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The Effects Of Interpersonal Emotion Regulation During Conflict on Partner-Directed State Aggression

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THE EFFECTS OF INTERPERSONAL EMOTION REGULATION DURING CONFLICT ON PARTNER-DIRECTED STATE AGGRESSION

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DEDICATION

This dissertation is dedicated to my parents, who have provided me with their unwavering support, love, and encouragement. I would not be where I am today without you.

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ABSTRACT

THE EFFECTS OF INTERPERSONAL EMOTION REGULATION DURING CONFLICT ON PARTNER-DIRECTED STATE AGGRESSION

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Emotion regulation has been identified as a predictor of intimate partner aggression (IPA), a widespread and costly problem in the United States. However, researchers who study emotion regulation and IPA have primarily focused on the individual, despite the fact that IPA is often bidirectional and emotion regulation, a risk factor for IPA, is largely a dyadic process. Further, the majority of emotion regulation and IPA researchers have conducted correlational studies and therefore are unable to establish emotion regulation as a causal and temporal antecedent to IPA empirically. The purpose of the current dissertation was to investigate the impact of interpersonal emotion regulation on partner-directed state aggression using a diverse set of methodologies. The two studies conducted examined how an individual's ability to regulate their romantic partner's emotions (i.e., interpersonal regulation) during conflict was associated with subsequent partner-directed state aggression. It was hypothesized that interpersonal emotion regulation would be significantly associated with partner-directed state aggression. Specifically, engaging in negative interpersonal emotion regulation with one's partner would be associated with more partner-directed state aggression, and that positive interpersonal emotion regulation with one's partner would be associated with less partner-directed state aggression. It was also hypothesized that both members of the couples' use of interpersonal emotion regulation during conflict would be predictive of an individual's subsequent feelings of aggression toward their partner. The results indicate that the use of

negative interpersonal emotion regulation by both partners was predictive of aggression, supporting a dyadic model of interpersonal emotion regulation and IPA.

INTRODUCTION

Intimate partner aggression (IPA), operationalized herein as physical and psychological aggression perpetrated by a romantic partner, is a critical public health issue in the United States (Centers for Disease Control and Prevention, 2017). Prevalence rates of IPA are concerning, with approximately one in four women and one in seven men experiencing physical aggression by an intimate partner, and about half of all men and women experiencing psychological aggression from their partner in their lifetime (Black et al., 2011). A myriad of deleterious short- and long-term consequences including depression, anxiety, post-traumatic stress, and chronic pain are also linked to IPA (Breiding et al., 2014; Coker et al., 2011). There is a well-established relation between emotion regulation and IPA, with more difficulties regulating one's emotions associated with more IPA perpetration, and adaptive emotion regulation skills serving as a protective factor against IPA (Day, 2009; Mauss et al., 2007).

The main focus of research has been on the association between individual-level emotion regulation processes and aggression, despite the fact that individuals influence each other's emotional states (Diamond & Aspinwall, 2003) and emotion regulation and IPA are both dyadic processes. Further, individuals are often both victims and perpetrators of IPA, because couple conflict, including acts of aggression, are often bidirectional (for review see Langhinrichsen-Rohling et al., 2012) and IPA victimization is robustly correlated with IPA perpetration (Okuda et al., 2015; Whitaker et al., 2007). The purpose of this research was to investigate the interpersonal dynamics of emotion regulation and subsequent partner-directed aggression through the utilization of a diverse set of research methodologies. Understanding this association is the fundamental first step toward 1) constructing a dyadic model of emotion regulation and aggression, and 2) developing emotion regulation interventions for couples to mitigate IPA experiences.

CHAPTER II

EMOTION REGULATION

Emotion regulation, conceptualized as "how individuals influence which emotions they have, when they have them, and how they experience and express them" (Gross, 1998b, p. 271), has been the subject of much research over the past few decades (Tamir, 2011). The ability to effectively regulate emotions allows an individual to function successfully and achieve their goals (Bridges et al., 2004; Gratz & Roemer, 2004; Gratz & Tull, 2010). Goals of emotion regulation can be either behavioral or experiential. When the goal is behavioral, an individual is attempting to regulate their emotions to either increase or decrease the likelihood they engage in a specific behavior. For example, if an individual is angry with a supervisor and wants to yell but can successfully down-regulate their negative emotions (i.e., decrease their intensity or duration), they can avoid expressing emotions that would be inappropriate in that specific setting and may jeopardize their position. The goal here is to inhibit yelling, a behavior. Individuals may also attempt to regulate their emotions to either increase or decrease the likelihood that they experience certain emotions. Individuals often choose to up-regulate positive emotions (i.e., increase their intensity or duration) to achieve an experiential goal. If a person is feeling bad, they can choose to think about things in their life that are positive, and this can make that person feel better. The experiential goal here is to increase positive thoughts.

The downregulation of negative emotions (Gross et al., 2006) and the upregulation of positive emotions (Quoidbach et al., 2010) are both common strategies that individuals engage in. This regulation is consistent with the idea that people aim to maintain a positive hedonic balance, where they experience more positive than negative emotional states (Larsen, 2000). Following this line of reasoning, it makes sense that individuals would be motivated to decrease

negative feelings (downregulate negative emotions) and increase positive feelings (upregulate positive emotions) regularly.

The Process Model of Emotion Regulation. The process model of emotion regulation posits that individuals have the opportunity to regulate their emotions at five distinct times (Gross, 1998b). First, during situation selection, an individual can choose to avoid a situation that they think will cause them to feel certain emotions. Second, an individual can engage in situation modification, where they can change the situation that they are in to avoid feeling certain emotions. Third, an individual can engage in attentional deployment, where they select which specific aspect of a situation to attend to. Fourth, cognitive change can occur if an individual chooses to reappraise or interpret a situation in a different manner. Fifth, response modulation can occur when an individual influences their own emotional response tendency once emotions have been elicited. Once elicited, an individual can change those emotions experientially and/or change their behavioral response tendencies.

The first four time points of this model rely on antecedent-focused emotion regulation, attempting to regulate emotions *before* the expected emotion is elicited, whereas the fifth time point involves response-focused emotion regulation, which is attempting to regulate emotions *after* they have already been elicited (Gross, 1998a, 1998b, Gross & John, 2003). In situations of couple conflict, which are unavoidable (Fincham, 2000), the fourth and fifth stages of this model are most salient. For example, before a conversation with one's romantic partner escalates to a conflict, an individual can engage in cognitive change, where they reappraise the situation and choose to view it as more emotionally neutral. If the conversation has already escalated to a conflict, an individual can engage in response modulation to either upregulate or downregulation their ongoing emotional experience.

Consequences of Emotion Regulation. Emotion regulation is not an inherently adaptive or maladaptive process in and of itself, but certain strategies or skills of emotion regulation seem to be (Gratz & Roemer, 2004). For instance, cognitive reappraisal, a regulatory skill that involves reframing an emotion-eliciting situation in a way that changes its emotional impact (Lazarus & Alfert, 1964), has been found to be a positive emotion regulation strategy (Gross & John, 2003). Researchers have found the use of cognitive reappraisal to be associated with less anxiety and depression symptoms (Garnefski et al., 2002; Garnefski & Kraaij, 2006), increased life satisfaction (Kashdan et al., 2006), and importantly, lower rates of aggression (Jiang et al., 2018). Conversely, expressive suppression, which involves inhibiting emotionally expressive behavior (Gross & Levenson, 1993), has been found to be a negative regulatory strategy associated with depression, anxiety, other mood disorders, and increased aggression (Campbell-Sills et al., 2006; Hofmann et al., 2009; Nagtegaal et al., 2006; Wegner & Zanakos, 1994). Further, a general inability to regulate one's emotions, referred to as emotional dysregulation, is also associated with negative consequences. Characterized by non-acceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity (Gratz & Roemer, 2004), emotional dysregulation can lead to a host of problematic behaviors (Eisenberg, 2000).

Emotional dysregulation can impede normal psychological functioning (Koole, 2009) and lead to negative outcomes such as stress-related physical health symptoms (Sapolsky, 2007), substance use issues (Wilcox, Pommy, & Adinoff, 2016), eating disorders (Leehr et al., 2015), as well as a host of psychological disorders including depression (Gross & Muñoz, 1995), anxiety (Goldsmith et al., 2013), and PTSD (Ehlers & Clark, 2000). Importantly, emotional dysregulation has been found to be associated with both general aggression (Norström & Pape,

2010; Tull et al., 2007) and IPA (Maldonado et al., 2015). As highlighted by Roberton and colleagues (2012), maladaptive strategies and emotional dysregulation in general are both associated with either end of the regulation spectrum, characterized by either an extreme under-regulation of emotions (e.g., no attempt to regulate) or an overregulation of emotions (e.g., suppression).

Emotion regulation and social relationships are interconnected via multiple pathways. First, the ability to effectively regulate emotions is vital to maintaining mutually satisfying social relationships with others. Researchers have found that individuals who have poor emotional regulatory skills experience and express fewer positive emotions (Gross & John, 2003) have worse rapport (Butler et al., 2003), and overall poorer interactions (Lopes et al., 2005) than regulated individuals when talking to others. These findings point to the idea that poor emotional regulation abilities can inhibit both the formation of and maintenance of close social relationships.

Social Baseline Theory. While emotional regulation does have important social consequences, emotion regulation in itself is deeply embedded in social processes (Scherer et al., 1983). Gross and colleagues conducted a qualitative study that asked participants to recall a recent time that they needed to try and regulate their emotions (Gross et al., 2006). The researchers found that 98% of the participants indicated that the time they indicated in which they needed to regulate their emotions took place when another person was present.

This social component of emotional regulation can be understood through social baseline theory, a framework which describes how individuals utilize social resources to function optimally (Beckes & Coan, 2011). According to this theory, humans' social 'baseline' is proximity to social resources (i.e., close others such as family, friends, or romantic partners), and that this is the baseline assumption of the human brain. Because of the unique psychological

capabilities of the human brain (Smith, 2003), it is assumed that we are living within a social network that is characterized by interdependence with others (Beckes & Coan, 2011). Further, people want to acquire more energy than they expend (Krebs & Davies 1993) and efficiently use available resources (Proffitt, 2006). Coan and Maresh (2014) consider emotional regulation to be an available, albeit limited, cognitive resource. Efficient use of these cognitive resources can be made through receiving social support from others. In this way, people can regulate their emotions more efficiently when there is a close other present. The reasoning behind this is that social relationships can be understood as an extension of the self and thus also an extension of cognitive resources on hand (Beckes et al., 2012). Indeed, researchers have found that humans consider others an extension of the self. Studies have demonstrated that individuals' neural responses to a threat directed at the self are highly similar to one's neural responses when a threat is directed at a close friend (Beckes et al., 2012).

Various studies have supported the social regulatory mechanisms of social baseline theory. Stressful situations have been found to motivate closer social proximity in individuals toward their romantic partner. This social proximity was then associated with lower autonomic arousal and hypothalamic-pituitary-adrenal response (HPA) axis activity and higher immune function (Baron et al., 1990; Heinrichs et al., 2003; Uchino et al., 1996). Multiple fMRI studies have also provided evidence that social proximity to a close other while experiencing threat can decrease, or downregulate, negative emotional reactions. Eisenberg and colleagues (2011) found less pain-related neural activity in participants who were viewing a picture of their romantic partner compared to when they were viewing a picture of a stranger, or no picture at all. Other researchers conducted a similar study and found again that less pain-related neural activity was associated with viewing a romantic partner, as well as greater activation of neural pathways associated with effortful self-regulation (Younger et al., 2010). These results, taken together,

indicate that close social proximity to a romantic partner is enough to help one regulate their emotions and that emotional regulation is deeply embedded in social processes.

