub.)

Table 20

Direct and Indirect Effects of an Actor Partner Multiple Mediation Model Testing the Influence of Avoidance and Interpersonal Problems in Agency (Domineering and Submissive Problems) on Relationship Aggression

Parameters	*Estimate*	*SE*	*p*	*95% CI*
Direct Effects on Relationship Aggression				
Actor Avoidance	.013	.029	.64	-.036 - .079
Partner Avoidance	.067	.035	.06	.011 - .152
Actor Dom.	**.110**	**.030**	**< .001**	**.058 - .177**
Partner Dom.	.001	.010	.95	-.018 - .024
Actor Sub.	-.003	.007	.66	-.015 - .011
Partner Sub.	**-.034**	**.012**	**< .01**	**-.062 - -.015**
Direct Effects of Attach. Avoidance on the Mediators				
Actor Avoidance on Dom.	**.527**	**.097**	**< .01**	**.334 - .718**
Partner Avoidance on Dom.	-.033	.101	.74	-.239 - .159
Actor Avoidance on Sub.	**.649**	**.140**	**< .001**	**.376 - .926**
Partner Avoidance on Sub.	.174	.149	.24	-.115 - .468
Indirect Effect of Avoidance on Rel. Agg.				
Actor Avoidance → Actor Dom.→ Rel. Agg	**.058**	**.021**	**< .01**	**.025 - .112**
Actor Avoidance → Partner Dom.→ Rel. Agg	.000	.001	.98	-.003 - .002
Partner Avoidance → Actor Dom.→ Rel. Agg	-.004	.011	.75	-.025 - .018
Partner Avoidance → Partner Dom.→ Rel. Agg	.001	.001	.95	-.010 - .012
Actor Avoidance → Actor Sub. → Rel. Agg	-.002	.004	.67	-.011 - .007
Actor Avoidance → Partner Sub. → Rel. Agg	-.006	.005	.28	-.022 - .002
Partner Avoidance → Actor Sub. → Rel. Agg	-.001	.002	.74	-.006 - .001
Partner Avoidance → Partner Sub. → Rel. Agg	**-.022**	**.009**	**< .05**	**-.048 - -.009**

Note. Significant effects are **bolded**. Domineering Problems (Dom.) Submissive Problems (Sub.)

Table 21

Direct and Indirect Effects of an Actor Partner Multiple Mediation Model Testing the Influence of Anxiety and Interpersonal Problems in Affiliation (Overly Nurturant and Overly Cold) on Relationship Aggression

Parameters	*Estimate*	*SE*	*p*	*95% CI*
Direct Effects on Relationship Aggression				
Actor Anxiety	**.086**	**.028**	**< .01**	**.040 - .154**
Partner Anxiety	.010	.023	.66	-.032 - .061
Actor Warm	.010	.010	.30	-.005 - .034
Partner Warm	**-.025**	**.009**	**< .01**	**-.047 - -.011**
Actor Cold	**.044**	**.020**	**< .05**	**.011 - .093**
Partner Cold	-.010	.023	.49	-.032 - .061
Direct Effects of Attach. Anxiety on the Mediators				
Actor Anxiety on Warm	**1.104**	**.148**	**< .001**	**.804 – 1.393**
Partner Anxiety on Warm	-.022	.139	.88	-.288 - .248
Actor Anxiety on Cold	**.886**	**.122**	**< .001**	**.644 – 1.126**
Partner Anxiety on Cold	-.044	.114	.70	-.264 - .184
Indirect Effect of Anxiety on Rel. Agg.				
Actor Anxiety → Actor Warm→ Rel. Agg	.011	.011	.31	-.005 - .039
Actor Anxiety → Partner Warm→ Rel. Agg	.001	.004	.88	-.005 - .009
Partner Anxiety → Actor Warm→ Rel. Agg	.000	.002	.91	-.006 - .002
Partner Anxiety → Partner Warm→ Rel. Agg	**-.028**	**.010**	**< .01**	**-.057 - -.012**
Actor Anxiety → Actor Cold → Rel. Agg	**.039**	**.020**	**.05**	**.010 - .095**
Actor Anxiety → Partner Cold → Rel. Agg	.000	.001	.83	-.001 - .005
Partner Anxiety → Actor Cold → Rel. Agg	-.002	.006	.50	-.019 - .006
Partner Anxiety → Partner Cold → Rel. Agg	-.006	.009	.66	-.023 - .010

Note. Significant effects are **bolded**. Overly-Warm Problems (Warm).