CHAPTER III

INTERPERSONAL EMOTION REGULATION

While social baseline theory acknowledges the social aspect of emotion regulation, it does not explain how individuals regulate others. Specifically, it does not distinguish between *intrapersonal* emotion regulation (i.e., regulation of self in the presence of others) and *interpersonal* emotion regulation (i.e., regulation of self through others). For example, individuals are better able to regulate themselves simply because of social proximity to another person, whether the other person is physically present (Baron et al., 1990; Heinrichs et al., 2003; Uchino et al., 1996) or present in an image (Eisenberg et al., 2011; Younger et al., 2010). These researchers are demonstrating intrapersonal regulation, because there are no tangible interpersonal processes taking place. There is no effort on the part of the other individual in these situations to try and assist with emotion regulation. Interpersonal emotion regulation instead involves someone who is trying to reach an emotional goal by using another person to achieve that goal. Or, conversely, they are trying to help another person reach their emotional goal. For example, if an individual is upset about something, they may try to feel better by talking with someone that cares about them in hopes that the conversation will downregulate the negative feelings they are having.

An Interpersonal Emotion Regulation Framework. A recently developed framework by Zaki and Williams (2013) describes multiple facets of interpersonal emotion regulation. This framework theorizes that individuals engage in both intrinsic and extrinsic forms of interpersonal regulation (Gross et al., 2011). Intrinsic interpersonal regulation involves the recruitment of another individual to assist with the regulation of one's own emotions (e.g., I talk to a friend to make myself feel better), whereas extrinsic interpersonal regulation involves regulating another person's emotions (e.g., I talk to my friend to try and make them feel better). Zaki and Williams

(2013) also posit that individuals engage in both response-*independent* (Zaki & Mitchell, 2011) and response-*dependent* (Batson, 2011) processes. Response-independent processes involve an individual sharing information and feeling emotionally regulated, regardless of the particular response that they receive from a partner. For example, if an individual is upset, they may want to vent to their romantic partner, because even if their partner is unresponsive, they will still feel better after. Response-dependent processes involve sharing information and requiring a particular response from a partner to feel regulated. So, in the scenario above, if one's partner is unresponsive, then that individual will not feel emotionally regulated after that interaction. If instead that partner was supportive, then that individual would feel regulated. This framework can help explain how and for what reasons partners engage in interpersonal emotion regulation and how their own emotions are influenced by their partner's feedback, and vice versa.

Researchers have shown that there are social consequences to engaging in interpersonal emotion regulation. Niven and colleagues (2012) have found that individuals who engage in extrinsic interpersonal emotion regulation are perceived by others as being more trustworthy and of having better friendships. Williams and colleagues (2018) have also found that individuals who seek intrinsic interpersonal emotional regulation are more likely to develop relationships with others that are supportive. These individuals are also likely to be more emotionally expressive and empathetic, making them more attractive as social companions.

Interpersonal Emotion Regulation in Couples. Thus far, there has been limited investigation into how couples use interpersonal emotion regulation strategies and how they are associated with outcomes on both individual and relational levels. Levy-Gigi and Shamay-Tsoory (2017) evaluated differences in the effectiveness of intrapersonal and interpersonal emotion regulation strategies in the reduction of distress. Participants were randomly assigned to an intrapersonal or interpersonal regulation condition where they either chose their own

regulation strategy (intrapersonal condition) or their partner chose the regulation strategy for them (interpersonal condition). Participants with their partners present were then shown distressing visual images and asked to use the chosen strategy to regulate their emotions. The results revealed that the participants who had a partner that chose their regulatory strategy were more effectively able to regulate their distress. Parkinson and colleagues (2016) specifically examined the interpersonal regulation of worry in romantic partnerships. During a recorded discussion about shared relationship concerns, an individual's expression of worry was significantly associated with their partner's interpersonal calming attempts. They also found that an individual's dispositional negative affect was a positive predictor of their partner's use of interpersonal calming attempts, and that expressive suppression was a negative predictor of partner's use of calming attempts.

Researchers have also examined heterosexual married couples' self-reported use of positive interpersonal emotion regulation strategies and relationship satisfaction (Rusu et al., 2019). They found that one's own use of positive interpersonal emotion regulation was associated with one's own perception of relationship satisfaction. This effect was significant for both husbands and wives. Importantly, they also found that greater use of positive interpersonal emotion regulation by wives was positively associated with husbands' relationship satisfaction. These results indicate that both partners' attempts to positively regulate each other are important for relationship satisfaction. Other researchers have examined touch as an interpersonal emotion regulation process (Debrot et al., 2013). Following couples for one week via daily diary responses, the researchers found that increased frequency of touching one's partner was associated with increased positive affect in the partner, and that this association was mediated by greater feelings of psychological intimacy from the partner. Further, during a 6-month follow-up,

partners that had reported greater frequency of touch during that week period had better psychological well-being scores (Debrot et al., 2013).

Distinguishing Between Intra- and Inter-personal Regulation in Couples. It can be difficult to distinguish between intrapersonal and interpersonal emotion regulation processes in couple interactions. A study of romantic couples and emotional regulation by Ben-Naim and colleagues (2013) highlights the differences between these processes well. In their study, the researchers had couples engage in a conflict discussion, where one member of the couple was secretly given instructions on how to regulate their *own* emotions. They were asked to either engage in expressive suppression, positive cognitive reappraisal, or were given no instructions. While the conversation was interpersonal in nature (i.e., both members of the couple are discussing a conflict in their relationship), the strategy implemented was intrapersonal, as there were no direct goals to change how the partner was feeling. The researchers did find that, compared to the control condition, expressive suppression was associated with increased cardiovascular response and negative affect in the partner. The use of cognitive reappraisal was also associated with decreased cardiovascular response and negative affect in the partner compared to the control condition. These results indicate that intrapersonal emotion regulation during conflict is important, and likely influences interpersonal processes, that in turn affect the partner.

It is likely that intrapersonal regulation is an antecedent to interpersonal regulation attempts. For example, in Ben-Naim and colleagues' research, the participants were asked to use cognitively reappraisal ("think about the positive aspects of your relationship"). This reappraisal (a cognitive, intrapersonal strategy) would likely influence that participant's use of interpersonal regulation, making them more likely to want to increase the positive emotions of their partner as well. Therefore, both intrapersonal and interpersonal processes of emotion regulation and

intertwined, and intrapersonal regulation probably precedes interpersonal regulation. In support of this notion, Vater and Schröder-Abé (2015) found that assigned intrapersonal emotion regulation strategies were associated with use of positive interpersonal emotion regulation during a conflict discussion. Specifically, they found that expressive suppression was associated with less use of positive interpersonal emotion regulation and perspective taking was associated with greater use of positive interpersonal emotion regulation.

Interpersonal Regulation of Positive and Negative Emotions. The majority of interpersonal emotion regulation researchers have assumed that individuals try to regulate others for mainly prosocial reasons, such as helping another person feel better by either attempting to downregulate negative emotions or upregulate positive emotions (Niven, 2017). This has been shown to not always be the case. Niven et al. (2009) developed a framework for understanding strategies of interpersonal emotion regulation, which included the distinction between affect improving and affect worsening strategies (i.e., strategies that improve emotional state to worsen emotional state). This theory posits that all interpersonal regulatory strategies are meant to either initiate, enhance, or maintain positive *or* negative emotions in others. A few researchers have investigated the consequences of using affect improving and affect worsening interpersonal strategies. Niven and colleagues (2012) found that use of interpersonal affect improving strategies (i.e., strategies that increase the positive emotional experience of another) were associated with higher levels of own well-being, whereas use of affect worsening strategies (i.e., strategies that increase the negative emotional experience of another) were associated with lower levels of own well-being (Niven et al., 2012). This research finding supports a connection between one's own use of positive interpersonal emotion regulation strategies on others and one's own improved wellbeing. Affect improving and affect worsening strategies have both been found to be associated with cognitive depletion but this effect is buffered for affect improving

strategies when the target (i.e., person receiving the interpersonal emotion regulation strategy) reciprocated with positive feedback (Martínez-Inigo et al., 2013). These results indicate that it is cognitively costly to engage in interpersonal emotion regulation, but that employing positive strategies can increase the likelihood of receiving positive feedback, and this can offset cognitive depletion.

No researcher so far has examined affect worsening (i.e., negative interpersonal emotion regulation strategies) with romantic couples. It can be assumed that both of these strategies would be utilized in a romantic relationship, because romantic partners tend to share their emotions with each other frequently (Anderson et al., 2004; Consedine et al., 2007). This use can be demonstrated via the following scenario. Let's imagine that Partner A comes home from work and is angry that they have been fired. Partner B could attempt to improve Partner A's affect (i.e., downregulate their anger) by saying "I'm so sorry. You were a great employee and do not deserve this." Alternatively, Partner B could instead attempt to worsen Partner A's affective state (i.e., upregulate their anger) by saying "You are so lazy and lack drive. What did you expect to happen?"

Given previous research findings that individuals consider close others to be an extension of themselves (Beckes et al., 2012), it can be expected that individuals would be motivated to increase their romantic partner's positive emotions and attenuate their negative emotions the majority of the time. This would match individual-level regulatory motives where an individual wants to feel more positive emotions than negative emotions (Larsen, 2000). During times of relationship stress (i.e., during conflict), these regulatory goals may be at odds, making it more of a challenge to regulate both oneself and one's romantic partner simultaneously. It would also make sense that increases in negative interpersonal emotion regulation strategies would be

associated with more feelings of hostility or anger, potentially leading to aggression. Currently, this idea has not been empirically investigated.

CHAPTER IV

EMOTION REGULATION AND AGGRESSION

Research findings suggest that poor emotion regulation is an antecedent to, and significant correlate of, aggression and violent behavior (Ammerman et al., 2015; Falk et al., 2017; Roberton et al., 2012). This relation has been found across diverse participant samples where poor regulatory skills, such as a lack of emotional awareness and nonacceptance of emotional experiences, are associated with general aggression (Garofalo & Velotti, 2017; Roberton et al., 2014; 2015; Scott et al., 2014). Lab-based manipulations of emotion regulation strategies have also been shown to be associated with aggression. Scott and colleagues (2015) randomly assigned participants to employ a positive (i.e., cognitive reappraisal) or negative (i.e., expressive suppression) strategy of emotion regulation in response to a negative mood induction. They found that those who engaged in expressive suppression demonstrated more displaced aggression than those who engaged in cognitive reappraisal.