Table 22

Direct and Indirect Effects of an Actor Partner Multiple Mediation Model Testing the Influence of Avoidance and Interpersonal Problems in Affiliation (Overly Nurturant and Overly Cold) on Relationship Aggression

Parameters	*Estimate*	*SE*	*p*	*95% CI*
Direct Effects on Relationship Aggression				
Actor Avoidance	-.010	.030	.75	-.071 - .050
Partner Avoidance	.069	.044	.11	.002 - .182
Actor Warm	.018	.010	.07	.002 - -.042
Partner Warm	**-.022**	**.009**	**< .05**	**-.044 - -.008**
Actor Cold	**.053**	**.020**	**< .01**	**.021 - .102**
Partner Cold	-.069	.011	.29	-.039 - .007
Direct Effects of Attach. Avoidance on the Mediators				
Actor Avoidance on Warm	.299	.161	.06	-.009 - .616
Partner Avoidance on Warm	.037	.150	.81	-.264 - .321
Actor Avoidance on Cold	**1.260**	**.134**	**< .001**	**.988 – 1.517**
Partner Avoidance on Cold	-.155	.138	.26	-.389 - .100
Indirect Effect of Avoidance on Rel. Agg.				
Actor Avoidance → Actor Warm→ Rel. Agg	.005	.004	.22	.000 - .020
Actor Avoidance → Partner Warm→ Rel. Agg	.001	.003	.81	-.007 - .008
Partner Avoidance → Actor Warm→ Rel. Agg	.001	.005	.82	-.004 - .009
Partner Avoidance → Partner Warm→ Rel. Agg	-.007	.003	.17	-.023 - -.001
Actor Avoidance → Actor Cold → Rel. Agg	**.067**	**.003**	**< .05**	**.031 – .136**
Actor Avoidance → Partner Cold → Rel. Agg	.002	.003	.75	-.001 - .012
Partner Avoidance → Actor Cold → Rel. Agg	-.008	.014	.27	-.032 - .002
Partner Avoidance → Partner Cold → Rel. Agg	-.015	.044	.11	-.051 - .008

Note. Significant effects are **bolded**. Overly-Warm Problems (Warm).

Appendix B: Figures

Figure 1

A Theoretical Model of Attachment and IPV in Emerging Adulthood Relationships

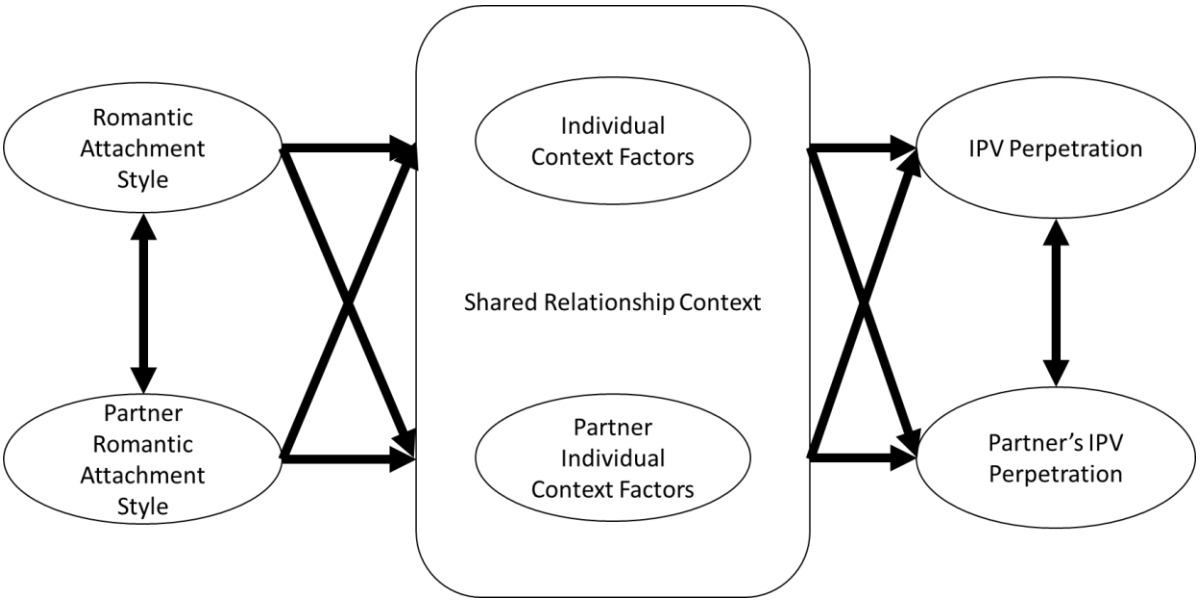
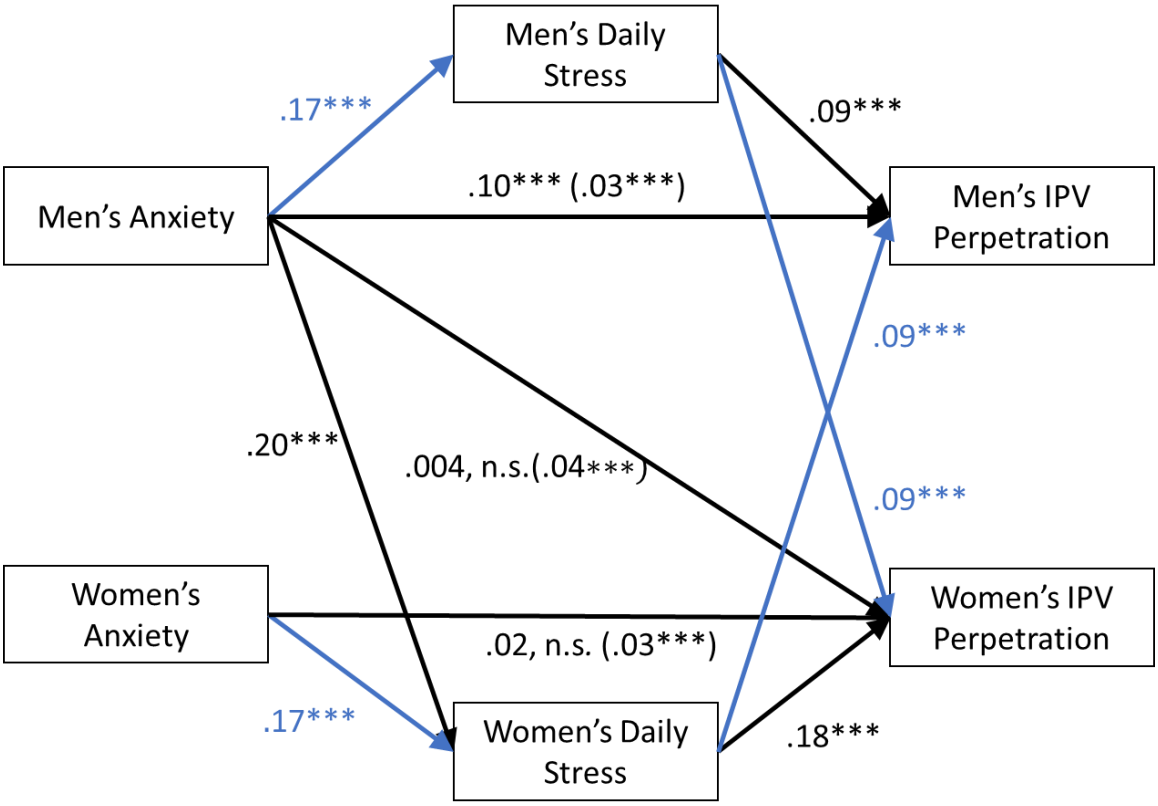


Figure 2

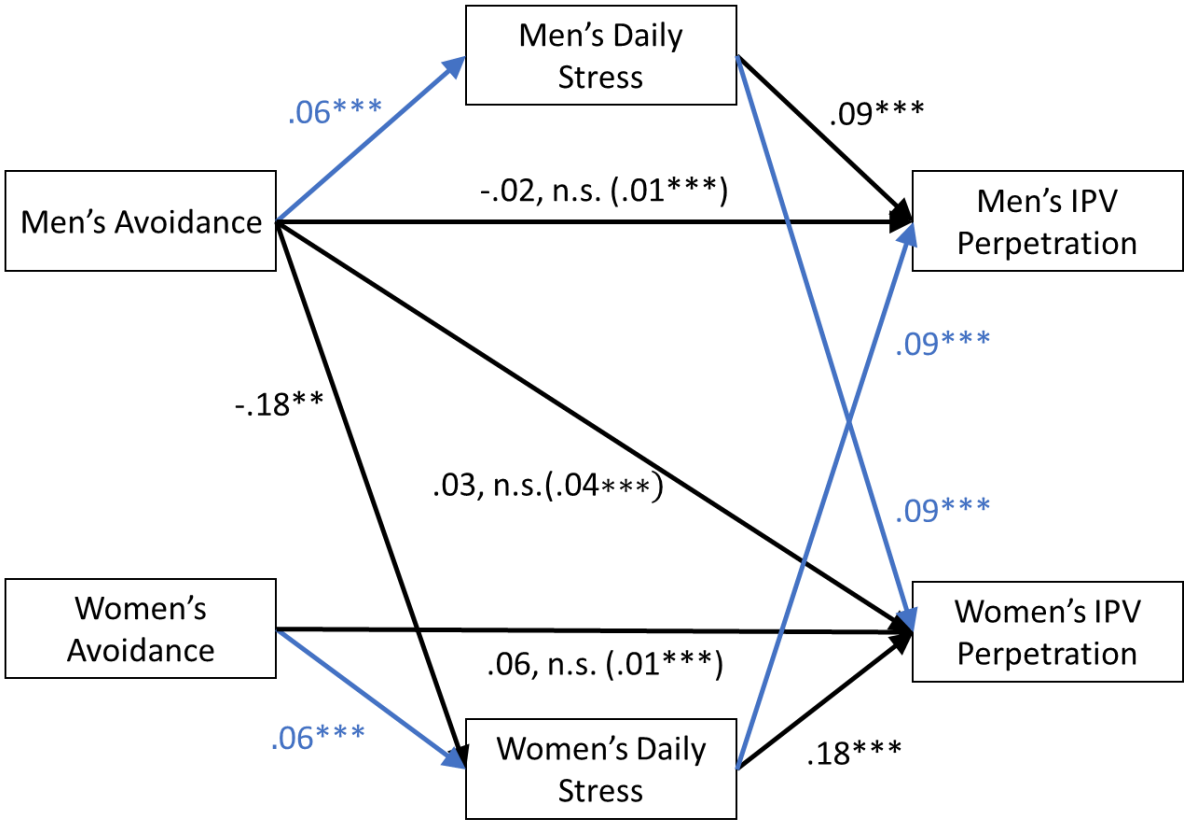
Attachment Anxiety and Daily Stress: The Actor-Partner Interdependence Mediation Model for Distinguishable Dyads