The General Aggression Model. The association between emotion regulation and aggression can be examined through the lens of the general aggression model (GAM; Anderson & Bushman, 2002). The GAM attests that there are multiple factors that interact (inputs, routes, and outcomes) to predict aggression. Input factors, which are variables that increase or decrease one's propensity for aggression, can be person-specific (e.g., personality traits) or situation-specific (e.g., provocation). These input factors subsequently influence an individual's internal state. Next, there are specific routes that can increase the likelihood of an individual behaving aggressively. These include the cognitive route (e.g., increased thoughts of hostility), affective route (e.g., elevations in anger/hostility/negative affect), and physiological routes (i.e., increase physiological arousal). Outcomes, the last element of the model, involves an individual's series

of appraisals and decision processes that result in the inhibition or disinhibition of externalized aggressive behaviors.

The Effects of Over and Under Regulation of Emotion on Aggression. Emotion regulation can fit into this model in multiple ways, via both the under-regulation and over-regulation of emotions (Roberton et al., 2012). The under-regulation of all negative emotions, not just hostility or anger, can be related to aggression. Of course, individuals who are angry and unable to regulate that emotion are likely to behave aggressively (Sullivan et al., 2010). Anger induces a high amount of physiological arousal that can compromise information processing abilities (Rydell et al., 2008), interrupting the reappraisal processes which are integral to the outcome element of the GAM (Roberton et al., 2012). However, other negative emotional experiences have also been shown to precede aggression, such as those of shame and fear (Elison et al., 2014; Simunovic et al., 2013). It could be, as theorized by Roberton and colleagues (2012), that an inability to regulate these negative emotions can be difficult to tolerate and that the individual may make a decision (also during the outcomes element of the GAM) to act aggressively in an attempt to repair, avoid, or terminate that uncomfortable emotional experience. Alternatively, it could be that the inability to effectively regulate the unpleasant negative emotion could cause the individual to feel frustrated, because they cannot achieve their regulatory goal, and that frustration could lead to aggressive behavior (Berkowitz, 1989).

The over-regulation of negative emotions can also lead to aggression via elements of the GAM. When an individual attempts to suppress their negative emotions, their attempt can actually be counterproductive (Gross & John, 2003; John & Gross, 2004). As Scott and colleagues (2015) displayed, aggression was highest in participants who were asked to engage in expressive suppression. Suppression has been found to be cognitively demanding form of emotion regulation (Richards & Gross, 1999). Therefore, it may be that the over-regulation of

negative emotions is depleting cognitive resources that are necessary for individuals for appraisal and decision-making processes (Roberton et al., 2012). Following the GAM, if an individual has the available cognitive resources, they may be able to successfully engage in deliberate appraisal, which could inhibit aggressive acts.

Emotion Regulation and Intimate Partner Aggression (IPA)

As with general aggression, research also supports the relation between emotion regulation and IPA. Researchers have repeatedly found a significant association between emotion dysregulation and IPA perpetration for both men and women, and for clinical and non-clinical populations. Emotion dysregulation has been found to be associated with an increased likelihood of both physical and psychological perpetration in male college students (Shorey et al., 2015; Stappenbeck et al., 2016). Similar results were found in a sample of men in a domestic violence intervention program, where emotional dysregulation was positively correlated with physical and psychological perpetration (Tager et al., 2010). In a sample of men in a residential substance abuse program, emotional; dysregulation was a significant risk factor for physical, psychological, and sexual perpetration (Tharp et al., 2012). Pickett and colleagues (2016) compared samples of men with and without a history of sexual violence perpetration and found that those who had a perpetration history and impulse control difficulties (a specific facet of emotional dysregulation) were more likely to react aggressively to negative feedback.

Multiple researchers who employed female-only samples have found emotional dysregulation to be correlated with physical and psychological IPA perpetration as well (Lilly & Mercer, 2014; Ortiz et al., 2015; Shorey et al., 2011), where greater dysregulation was associated with more IPA perpetration. Lilly and Mercer (2014) found that the belief that one should always be in control of one's emotions moderated the relation between women's emotional dysregulation and their physical and psychological perpetration. Further, Shorey and colleagues

(2011) found that trait anger mediated the relation between emotion dysregulation and psychological perpetration.

Researchers who have explored potential gender differences in the relation between emotional regulation and IPA have found largely consistent results across genders. Berzenski and Yates (2010) found a significant association between emotional dysregulation and IPA perpetration for both men and women. Watkins et al. (2016) sampled individuals in a substance use treatment program and identified a significant positive association between emotion dysregulation and psychological perpetration for both men and women but noted that the effect was stronger for women. In a college sample, Shorey and colleagues (2011) found that emotion dysregulation was associated with increased psychological perpetration for both men and women. Impulse control difficulties (a facet of emotional regulation) were also associated with physical perpetration for both men and women as well (Shorey et al., 2011). Bliton and colleagues (2016) found contrasting results, where emotional dysregulation was not associated with men's physical perpetration but was associated with women's physical perpetration. Specifically, they found that women's lack of emotional awareness specifically was related to their perpetration of physical violence but not men's lack of emotional awareness However, both men's and women's emotional dysregulation in general was associated with their psychological perpetration (Bliton et al., 2016).

A few researchers have examined motives for engaging in IPV perpetration and found emotion dysregulation to be a commonly cited motive (Kelly et al., 2015; Neal et al., 2015; Shorey et al., 2011; Ross, 2011; Stuart et al., 2006). Utilizing a sample of undergraduates, Neal and colleagues (2015) found one of the top three motives women reported for engaging in both physical and psychological perpetration was an inability to express themselves verbally. Also utilizing a college sample, Shorey and colleagues (2011) found a lack of emotion regulation

abilities to be a motive for engaging in physical perpetration. Further, in a sample of arrested women in violence intervention programs, common motives for physical aggression perpetration related to emotion regulation were to show anger, to show feelings they could not express in words, and because they did not know what to do with their feelings. Multiple researchers have also identified emotional dysregulation as a main motive for intimate partner aggression cited by both men and women (Kelly et al., 2015; Ross, 2011). These results are especially interesting, because they indicate that individuals may be using acts of IPA as a tool for regulating their emotions. This would be in line with Roberton and colleagues' (2012) theory that an inability to regulate negative emotions could be associated with aggressive behavior, because the dysregulation is difficult to tolerate and the aggression is used in an attempt to repair, avoid, or terminate those uncomfortable feelings.

Only a few researchers have examined the relation between emotional regulation and IPA victimization. Berzenski and Yates (2010) found that emotional dysregulation was positively correlated with IPA victimization in a sample of male and female college students. The same association was found by other researchers who utilized a sample of men and women with sexual or relational problems (Dugal et al., 2018). Anger-related emotional dysregulation has also been found to be positively correlated with physical IPA victimization in young adults (Iverson et al., 2014).

I^3 Model of IPA Perpetration. Finkel's I^3 model (2007; 2014), a metatheoretical model of the processes underlying IPA perpetration, posits that there are three specific processes that interact to predict IPA perpetration. These include *instigation* factors (factors that influence an urge to aggress; e.g., provocation), *impelling* forces (dispositional or situational factors that interact with instigator factors to increase the likelihood of aggression; e.g., trait anger), and *inhibition* factors (factors that increase the likelihood that an individual will aggress; e.g., self-

control). This theory posits that when all three processes are combined, it creates a "perfect storm" for aggressive behavior. Specifically, the I^3 model hypothesizes that the likelihood of IPA is greatest when instigation and impellance processes are strong and inhibitory processes are weak (Finkel, 2014; Finkel & Eckhardt, 2013). In this model, emotional regulation is considered an inhibition factor. Poor emotion regulation abilities decrease inhibition and increase the likelihood of IPA perpetration, while better emotion regulation abilities increase inhibition and decrease the likelihood of IPA perpetration (Birkley & Eckhardt, 2018).

The I^3 model has been empirically tested with emotion regulation in four experimental studies and has generally been supported (Birkeley & Eckhardt, 2018; Blake et al., 2018; Maldonado et al., 2015; Watkins et al., 2015). Maldonado and colleagues (2015) assigned participants to one of three emotion regulation conditions (cognitive reappraisal, expressive suppression, or control) and had them listen to a relationship-specific recorded scenario that was meant to be upsetting (i.e., jealousy of partner with another individual). They found that participants with a history of IPA perpetration (impellance factor) who were instructed to use cognitive reappraisal displayed fewer aggressive verbalizations during anger-provoking situations (instigation factor) than individuals without an IPA history. Further, individuals with a history of IPA perpetration who engaged in expressive suppression displayed more aggressive verbalizations than individuals without a history of IPA perpetration. In addition to supporting the I^3 model, these results suggest that emotional regulation during a time of provocation is predictive of state aggression, controlling for perpetration history. Similarly, a study by Birkley and Eckhardt (2018) found support for the I^3 model, and support for the idea that the use of an assigned emotion regulation strategy (cognitive reappraisal, suppression, distraction, or no instruction) during a situation of interpersonal provocation (instigation) was associated with state aggression above and beyond trait anger (impellance). Together, these studies indicate that

emotional regulation during provocation is uniquely associated with state aggression, beyond trait anger or IPA perpetration history.

Other researchers have tested the I^3 model and found that factors not accounted for by the model may be important to study. Blake and colleagues (2018) tested the I^3 model by examining the relation between a relationship jealousy scenario (instigation), negative urgency (i.e., a personality factor characterized by the tendency to act rashly when distressed, impellance factor) and emotion regulation (inhibition factor). Specifically, the researchers assigned participants to either a cognitive reappraisal training condition or a no emotion regulation training condition. Then an instigating situation followed where participants listened to a recording where they overhear their partner flirting with a person and mildly insulting the participant as well. The researchers found that cognitive reappraisal training, negative urgency, and relationship quality interacted to predict vocalized aggression toward the partner, but only when the participant rated their relationship quality to be high. That is, cognitive reappraisal attenuated the negative association between negative urgency and vocalized aggression when relationship quality was high. These results partially support the I^3 model, but indicate that other factors, specifically relationship-level factors (i.e., satisfaction), are important. These factors need to be considered but are not a part of the I^3 model in its current form.

Watkins and colleagues (2015) also found partial support for the I^3 model. After the experimenter randomly assigned participants in this study to an alcohol or placebo condition, the participants recalled an anger event (participants identified an unresolved event or issue in their relationship in which they became very angry with their partner) while using one of the three randomly assigned emotion regulation strategies (rumination, reappraisal, or uninstructed). Following this, participants completed an aggression task involving blasting their partner with varying levels of white noise (The Taylor Aggression Paradigm; Bushman & Baumeister, 1998;

Taylor, 1967). The researchers found that individuals' trait use of different regulation strategies was a better indicator of their partner-directed state aggression than their assigned regulation condition. Specifically, individuals in the alcohol and rumination condition who had higher trait reappraisal expressed lower unprovoked perpetration, but this was not the case for those with low trait reappraisal. Further, for provoked perpetration, higher trait rumination was related to greater perpetration among those in the alcohol and rumination condition and those in the placebo and uninstructed condition, but this was not the case for those low in trait rumination. These results signal that attempts to regulate one's emotions in the moment may not be strong enough, and that emotion regulation strategies that individuals habitually engage in are more indicative of state aggression in response to provocation.

Overall, these experimental studies provide relatively consistent support for the I^3 model, and more importantly, indicate that there is a temporal association between provocation, emotional regulation, and state aggression toward one's romantic partner. They do not, unfortunately, capture dyadic effects, as none of these researchers sampled both members of the romantic couple. However, a few studies described below do capture dyadic effects of the relation between emotional regulation and IPA.

Dyadic Samples. While the above studies highlight the association between emotion regulation and IPA, a few researchers have begun to investigate possible dyadic effects. Specifically, they have studied how the level of emotional dysregulation of both members of a romantic couple may be influencing IPA. There are currently three studies that support the notion that intrapersonal emotion regulation abilities of both partners are important to capture to understand IPA perpetration (Lee et al., 2019; Parrott et al., 2017; Watkins et al., 2014). Parrott and colleagues (2017) explored the associations between both partners' self-reported emotional dysregulation, alcohol use, and physical IPA perpetration. They found that the highest levels of

physical IPA perpetration were observed among individuals who were emotionally dysregulated and also had partners who were problematic drinkers. Further, both actor and partner main effects of emotion dysregulation were discovered, indicating that physical IPA perpetration is significantly associated with both partners' emotional dysregulation. Research conducted by Lee and colleagues (2019) found a similar pattern, where the emotional dysregulation of both partners in a romantic couple was associated with physical IPA perpetration. Further analyses revealed a three-way interaction between partners' levels of dysregulation, gender, and physical perpetration, indicating that when males were paired with relatively regulated female partners, their own dysregulation was not related to their perpetration. However, when paired with a relatively dysregulated female partner, their own dysregulation was related to their perpetration. This study also explored the association between emotion regulation and psychological IPA, but only found an actor effect of dysregulation, indicating that one's own emotional dysregulation was significantly associated with their own psychological IPA perpetration, but that their partner's emotional dysregulation was not.

The third study that has examined emotional regulation in couples and its association with IPA perpetration had participants self-report on difficulties with impulse control (a facet of emotion regulation), alcohol use, and physical and psychological IPA perpetration (Watkins et al., 2014). They found that for men and women alike, the actor effect of the interaction between impulse control difficulties and hazardous alcohol use was significant in predicting physical IPA severity (i.e., own impulse control difficulties and own alcohol use significantly predicted own physical IPA). Partner effects were also found, where impulse control difficulties positively predicted physical and psychological perpetration, indicating that individuals were more likely to perpetrate physical and psychological violence when their partners had greater impulse control difficulties.

The results of these three studies are largely consistent in their findings that both partners' emotional dysregulation (actor and partner dysregulation) is associated with IPA perpetration. While these are dyadic studies, they only measure dysregulation,, and not any specific intrapersonal regulatory strategies (such as cognitive reappraisal or suppression). Understanding what regulatory strategies individuals employ is important to getting a clear picture of how emotional regulation in couples is truly associated with IPA. Further, the data from these studies are self-report and there is no way to establish temporal precedence between emotional regulation and subsequent state aggression towards one's romantic partner.

Taken together, previous research indicates a significant relation between emotional regulation and IPA, but is currently limited in scope. This relation is consistent for men and women and also between clinical and non-clinical samples. Again, only a few studies have demonstrated a temporal association between emotional regulation and IPA, and only a few studies have utilized a dyadic sample. Further, while there is support for the I^3 model, this model does not account for possible dyadic effects. Importantly, there are no current studies that examine interpersonal emotion regulation strategies as they relate to general aggression or IPA.

CHAPTER V

INTERPSONAL EMOTION REGULATION AND INTIMATE PARTNER AGGRESSION

There is currently no comprehensive model of interpersonal emotion regulation and intimate partner aggression, despite the fact that couple conflict, including IPA, is often bidirectional (Langhinrichsen-Rohling et al., 2012), and emotional regulation is an inherently interpersonal phenomenon, such that romantic partners influence each other's emotional states (Diamond & Aspinwall, 2003). Drawing upon the models of interpersonal emotion regulation and aggression described above, a cohesive model of these phenomena is proposed.

Integrating Models of Emotion Regulation and Aggression. The GAM (Anderson & Bushman, 2002) and the I^3 model (Finkel, 2007; 2014) both argue that specific situational factors can increase the likelihood of an individual being aggressive. Conflict, defined herein as disagreement between partners stemming from incompatible or opposing behaviors or views (Cahn, 1992; Laursen & Hafen, 2010), is one of these situational factors (Birkeley & Eckhardt, 2018; Blake et al., 2018; Maldonado et al., 2015; Watkins et al., 2015). Conflict in romantic relationships has the potential to provoke strong emotions in individuals and poses a threat to an individual's own well-being or to the well-being of their relationship (Benjamin, 1996; Sanford, 2010). Even though conflict is not always negative or damaging to a relationship, these feelings of threat are valid. There are potential benefits to relationship conflict, such as increased relationship quality and satisfaction (Gottman et al., 1998, Fletcher et al., 1999). However, relationship conflict can also lead to decreased relationship satisfaction, the dissolution of the relationship, and experiences of IPA (Gottman & Krofoff, 1989; Marshall, Jones, & Feinberg, 2011). Within the proposed model, conflict is a necessary situational factor that leads to the use of interpersonal emotion regulation by both members of the romantic dyad, and possibly IPA perpetration as well.

Within the process model of emotion regulation (Gross 1998b), there are two steps that are most relevant to couple conflict, cognitive change (antecedent-focused regulation) and response modification (response-focused regulation). The three steps that precede these in the model are less relevant (i.e., situation selection, situation modification, and attentional deployment), because conflict in romantic relationships is unavoidable (Fincham, 2000). The original model describes only intrapersonal processes (e.g., utilizing cognitive reappraisal, or expressive suppression), where individuals can attempt to regulate themselves to avoid certain emotional experiences or to modify the emotions that they are feeling. Based on research on interpersonal emotion regulation, it is clear that individuals can try and regulate their partner as well. For example, when discussing a conflict, Partner A can ask Partner B to try and see the situation from another point of view (e.g., engage in perspective taking). This would be a form of interpersonal emotion regulation that could be enacted before or after an emotion has been evoked. Partner A could also be engaging in intrapersonal cognitive reappraisal at the same time. Therefore, these two steps really involve both intra- and inter-personal regulatory attempts. Within the proposed model, intrapersonal and interpersonal regulation are always a part of conflict.

Another possibility that Gross's model does not consider is the idea that the goal may not always be to regulate one's partner in a positive direction. Following the logic of social baseline theory (Beckes and Coan, 2011), where close others can be seen as an extension of the self (Beckes et al., 2012), individuals would be motivated to help regulate their partner into a positive state, because that is what they are motivated to do for themselves (Larsen, 2000). However, interpersonal emotion regulation attempts are not always positive; sometimes, individuals deliberately try to upregulate negative feelings in others (Martínez-Inigo et al., 2013; Niven et al., 2009; Niven et al., 2012). In couples this could be because, during times of conflict,

regulatory goals of the self and of the partner may be at odds, and it could be more of a challenge to regulate both the self and a partner simultaneously due to increased demands on regulatory resources. In this way, the main tenet of social baseline theory is questioned. What if the presence of another person is diminishing regulatory resources instead of adding to them?

Within the GAM model, emotional regulation fits within the cognitive route (Roberton et al., 2012). The attempt to over-regulate negative emotions is depleting cognitive resources that are necessary for individuals for appraisal and decision-making processes (Gross & John, 2003; John & Gross, 2004; Roberton et al., 2012). Indeed, emotional arousal on its own interferes with information processing abilities (Chartrand et al., 2006). If the regulation of the self is cognitively taxing, and that taxation decreases the ability to inhibit aggression, attempting to simultaneously regulate a second individual outside of the self during conflict would be doubly taxing, further increasing the likelihood of aggression.

Research on interpersonal emotion regulation does suggest that regulating another has similar cognitive effects to regulating the self, but that the type of interpersonal regulation that one decides to use is important (Martínez-Inigo et al., 2013). Both affect improving (i.e., positive interpersonal emotion regulation) and affect worsening (i.e., negative interpersonal emotion regulation) strategies have been shown to be associated with a decrease in cognitive resources. Although, this effect is buffered for affect improving strategies when the target (i.e., person receiving the interpersonal emotion regulation strategy) reciprocates with positive feedback. Applying these findings to couple conflict, when one uses positive interpersonal emotion regulation techniques with their partner, they are likely to in turn receive positive feedback from their partner, which can offset the taxing effect of regulation and decrease the likelihood of aggression. The converse of this is also probably true, but not yet tested, which is that negative interpersonal emotion regulation attempts are associated with negative affective feedback from

one's partner, increasing the likelihood of both partners' depletion of cognitive resources and subsequent increased feelings of aggression.

It could also be possible that increases in positive interpersonal emotion regulation produce positive feelings in one's partner and a positive regulatory feedback loop ensues. Within this feedback loop, feelings of psychological closeness increase, increasing the feeling that one's partner is an extension of the self (Beckes et al., 2012), which in turn increases the motive to further decrease negative feelings in your partner, as one does for the self (Larsen, 2000).

Proposing a Model of Interpersonal Emotion Regulation and Aggression in Couples. The proposed model centrally requires that that there is conflict between the members of the couple which triggers threat and primes emotional responding. Then, during the conflict, each individual engages in both intrapersonal and interpersonal forms of emotion regulation to deal with their own, and their partner's, emotions. Individuals can choose to either engage in positive interpersonal emotion regulation, where they attempt to downregulate the negative emotions and upregulate the positive emotions of their partner, or engage in negative interpersonal emotion regulation, where they attempt to upregulate their partner's negative emotions and downregulation their positive ones.

If an individual chooses to engage in negative interpersonal emotion regulation, there are three distinct consequences of this action: 1) they expend more of their cognitive resources, 2) they increase the likelihood that their partner reciprocates with negative responses, creating a negative interpersonal emotion regulation feedback loop, and 3) they perceive greater psychological distance from their partner. This greater perceived psychological distance will in turn decrease the feeling that the partner is an extension of the self, and decrease the motive to alleviate the negative feelings of their partner. All of these consequences increase the likelihood that an individual will have a difficult time inhibiting their aggressive behavior. Further, because

of the negative feedback loop, these effects will also be true for the partner. In all, using a negative interpersonal emotion regulation strategy will be associated with increases in feelings of aggression for both partners.

If an individual instead chooses to engage in positive interpersonal emotion regulation, the consequences are as follows: 1) they will replenish their cognitive resources, 2) they increase the likelihood that they receive reciprocal positive feedback from their partner, and 3) they will perceive greater psychological closeness with their partner. This perceived closeness will increase the feeling that their partner is an extension of the self, and in turn, increase the motive to alleviate any negative feelings in the partner. All of these consequences increase the likelihood that an individual will successfully be able to inhibit their aggressive impulses, which in turn, decreases the likelihood of aggression. Due to the positive feedback loop, these effects will also be true for the partner. In all, using a positive interpersonal emotion regulation strategy will be associated with decreased feelings of aggression for both partners. For this theoretical model of interpersonal emotion regulation and aggression in couples, see Figure 1.