Note. $p < .05$*, $p < .01$**, $p < .001$***. For c paths: direct effect (indirect effect). Paths that are blue indicate indistinguishability.

Figure 3

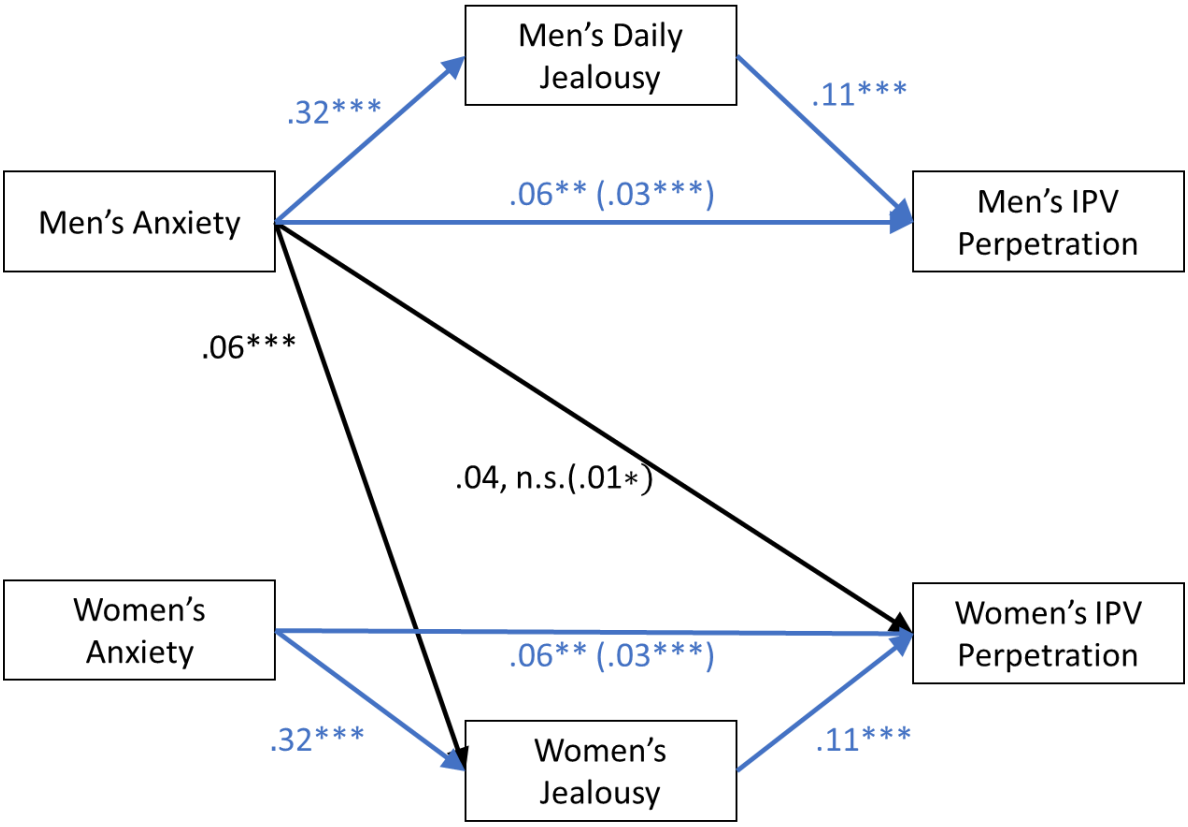
Attachment Avoidance and Daily Stress: The Actor-Partner Interdependence Mediation Model for Distinguishable Dyads



Note. $p < .05$*, $p < .01$**, $p < .001$***. For c paths: direct effect (indirect effect). Paths that are blue indicate indistinguishability.

Figure 4.