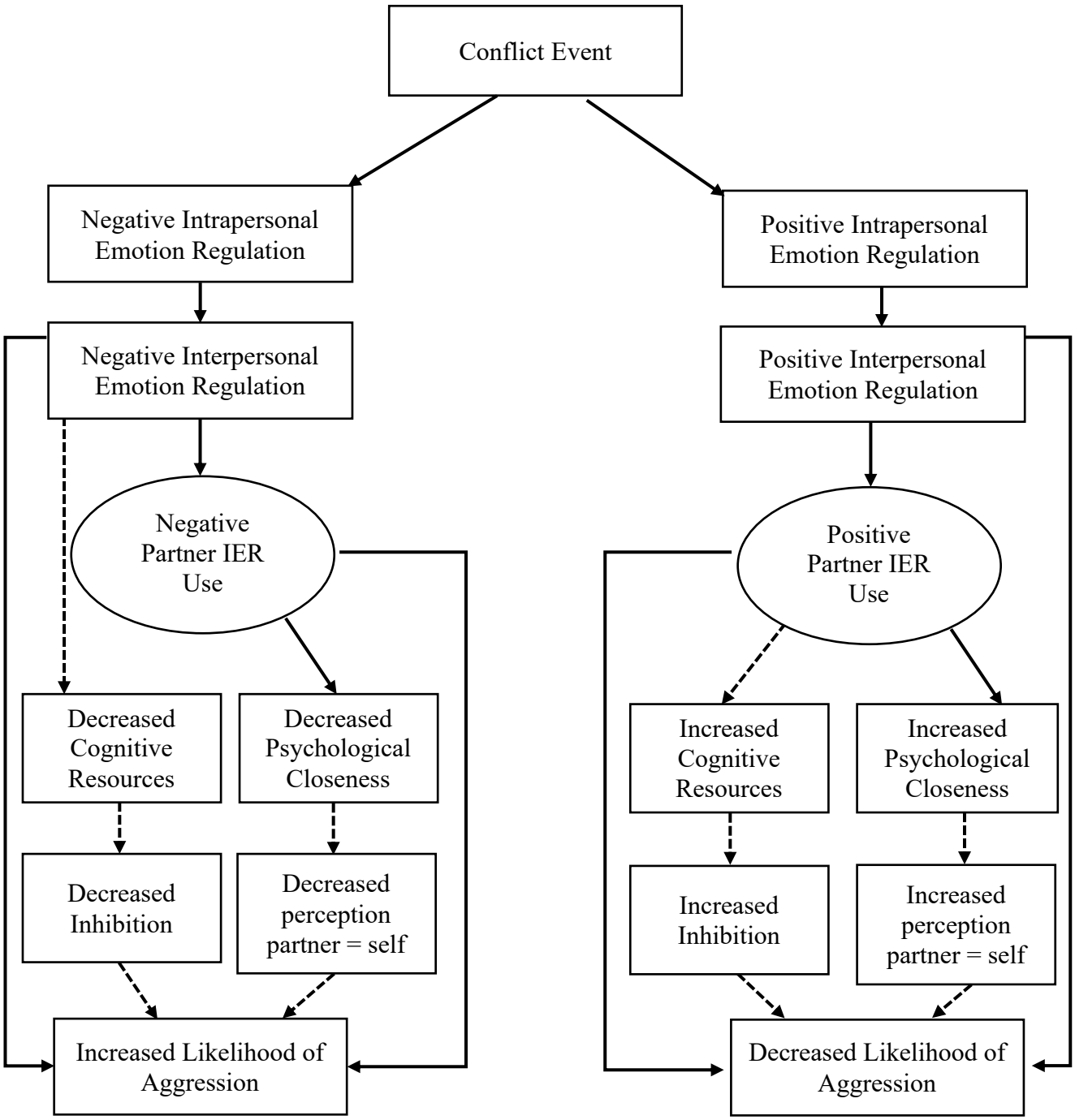

Figure 1: Theoretical model of interpersonal emotion regulation and aggression in couples

Gaps in Research

Existing research on emotion regulation indicates a significant association with IPA. Despite this, the vast majority of researchers have focused on the effect of individual-level dysregulation on IPA perpetration, ignoring the potential influence of one's partner. The researchers who have utilized dyadic samples have found support for the notion that interpersonal processes of emotion regulation are important to understanding IPA (Lee et al., 2019; Parrott, et al., 2017; Watkins et al., 2014). Unfortunately, these researchers used self-report data and no experimental methodology, limiting our ability to make casual statements about the impact of emotion regulation on IPA. Further, these researchers investigated the emotional dysregulation of each partner, but did not examine specific types of regulation strategies or account for potential interpersonal emotion regulation. Investigating dyadic interpersonal emotion regulation strategies is important, because it could capture potential effects of both partners' regulation on state aggression.

A few researchers have examined the relation between emotion regulation and IPA experimentally, using partner-directed state aggression as a proxy for IPA (Birkeley & Eckhardt, 2018; Blake et al., 2018; Scott et al., 2015; Watkins et al., 2015). These researchers have helped uncover a temporal association between provocation (i.e., conflict), intrapersonal emotion regulation strategies, and state aggression toward one's partner. Further, they provide support for the theory that emotion regulation strategies have a casual impact on aggression toward one's partner. None of these researchers have examined the impact of interpersonal emotion regulation strategies on partner-directed state aggression.

Lastly, there is no existing model that explains how interpersonal emotion regulation strategies enacted by romantic partners during conflict are associated with IPA. A model such as this is essential to guiding theoretically grounded research that attempts to explain, predict, and

understand the underlying interpersonal processes of regulation that may be associated with partner-directed state aggression. Such a model was proposed and partially tested within this dissertation. Further, there was no research examining the effects of interpersonal emotion regulation on IPA. These investigations are necessary to test theories that would stem from this model.

Current Research

The current studies within this dissertation aimed to address the gaps in research between interpersonal emotion regulation (IER) and IPA. Specifically, the goal was to conduct the first series of studies that 1) examine the relation between IER and IPA, 2) experimentally manipulate IER strategies to examine the effects of positive and negative effects on partner-directed state aggression, 3) employ a dyadic sample to observe how partners' use of IER strategies during a conflict interaction are associated with subsequent feelings of partner-directed state aggression, and 4) test elements of a new model of IER and aggression. This work involved two studies, one study which was experimental and non-dyadic, and one study that was observational and dyadic.

VI

STUDY 1

The purpose of study 1 was to address two of the current gaps in research mentioned above. First, previous research has found that self-reported emotion regulation strategies (e.g., suppression, cognitive reappraisal) and emotional dysregulation are both significantly associated with IPA perpetration (e.g., Berzenski & Yates, 2010; Ortiz et al., 2015; Shorey et al, 2015). This study examined if the association between IER and IPA perpetration was consistent with the results found with individual-level emotion regulation processes and perpetration. Second, there have been no experimental studies that assign IER strategies and examine the effects of that IER strategy on partner-directed state aggression. Previous research found that the assignment of individual-level emotion regulation strategies were associated with state aggression toward one's partner (Birkeley & Eckhardt, 2018; Blake et al., 2018; Scott et al., 2015; Watkins et al., 2015). To test the association between IER strategies and subsequent partner-directed state aggression, this study utilized an experimental methodology in which participants were randomly assigned to an IER strategy condition and then asked to read and respond to a relationship-relevant conflict scenario using that assigned strategy. Once participants responded to the scenario, their feelings of state aggression toward their romantic partner were measured.

Hypotheses

The aim of this study was to examine the potential effect of IER on IPA perpetration and feelings of aggression toward one's romantic partner. Specific hypotheses were as follows:

H1. Self-reported use of IER strategies would be significantly associated with self-reported IPA perpetration. Specifically, greater use of negative IER strategies with one's partner would be positively associated with their IPA perpetration (1a), and greater use

of positive IER strategies with one's partner would be negatively associated with their IPA perpetration (1b).

H2. Partner-directed state aggression for participants in the no instruction IER condition would be positively correlated with self-reported IPA perpetration. This condition should mirror the IER strategies that the participant would normally use with their partner during conflict, and therefore, their IPA perpetration should be positively correlated with their level of state aggression.

H3. Relative to individuals in the no instruction IER condition, those in the negative IER condition would demonstrate more partner-directed state aggression, and those in the positive IER condition would demonstrate less partner-directed aggression.

Method

Participants

277 college-aged individuals in exclusive dating relationships were recruited through the university SONA pool. Participants who did not complete the study in its entirety (n = 34) were excluded from analyses. Participants who completed the study but reported that they were not actually in a romantic relationship (n = 7) or indicated that they did not answer the survey questions honestly (n = 3) were excluded from analyses as well. The final sample was comprised of 233 individuals. The majority of participants were female (67.0%), White (96.1%), and non-Hispanic/Latino (89.7%). Participants were either in a committed dating relationship (n = 231; 99.1%), engaged (n = 1; 0.4%) or married (n = 1; 0.4%). Only a small portion of the couples lived together (n = 16; 6.9%), and overall, participants saw their partner on average 3 days a week (M = 3.19, SD = 2.48). The average age of the participants was 19 (M = 19.11, SD = 1.73, Range: 18 – 24). Participants were in romantic relationships ranging from 3 months to 6 years (M = 17.72 months, SD = 11.37 months).

Procedure

Participants were recruited through the University's SONA website and flyers posted on campus. Participants had to be at least 18 and in a serious and committed dating relationship for at least three months to participate. Participants arrived at the lab and completed the study on a computer via Qualtrics (See Appendix A for all survey measures). Participants completed this study in the lab in order to limit potential environmental distractions (Clifford & Jerit, 2014). Participants began by filling out demographic information and completing a negative affect mood measure to assess their baseline feelings of anger. Participants then completed a few individual-level (i.e., personality traits, emotional intelligence, general aggression) and relationship-level (i.e., relationship satisfaction, attachment,) study measures. While these measures were not a part of the central hypotheses of the study, participants were asked to complete these measures because they assess constructs that have known associations with emotion regulation and/or aggression (Carton & Egan, 2011; Hines & Saudino, 2008; Lamm et al., 2008; Peña-Sarrionandia et al., 2015). Before moving on to the experimental portion of the study, participants also reported on instances of psychological and physical aggression perpetration in the past 12 months within their current romantic relationship, as well as their use of positive and negative IER strategies with their romantic partner.

Next, participants were randomly assigned to one of the three IER regulation conditions: positive IER, negative IER, or no instruction condition. Conditions were stratified by gender in order to compare potential gender differences. Once randomly assigned to an IER condition, participants were given instructions on how they should respond to their partner in an attempt to regulate their emotions. Before participants were presented with a conflict scenario, they were told to imagine that this was a real situation they were in with their partner and try to think while reading how they would respond to their partner and influence what they are feeling in a way

that would make them feel better or worse (depending on their assigned condition). In the no instruction condition, participants were given no instructions and told to respond as they would naturally. Topics of the scenarios centered around themes of jealousy and deception in romantic relationships and were written from a first-person perspective (See Appendix B for conflict scenarios).

After reading the conflict scenario, participants were instructed to write for about 2 minutes (at least 150 words) on how they would respond to their partner in that scenario. After completing the writing task, participants were presented with a virtual version of the Voodoo Doll Task, a proxy for measuring partner-directed aggression (DeWall et al., 2013). Participants were instructed that they could release any negative energy they might be feeling toward their partner using the doll on the screen. They were then able to choose, using a sliding bar, how many pins (0 – 19) they would like to insert in the doll (See Appendix C for full instructions, images, and sliding bar of the task). Participants also completed the negative affect mood measure again.