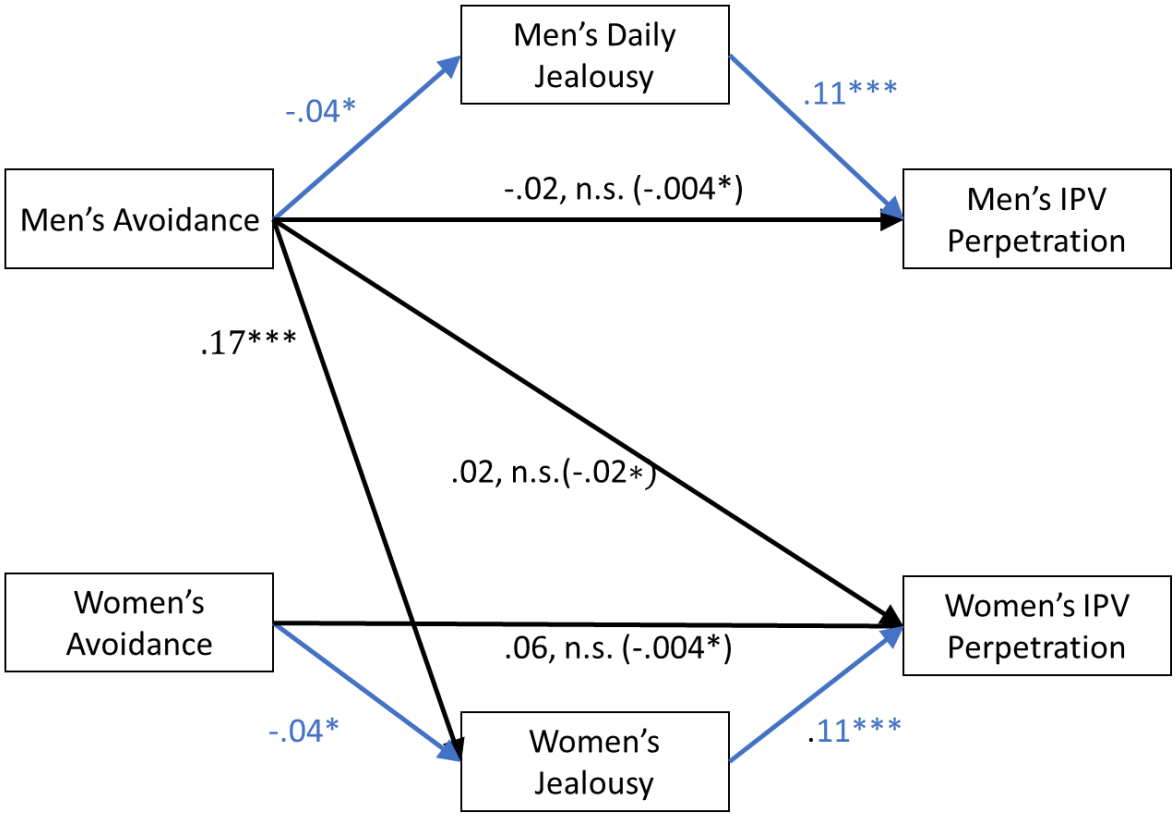
Attachment Anxiety and Daily Jealousy: The Actor-Partner Interdependence Mediation Model for Distinguishable Dyads



Note. $p < .05$*, $p < .01$**, $p < .001$***. For c paths: direct effect (indirect effect). Paths that are blue indicate indistinguishability.

Figure 5.

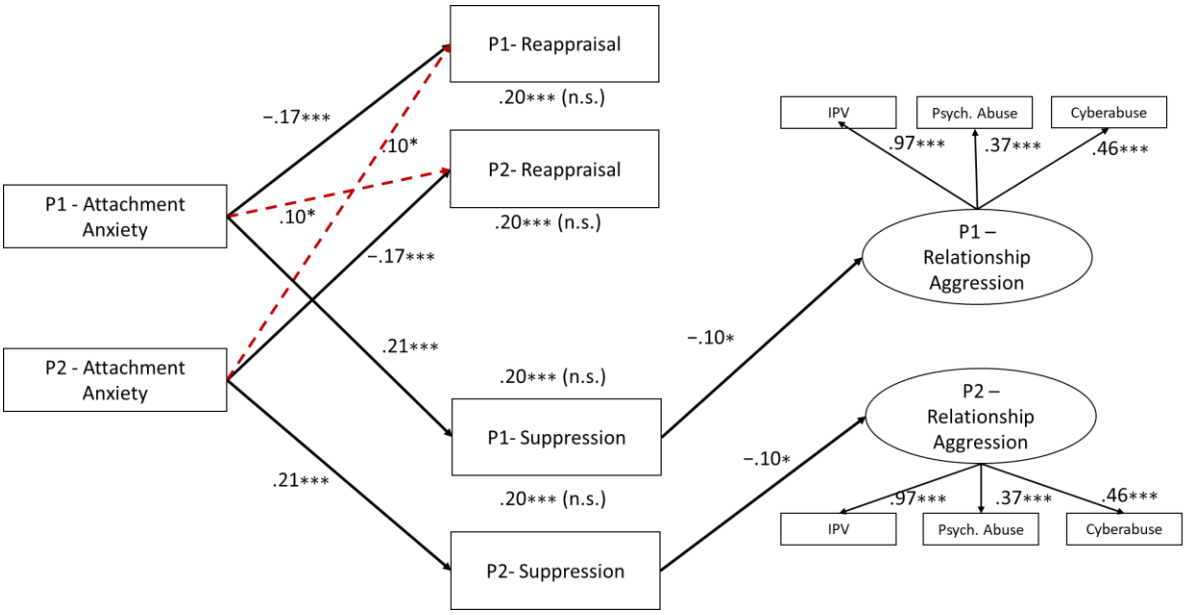
Attachment Avoidance and Daily Jealousy: The Actor-Partner Interdependence Mediation Model for Indistinguishable Dyads



Note. $p < .05$*, $p < .01$**, $p < .001$***. For c paths: direct effect (indirect effect). Paths that are blue indicate indistinguishability.