After completing the Voodoo Doll Task the mood measure, participants were instructed to write five things that they enjoy about their relationship with their partner. The purpose of this task was to eliminate any residual negative feelings they may have had toward their partner. Lastly, participants were shown a debriefing screen that explained the purpose of the study and provided them with resources (e.g., UNH counseling center, SHARPP, NH domestic violence hotline). Participants received one hour of SONA credit for their time.

Materials

Conflict Scenarios. Two conflict scenarios (Scenario A n = 120; Scenario B n = 113), written from the first-person perspective of the participant, were used in this study for participants to read and respond to. Topics of the scenarios center around themes of jealousy and

deception in romantic relationships. College students report jealousy issues as one of the most frequent problems that they encounter in their romantic relationships (Knox & Wilson, 1983; Zusman & Knox, 1998). In research with the student population at this university, jealousy was the top argument topic students listed when asked what about major sources of conflict in their relationship (Neal, 2015). Jealously was also involved in arguments that involved IPA perpetration and those that did not. Further, anger is a common emotional reaction to jealousy (Guerrero, 1998; White & Mullen, 1989), which has been previously linked to verbally and physically aggressive behaviors in romantic relationships (Sugarman & Hotaling, 1989). Deception was another common problem in relationships that students at this university wrote about, so this was also included in the scenarios.

Three scenarios were originally developed for this study and piloted with college students (N=72), who rated the likelihood of the scenario taking place ("How likely is it that something like this would happen in college student relationships?"), how realistic the scenario was ("How realistic is this scenario?"), and the frequency at which they thought the scenario occurred ("How often do you think college students face issues like the one in this scenario?"). All questions were asked on Likert scales, ranging from 0 (*not at all / never*) to 6 (*extremely / very frequently*). Repeated measures ANOVAs were run to compare scenarios on these three variables. Results indicated significant differences between scenarios on likelihood [F (2, 122.14) = 6.12, p < .003], realism [F (2, 108.97) = 11.52, p < .001], and frequency [F (2, 102.16) = 19.35, p < .001]. Paired comparisons with Bonferroni correction indicated significant differences between the scenarios such that one scenario received significantly lower ratings on all three variables. The two scenarios that were not significantly different from each other and had higher mean scores were retained and used in this study.

In these scenarios, both partners have some reason to be upset, which is reflective of organic conflicts in romantic relationships. Participants were instructed to read the conflict scenario and image that they were involved in it personally with their partner. The name of the participant's partner is inserted to increase the level of realism of the scenario. These two conflict scenarios were developed for this study, and they are counterbalanced across condition and gender. The conflict scenarios are included in Appendix B.

Interpersonal Emotion Regulation Conditions. All participants were randomly assigned to one of three IER conditions, stratified by gender: negative IER or positive IER, or no instruction given (See Appendix D for full instructions).

No Instruction Condition. Participants in the control condition (n = 76, 32.6%) were not given any specific instructions on what IER strategies to use. Before reading the conflict scenario, they were given the following directions:

> All couples at some point deal with conflict in their relationship. During a conflict, individuals have different strategies for dealing with the feelings of their partner. There are many ways in which you may want to make your partner feel better (decrease their negative feelings) or make them feel worse (intensify their negative feelings). Please read the following scenario as if it was happening in your relationship with your partner. While reading, think of how you would respond to your partner, and how you would influence what they are feeling.

Next, the participant read the conflict scenario. After reading, they were prompted to write for the next 2 minutes (at least 150 words) how they would respond to your partner in this scenario and how they would influence their feelings and emotions.

Negative IER condition. Participants in the negative IER condition (*n* = 76, 32.6%) were given instructions which directed them to think about how to negatively regulate their partner. Participants were given the following directions before to read the conflict scenario:

> There are different ways of dealing with conflict in relationships. Individuals can choose to deal with the feelings of their partner in a variety of ways. We would like you to think about how to make your partner feel worse (intensify their negative feelings). Please read the following scenario as if it was happening in your relationship with your partner. While reading, think of how you would respond to your partner and how you would influence what they are feeling in a way that will make them feel worse."

After reading the conflict scenario, they were prompted to write for the next 2 minutes about how they would respond to their partner in this scenario to influence their partners' feelings and emotions to make them feel worse in this situation.

Positive IER condition. Participants in the positive IER condition (*n* = 81, 34.8%) were given instructions which directed them to think about how to regulate their partner positively. They were given the following directions before reading the conflict scenario:

> There are different ways of dealing with conflict in relationships. Individuals can choose to deal with the feelings of their partner in a variety of ways. We would like you to think about how to make your partner feel better (decrease their negative feelings). Please read the following scenario as if it was happening in your relationship with your partner. While reading, think of how you would respond to your partner and how you would influence what they are feeling in a way that will make them feel better.

After reading the conflict scenario, they were prompted to write for the next 2 minutes about how they would respond to their partner in this scenario to influence their partners' feelings and emotions to make them feel better in this situation.

Measures

Interpersonal Emotion Regulation. The Regulation of Others Feelings scale (ROOF; Gable & Boyer, 2018) was used to measure how often participants use positive IER strategies (i.e., the upregulation of positive emotions and/or downregulation of negative emotions) and negative IER strategies (i.e., the downregulation of positive emotions and/or upregulation of negative emotions) on others in their daily lives. This scale contains 30 items, 15 regarding positive IER strategies (e.g., I emphasize the positives in the situation) and 15 regarding negative IER strategies (example item: "I offer a negative interpretation of the situation"). Participants responded to each item on a Likert scale to indicate how often they used each strategy from 0 (*never*) to 7 (*very frequently*). Mean scores were calculated for the positive (M = 3.68, SD = 0.69) and negative (M = 1.33; SD = 0.53) IER strategy items. The directions of the scale were modified for this study to only ask about how often they used these strategies with their romantic partner. The reliability for positive and negative IER items were good (α = .82; α = .71 respectively).

Intimate Partner Aggression Perpetration. The physical and psychological subscales of the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996) were used to assess participants' experiences of physical (12 items; "I pushed or shoved my partner") and psychological (8 items; "I swore at my partner") aggression perpetration. Participants indicated the number of times they had perpetrated each act of aggression against their current romantic partner in the past 12 months from 0 (*This has not happened in the past year*) to 6 (*More than 20 times in the past year*).

Anger. In order to assess whether the conflict scenario produced feelings of anger in participants, they were given mood items from the negative affect scale of the Positive and Negative Affect Scale- Expanded (PANAS-X; Watson & Clark, 1994). An anger score

comprised of rating on four adjectives from the PANAS "angry", "hostile", "irritable", disgusted", and one other mood item added, "annoyed" was also calculated based on previous research (Eckhardt & Jamison, 2002; Eckhardt et al., 2002; Maldonado, DiLillo, & Hoffman, 2015). These mood items were administered at baseline (at the beginning of the study) and after the conflict scenario to measure changes in anger. Each adjective was assessed on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Reliability of the anger score was acceptable at baseline and after the conflict scenario ($\alpha = .61$; $\alpha = .87$ respectively).

Partner-Directed State Aggression. The voodoo doll task (DeWall et al., 2013) measured state aggression toward one's partner. In this task, participants viewed a picture of a doll on a computer that they were told represented their romantic partner. Participants were instructed that they could release any negative energy they experienced relating to the conflict scenario by choosing how many pins should be inserted into the virtual voodoo doll. Participants viewed images of the same doll on their screen with varying numbers of pins inserted from 0 to 19, and used a sliding scale to choose the number of pins with which they would like to insert into the doll. Researchers have found that individuals transfer the characteristics of a person onto a voodoo doll representation of that person (King et al., 2007; Pronin et al., 2006; Risen & Gilovich, 2008; Rozin et al., 1986). Recent validation studies showed that the number of pins inserted during the task correlated with actual reports physical and psychological perpetration (DeWall et al., 2013). The VDT, while a continuous measure of aggression, often produces non-normally distributed results. In the series of validation studies, about half of each sample chose to insert 0 pins (range: 41- 72%), with the average number of pins inserted being around 2. Images and instructions of the VDT task are included in the Appendix C.

Data Analysis Strategy

Scoring IPA perpetration. Psychological and physical perpetration were scored using a variety scoring method (i.e., each item in the measure was answered dichotomously and then summed to get an accurate count of total numbers of different violent behaviors reported). This method of scoring has been found to be less skewed and more reliable than frequency data (Vega & O'Leary, 2007), and gives equal weight to all acts of aggression (Moffitt et al., 1997).

Assessing the distribution of dependent variables. It was expected that IPA variety scores and scores on the voodoo doll task would be non-normally distributed. Indeed, IPA variety scores for both psychological and physical aggression appeared to be non-normally distributed with a positive skew, a common finding in IPA research (Swartout et al., 2015). The Kolmogorov-Smirnov test confirmed that psychological, $D(233) = .13$, $p < .001$ and physical, $D(233) = .45$, $p < .001$ perpetration scores did not meet the assumption of normality. Participants' pin use on the VDT was positively skewed as well, which is consistent with previous research with this paradigm (Chester, Merwin, & DeWall, 2015; DeWall et al., 2013; McCarthy, Crouch, Bashman, Milner, & Skowronski, 2016). Again, the Kolmogorov-Smirnov test confirmed that the distribution of scores on this task did not meet the assumption of normality, $D(233) = .32$, $p < .001$.

Comparing model fit. Generalized linear models that modeled non-normal count data were run first to compare fit. These models were the Poisson and negative binomial GLMs, which are the most appropriate techniques for data analysis when data is non-normally distributed with a count distribution (Gardner et al., 1995). The Poisson GLM assumes that the residual variance is equal to the mean, while the negative binomial GLM does not contain this assumption and allows for the residual variance to exceed the mean, allowing for overdispersion. To compare fit, both regression models were estimated using maximum likelihood within SPSS 26. Negative binomial GLMs produced the best fit for all count variables (smaller AIC/BIC

values) and allowed for overdispersion. Therefore, negative binomial GLMs regressions were utilized to analyze the data.

Results

Preliminary Results

Interpersonal emotion regulation. Men's (M = 1.30; SD = 0.48) and women's (M = 1.34; SD = 0.56) scores of negative interpersonal regulation were compared using an independent samples t-test, which concluded that there was no significant difference between genders, t (231) = -0.57, p = .57. Scores of positive interpersonal regulation for men (M = 3.51; SD = 0.63) and women (M = 3.76, SD = 0.70) were also compared and results indicated that women had significantly higher scores of positive interpersonal regulation compared to men, t (231) = -2.57, p = .01, d = 0.31), but the effect size was relatively small. See Table 1 for correlations between self-reported IER use and psychological and physical perpetration.

Table 1
Correlations between self-reported IER and IPA perpetration

Variables	Mean (SD)	1.	2.	3.	4.	5.	6.	7.	8.
1. Negative IER	1.33 (0.53)	-							
2. Positive IER	3.68 (0.68)	.04	-						
3. Psychological Perpetration – Overall	2.23 (1.82)	.34**	.11*	-					
4. Psychological Perpetration – Minor	1.86 (1.32)	.30**	.12	.92**	-				
5. Psychological Perpetration – Severe	0.37 (0.81)	.27**	.13*	.76**	.44**	-			
6. Physical Perpetration – Overall	0.34 (1.33)	.08	.06	.39**	.24**	.44**	-		
7. Physical Perpetration – Minor	0.22 (0.71)	.07	.07	.36**	.27**	.36**	.94**	-	
8. Physical Perpetration – Severe	0.13 (0.71)	.07	.04	.33**	.18**	.46**	.94**	.76**	-

Note: * p <.05, ** p < .01.

IPA perpetration. Across the sample, 78.1% of the sample engaged in at least one act of psychological aggression, and 14.6% of the sample engaged in at least one act of physical aggression. Frequencies of overall IPA scores, and scores parsed by minor and severe acts, by gender are presented in Table 2. The mean and standard deviations of IPA perpetration scores are included in Table 1 where they are correlated with self-reported use of negative and positive IER with their partner in their daily lives.

Table 2
Rates of any self-reported acts of psychological and physical perpetration by gender

	Total Sample (N = 233)	**Male** (N = 77)	**Female** (N = 156)
Psychological perpetration			
Overall	71.8% (n = 182)	72.7% (n = 56)	80.8% (n = 126)
Minor acts	77.3% (n = 180)	71.4% (n = 55)	80.1% (n = 125)
Severe acts	25.3% (n = 59)	23.4% (n = 18)	26.3% (n = 41)
Physical perpetration			
Overall	14.6% (n = 34)	24.7% (n = 19)	9.6% (n = 15)
Minor acts	12.4% (n = 29)	19.5% (n = 15)	9.0% (n = 14)
Severe acts	5.6% (n = 13)	10.4% (n =8)	3.2% (n = 5)

Partner-directed state aggression. Across all conditions, ninety participants (38.6%) used at least one pin in the voodoo doll task. Women used at least 1 pin more often than men (41.6% vs. 38.6%), but there was no significant difference between pin use frequency, χ^2 (1) = 1.84, p = .20). Mean scores of pin use by condition and by IPA perpetration status in one's current relationship are included in Table 3.

Table 3
Mean voodoo doll pin use by experimental condition

	No Instruction Condition (n = 76)		Negative IER Condition (n = 76)		Positive IER Condition (n = 81)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Overall (N = 233)	1.71	3.31	1.66	2.71	1.37	2.82
No IPA (n = 50)	.60	1.40	.63	1.80	1.25	3.15
IPA (n = 183)	1.98	3.59	2.00	2.89	1.40	2.76

Anger arousal manipulation check. To assess whether changes in anger differed as a function of assigned IER condition or conflict scenario received, mixed ANOVAs were run. Condition (negative IER, positive IER, and no instruction) and conflict scenario received (Scenario A and Scenario B) were both between-subject factors. Anger was the within-subject factor (before and after). There was a significant increase in anger across time, where participants reported significantly more anger $F(1, 227) = 45.86$, $p < .001$ after reading and responding to the conflict scenarios. There was also a significant two-way interaction between time and IER condition for anger $F(2, 227) = 16.31$, $p < .001$. As expected, no significant two-way interaction between anger and conflict scenario was found $F(1), 227 = .044$, $p = .83$). There was also no significant three-way interaction (Anger × IER Condition × Conflict Scenario) between these variables, $F(2), 227 = .22$, $p = .81$.

A simple main effect analysis was conducted to explore the nature of the significant two-way interaction (anger × condition). Results indicated that anger scores increased significantly in both the negative IER condition $F(1, 230) = 72.56$, $p < .001$, and the control condition $F(1, 230) = 4.11$, $p = .04$, but anger scores in the positive IER condition did not significantly change $F(1, 230) = 1.39$, $p = .24$. Further, there were no significant differences between participants' anger scores before the experimental manipulation by condition, $F(2, 230) = .65$, $p = .52$, but there were significant differences between participants' anger scores after the experimental manipulation by condition $F(2, 230) = 13.49$, $p < .001$.

Table 4
Means and standard deviations of pre and post anger scores by condition

			Pre anger score		Post anger score	
Condition	*N*	% by gender	*M*	*SD*	*M*	*SD*
No instruction	76	Male: 30.3%, Female: 69.7%	6.43	1.83	7.16	2.65
Negative IER	76	Male 35.5%, Female: 64.5%	6.13	1.61	9.17	4.29
Positive IER	81	Male 33.3%, Female: 66.7%	6.21	1.66	6.62	2.47

In order to examine specific differences between conditions controlling for anger scores before the experimental condition, a follow up ANCOVA was conducted, $F(1, 229) = 16.27$, $p < .001$. Post hoc contrasts indicated that 1) scores of anger were significantly different between the control condition and the negative and positive IER conditions, and that the negative and positive IER conditions significantly differed from each other. The greatest increase in anger scores before and after the experimental condition was seen in the negative IER condition. See Table 4 for means and standard deviations for anger scores by condition.

Primary Results

Hypothesis 1a. To test whether general use of IER strategies with one's partner was associated with IPA perpetration, two separate negative binomial regression models were run. In the first model, scores of negative and scores of positive IER were entered as independent variables and psychological IPA was entered as the dependent variable. In the second model, scores of both negative and positive IER were again entered as independent variables, but physical IPA was entered as the dependent variable. In both models, gender and days on average spent with one's partner were added as control variables. It was anticipated that greater use of negative IER strategies with one's partner would be positively associated with their psychological and physical IPA perpetration, which was confirmed (Table 5). Negative IER strategies were positively associated with both psychological ($\chi^2(1) = 10.38$, $p = .001$) and physical ($\chi^2(1) = 5.98$, $p = .01$) intimate partner aggression. Gender was not a significant predictor of psychological aggression, but it was a significant predictor of physical aggression. A follow-up model that tested for an interaction between negative IER and gender revealed no significant relation.

Table 5
Negative binomial regressions examining the effect of interpersonal emotion regulation on psychological and physical perpetration

IPA Variable	Predictor	*b*	*SE*	χ^2	*P* value	LLCI	ULCI
Psychological	Negative IER	.49**	.16	10.38	.001	.20	.80
	Positive IER	.14	.12	1.34	.247	-.10	.38
	Days	-.03	.03	.86	.355	-.10	.03
	Gender	-.05	.18	.08	.776	-.39	.29
Physical	Negative IER	.65*	.27	5.98	.014	.13	1.18
	Positive IER	.46*	.22	4.48	.034	.03	.88
	Days	.02	.06	.15	.697	-.09	.13
	Gender	.61*	.29	4.47	.035	.04	1.18

Note: * p <.05, ** p < .01, Average number of days per week spent with partner and gender were entered as controls.

Hypothesis 1b. It was also predicted that greater use of positive IER strategies with one's partner would be negatively associated with their psychological and physical perpetration. However, the results did not support this hypothesis (Table 6). Positive IER strategies were not significantly associated with psychological perpetration, χ^2 (1) = 1.34, p = .247. Further, positive IER strategies were positively associated with physical perpetration, χ^2 (1) = 4.48, p = .034. Again, as gender had a significant main effect on physical perpetration, a follow-up model tested for a possible interaction between positive IER and gender, but there was no significant interaction.

Table 6
Predicting state aggression from self-reported psychological and physical perpetration

VDT pin use	*b*	*SE*	χ^2	*P* value	LLCI	ULCI
Psychological perpetration	.20*	.08	6.23	.013	.04	.36
Physical perpetration	.04	.10	.11	.739	-.17	.24
Gender	.22	.32	.46	.499	-.42	.86

Note: * p <.05, ** p < .01, Gender entered as a control.

Hypothesis 2. Negative binomial regressions were run to test whether partner-directed state aggression for participants in the no instruction IER condition were associated with self-reported IPA perpetration. For this hypothesis, scores of pin use on the VDT task were assessed.

When psychological and physical perpetration scores were entered into the model simultaneously as predictors of VDT pin use scores, only psychological perpetration was a significant predictor, χ^2 (1) = 6.23, p = .01. Gender was included in the model as a control and was not a significant predictor.

Hypothesis 3. To test group differences between the three IER conditions and subsequent feelings of partner-directed state aggression (H3), as well as potential gender differences between IER condition and partner-directed state aggression, data was again analyzed using negative binomial regression. Ordinarily a between group ANOVA would be used to test for significant differences between conditions, but this type of analysis was not appropriate, because the data was found to be non-normally distributed.

It was hypothesized that relative to individuals in the no instruction condition, those in the negative IER condition would demonstrate more, and those in the positive IER condition would demonstrate less, partner-directed state aggression as measured by the VDT. Scenario received and gender were included in the model but no significant effects were expected. While there were mixed findings on the role of gender in the association between individual-level emotion regulation and aggression, the majority of researchers found a similar association for both women and men (Berzenski & Yates, 2010; Shorey et al., 2011; Watkins et al., 2016). Therefore, it was not anticipated that there would be a significant main effect of gender. The negative binomial regression model included a main effect for each IER condition (no instruction, negative IER, and positive IER), scenario, and gender. There were no significant main effects or interactions for any of these variables (Table 7).

Table 7
Predicting voodoo doll pin use from condition

Construct	*b*	*SE*	χ^2	*P* value	LLCI	ULCI
Scenario	.15	.17	.75	.387	-.19	.48
Gender	-.14	.18	.62	.431	-.50	.21
No Instruction vs Negative IER	-.03	.25	.03	.869	-.44	.37
No Instruction vs Positive IER	-.24	.21	1.38	.241	-.65	.16
Positive IER vs Negative IER	.21	.21	1.02	.313	-.20	.61

Note: Scenario received and gender were entered as controls.

Discussion

This study examined associations between IER and partner-directed state aggression. The results partially supported hypothesis 1, that self-reported IER strategies would be significantly associated with IPA perpetration. Greater use of negative IER strategies was associated with more psychological and physical IPA perpetration. However, there was no significant effect of the use of positive strategies on psychological aggression. This was unexpected, because individual-level positive emotion regulation strategies such as cognitive reappraisal, were generally associated with lower rates of perpetration (Birkley & Eckhardt, 2018; Maldonado et al., 2015). Cognitive reappraisal and positive IER strategies were positively correlated in the current study as well. Therefore, it was anticipated that positive IER strategies would also be associated with less perpetration. Further, there was an unanticipated positive association between positive IER strategy use and physical perpetration. This was unexpected but could possibly be explained in a few different ways. One, those that engaged in physical perpetration could just be reporting that they were engaging in the positive IER behaviors as a form of impression management (Visschers et al., 2015). Including a measure of social desirability in future studies could provide more insight into this explanation. It could also be that these are general positive IER strategies used with one's partner, not specifically during times of stress or conflict. It could be that some individuals use positive strategies with their partner in general, but

do not do so during conflict. A longitudinal study of couples and IPA perpetration where daily diaries of IPA experiences and IER attempts are captured could be a promising future avenue of research.

Hypothesis 2, that levels of partner-directed state aggression for participants in the no instruction IER condition would be significantly associated with self-reported IPA perpetration, was supported. Results indicated that higher variety scores of self-reported psychological perpetration were associated with greater VDT pin use. Physical perpetration was not significantly associated with pin use, but that could be because psychological and physical perpetration scores are highly correlated and they were entered together into the model. Support for this hypothesis tentatively indicates that this condition mirrored the IER strategies that the participant would normally use with their partner during conflict, and that there may be a temporal association between IER strategies during conflict and partner-directed state aggression.