Figure 6.

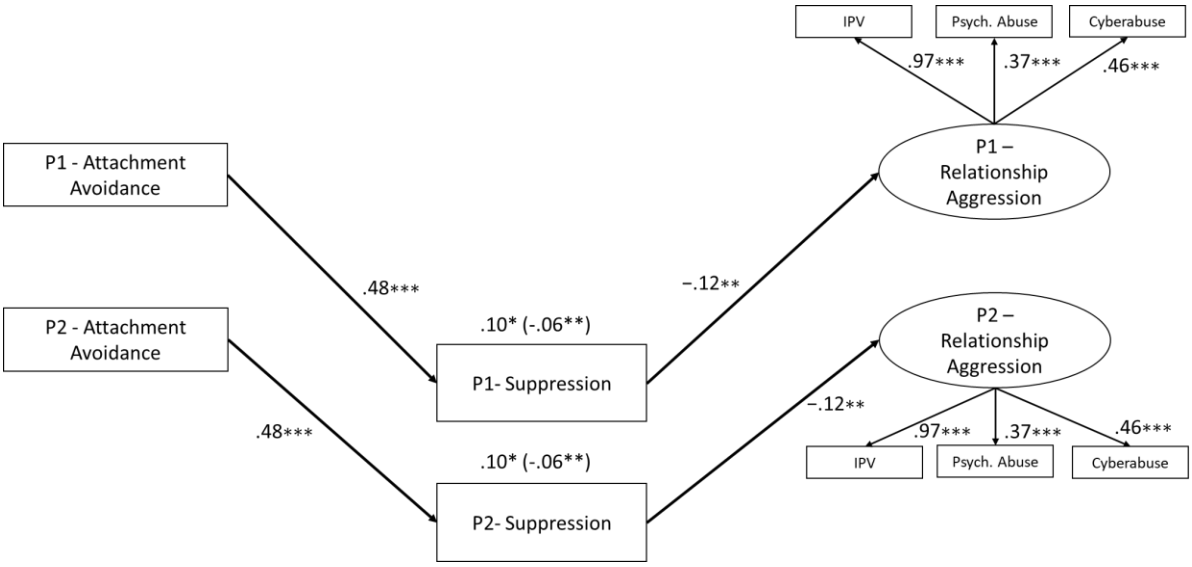
A path diagram of the Actor Partner Multiple Mediation Model of Attachment Anxiety and Emotion Regulation Problems Predicting Relationship Aggression



Note. $p < .05$*, $p < .01$**, $p < .001$***. The specific direct (c path) and indirect effects (c' path) of the independent variable (attachment anxiety) are represented by the coefficients above or below the mediator variables. Ex.: direct effect (indirect effect). Dotted red pathways were included in analyses but not hypothesized.

Figure 7.

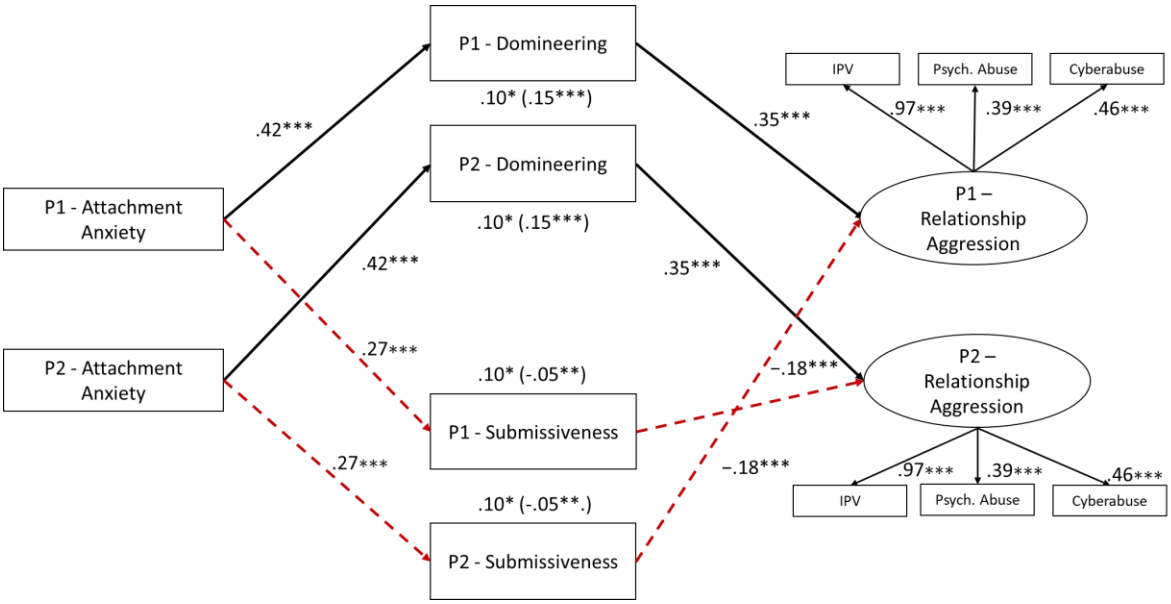
A path diagram of the Actor Partner Multiple Mediation Model of Attachment Avoidance and Emotion Regulation Problems Predicting Relationship Aggression



Note. $p < .05$*, $p < .01$**, $p < .001$***. The specific direct (c path) and indirect effects (c' path) of the independent variable (attachment anxiety) are represented by the coefficients above or below the mediator variables. Ex.: direct effect (indirect effect). Dotted red pathways were included in analyses but not hypothesized.

Figure 8

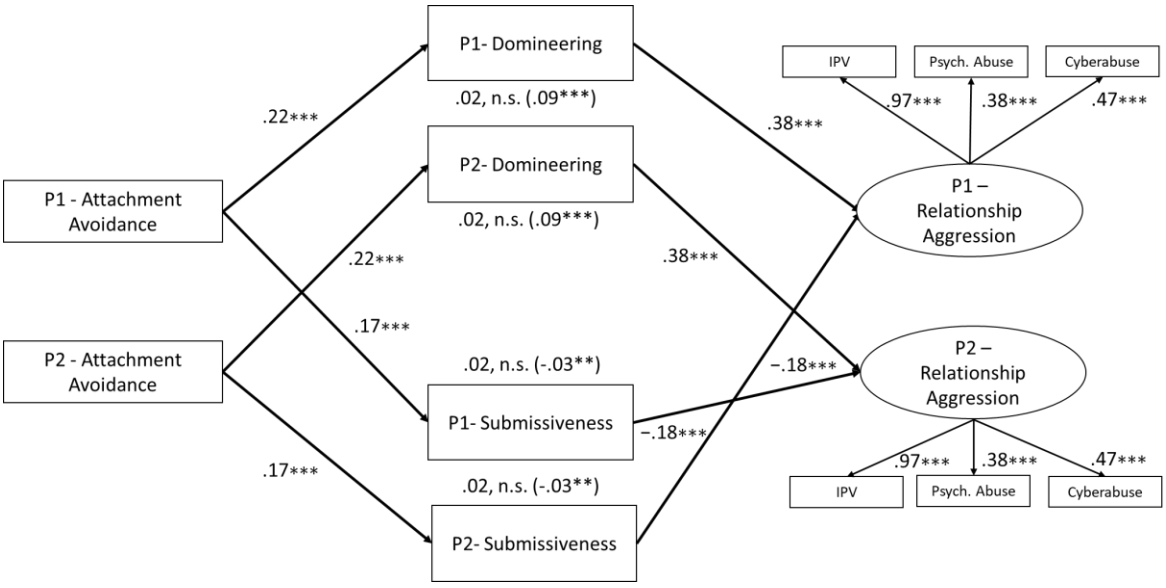
A path diagram of the Actor Partner Multiple Mediation Model of Attachment Anxiety and Interpersonal Problems in Agency Predicting Relationship Aggression



Note. $p < .05$*, $p < .01$**, $p < .001$***. The specific direct (c path) and indirect effects (c' path) of the independent variable (attachment anxiety) are represented by the coefficients above or below the mediator variables. Ex.: direct effect (indirect effect). Dotted red pathways were included in analyses but not hypothesized.

Figure 9

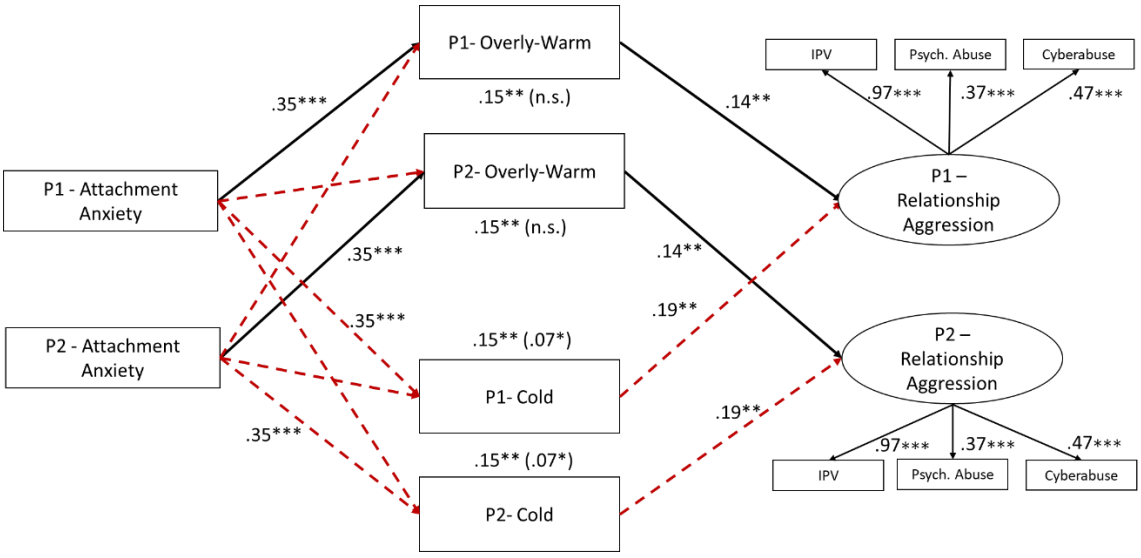
A path diagram of the Actor Partner Multiple Mediation Model of Attachment Avoidance and Interpersonal Problems in Agency Predicting Relationship Aggression



Note. $p < .05$*, $p < .01$**, $p < .001$***. The specific direct (c path) and indirect effects (c' path) of the independent variable (attachment anxiety) are represented by the coefficients above or below the mediator variables. Ex.: direct effect (indirect effect). Dotted red pathways were included in analyses but not hypothesized.

Figure 10

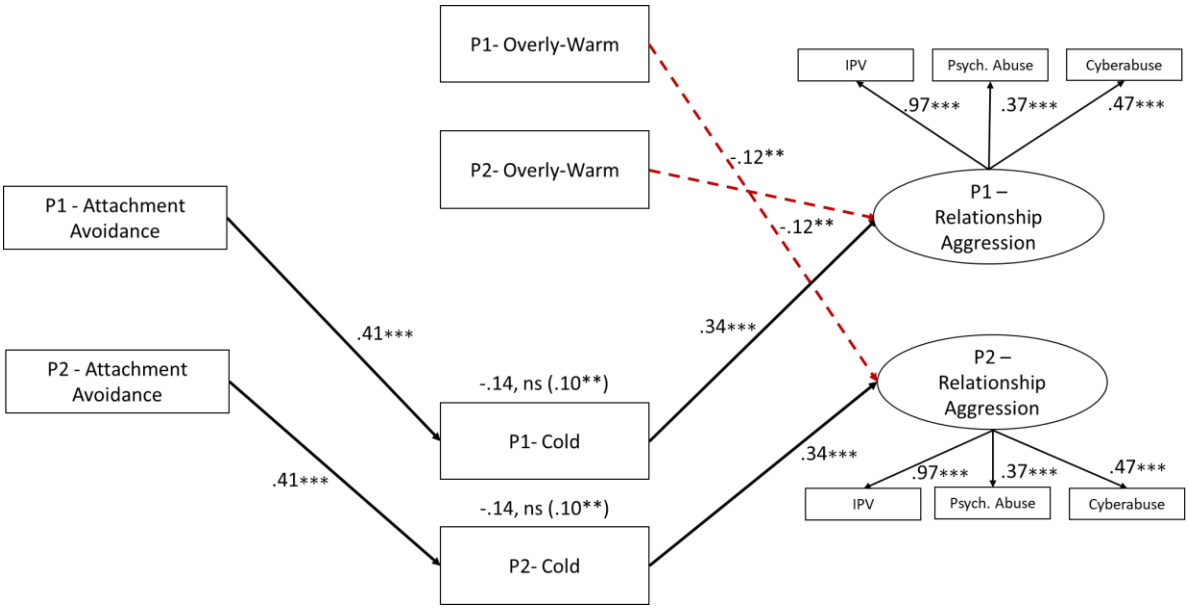
A path diagram of the Actor Partner Multiple Mediation Model of Attachment Anxiety and Interpersonal Problems in Affiliation Predicting Relationship Aggression



Note. $p < .05$*, $p < .01$**, $p < .001$***. The specific direct (c path) and indirect effects (c' path) of the independent variable (attachment anxiety) are represented by the coefficients above or below the mediator variables. Ex.: direct effect (indirect effect). Dotted red pathways were included in analyses but not hypothesized.

Figure 11

A path diagram of the Actor Partner Multiple Mediation Model of Attachment Avoidance and Interpersonal Problems in Agency Predicting Relationship Aggression



Note. $p < .05$*, $p < .01$**, $p < .001$***. The specific direct (c path) and indirect effects (c' path) of the independent variable (attachment anxiety) are represented by the coefficients above or below the mediator variables. Ex.: direct effect (indirect effect). Dotted red pathways were included in analyses but not hypothesized.

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