The last hypothesis predicted that assigned IER strategies would have a direct effect on subsequent feelings of partner-directed state aggression. There was no evidence to support that assigned IER strategies were associated with more or less partner-directed state aggression. This was surprising, because feelings of anger based on condition were significantly different. Specifically, scores of anger in the negative IER and no instruction IER conditions significantly increased from pre to post measurement, while those in the positive IER condition did not significantly change. This indicates that use of certain IER strategies is associated with differences in feelings of anger, but that does not necessarily translate to state aggression. It seems like there is another factor that is not accounted for. It may be that previous IPA perpetration in the relationship could moderate the association between IER condition and state aggression. Some previous work that experimentally manipulated individual-level emotion

regulation strategies has indeed found that IPA perpetration history is a moderating factor (Maldonado et al., 2015).

Limitations

There are a few limitations to this study. First, this study had individuals in relationships responding to a hypothetical scenario involving a couple conflict. While the conflict scenario was meant to be reflective of real issues that that college students face in relationships (Knox & Wilson, 1983; Zusman & Knox, 1998), it is unclear how realistic the scenario was to participants. It was also unclear how reflective their state aggression might be of actual aggression in their relationship in response to that specific conflict. Further, while all participants were assigned an IER condition, they may not have actually used that strategy. Participants could simply ignore directions that they are given. This was a concern broached by Watkins et al. (2015) in a study of individual-level emotion regulation and IPA.

Another limitation was the self-report nature of the IPA perpetration data. Because this study did not involve both members of the couple, there was no way to determine if participants are accurately reporting their IPA perpetration. This could compromise the integrity of the results for hypotheses 1 and 2. Research has found that individuals under-report IPA perpetration for various reasons, including feelings of guilt, shame, or the desire to present themselves in a positive light (Chan, 2012). In couples' studies, perpetration and victimization reports could be compared to form a more accurate picture of IPA perpetration (Neal & Edwards, 2016; Straus, 2006). This was not possible in this study, and it is therefore likely that there was under-reporting of perpetration.

Finally, the sample was mainly comprised of White, heterosexual, college-aged young adults. In these types of sample, lower rates of IPA perpetration are generally found (Langhinrichsen-Rohling et al., 2012). Further, while individuals were stratified to condition

based on gender, the sample was mainly comprised of females, and comparing gender differences with unequal cell sizes can be problematic. Therefore, gender differences for the most part were not found, but a more representative sample could show different results. Further, while it is believed that similar findings would emerge in individuals of different age groups, races, and ethnicities, this cannot be demonstrated without replication with a diverse sample.

VII

STUDY 2

Study 1 aimed to address two current gaps in the literature: a lack of research on interpersonal emotion regulation strategies and IPA perpetration history and a lack of experimental paradigms testing the effect of IER on partner-directed state aggression. Study 1 found support for an association between negative IER strategies with one's partner and psychological and physical aggression toward one's partner. However, manipulating IER strategies experimentally did not exacerbate or mitigate feelings of aggression toward one's partner. Study 2 addressed multiple limitations of Study 1 by employing a dyadic sample to test the association between couples' IER use in their daily lives and their perpetration of psychological and physical aggression. Further, it allowed couples to discuss an actual conflict in their relationship, which should have increased the likelihood that they were engaging in IER in a way that was similar to how they would outside of the laboratory. This was an improvement over study 1, because the conflict scenarios might not have been relevant to participants.

Study 2 aimed to address current gaps in the literature further by investigating how romantic partners use IER strategies during a conflict and how those strategies are associated with partner-directed state aggression. This is the first known study to look at IER strategies of couples during conflict and the effects of those strategies on aggression. Further, this study allowed for dyadic analysis to partially test a new model of IER and IPA (Figure 1). This model posits that during conflict, individuals engage in both intrapersonal and interpersonal forms of regulation to manage their own and their partner's, emotions. Individuals can choose to engage either in positive IER, where they attempt to downregulate the negative emotions and upregulate the positive emotions of their partner, or engage in negative IER, where they attempt to upregulate their partner's negative emotions and downregulate their positive ones. If individuals

choose to engage in negative IER, they expend more of their cognitive resources and increase the likelihood that their partner reciprocates with negative responses, creating a negative IER feedback loop. This feedback loop increases the likelihood that each partner would feel aggressive. Further, negative IER use would result in greater psychological distancing by one's partner, which would decrease the feeling that the partner is an extension of the self, in turn decreasing the motive to alleviate the partner's negative feelings. Conversely, if an individual instead chooses to engage in positive IER, it increases the likelihood that they would receive reciprocal positive IER from their partner, creating a positive IER feedback loop. The reciprocal positive IER would in turn increase cognitive resources, as well as cause an individual to feel greater psychological closeness with their partner. This feeling of greater psychological closeness would be associated with feeling that the partner is an extension of the self, and increase the motive to further alleviate negative feelings in the partner. These consequences all, in turn, decrease the likelihood of aggression for both partners.

While the model hypothesized that negative IER use by one partner would increase the likelihood that the other partner would reciprocate with negative IER use (and the same relation for positive IER use between partners), it is possible that couples might persist in using different strategies throughout the conflict discussion. That is, one partner might consistently use negative IER strategies; while the other partner consistently uses positive IER strategies. By employing a dyadic design, it was also possible to examine how different patterns of IER use in couples could be uniquely associated with aggression.

In this study, participants had a conflict discussion in which they talked about an unresolved issue in their relationship. Afterward, participants' use of positive and negative IER was observationally coded by research assistants. Through this coding, it was possible to examine if participants' use of negative IER strategies would indeed lead to a negative feedback

loop, and vice versa for positive IER strategies. Further, participants provided self-report data after the conversation where they indicated the extent to which they engaged in various intrapersonal emotion regulation strategies. Through this, the relation between intrapersonal and interpersonal regulation strategies was examined. Lastly, to examine if IER strategies were associated with feelings of psychological closeness to one's partner, participants were asked to indicate the level of closeness they felt toward their partner both before and after the conflict discussion. As the proposed model posits, greater psychological closeness would be associated with greater use of positive IER strategies by one's partner, whereas greater psychological distance would be associated with greater use of negative IER strategies by one's partner. The level of psychological closeness was theorized to be indicative of subsequent levels of partner-directed state aggression, due to feeling less like one's partner is an extension of the self.

Overall, this study examined how IER strategies employed during conflict either exacerbated or mitigated the risk of partner-directed state aggression. An observational design was utilized to capture the temporal effects of IER on partner-directed aggression. Couples engaged in a conflict discussion, followed by the completion of measures of partner-directed state aggression. The recorded discussions were coded for positive and negative IER strategies employed by both partners. Instances of both verbal and non-verbal IER strategies were coded.

Hypotheses

The aim of study 2 was to examine the potential effect of IER strategies during a conflict discussion on feelings of aggression toward one's romantic partner, and to partially test a new model of IER and aggression. For all hypothesized model figures (Figures 2 – 8), squares represent actor variables, ovals represent partner variables, and the bolded lines indicate the relationship being tested. Specific hypotheses were as follows:

H1. Using participants' self-report data, it was hypothesized that one's own use of IER strategies in general with one's romantic partner would be significantly associated with one's own reports of IPA perpetration (i.e., an actor effect). Specifically, greater use of negative IER strategies by Partner A would be positively associated with Partner A's IPA perpetration (1a) and greater use of positive IER strategies by Partner A would be negatively associated with Partner A's IPA perpetration (1b).

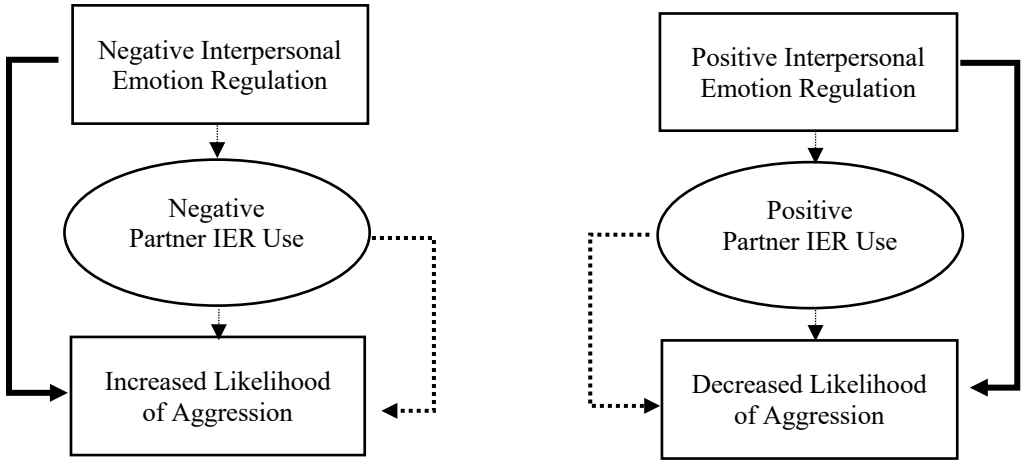

Figure 2: Hypothesized model testing actor effects of self-reported IER use on IPA perpetration

H2. Again, using participants' self-report data, it was hypothesized that one's partner's use of IER strategies in general would also be significantly associated with one's own reports of IPA perpetration (i.e., a partner effect). Specifically, greater use of negative IER by Partner A would be positively associated with Partner B's IPA perpetration (2a), and greater use of positive IER by Partner A would be negatively associated with Partner B's IPA perpetration (2b).

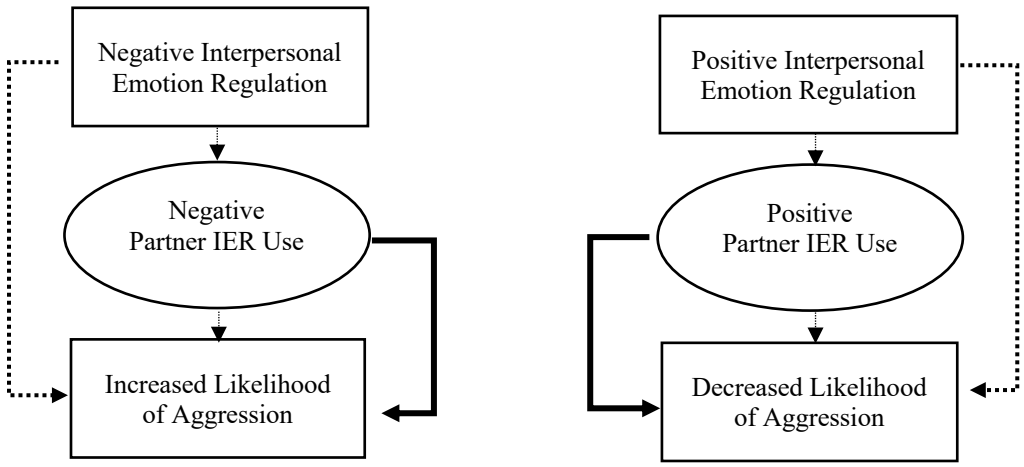

Figure 3: Hypothesized model testing partner effects of self-reported IER use on IPA perpetration

H3. One's own use of intrapersonal regulation strategies during the conflict discussion would be significantly associated with one's own use of IER strategies, such that greater use of negative intrapersonal regulatory strategies (i.e., suppression) would be associated with greater use of negative IER (3a), and greater use of positive intrapersonal regulatory strategies (i.e., cognitive reappraisal and perspective taking) would be associated with greater use of positive IER (3b).

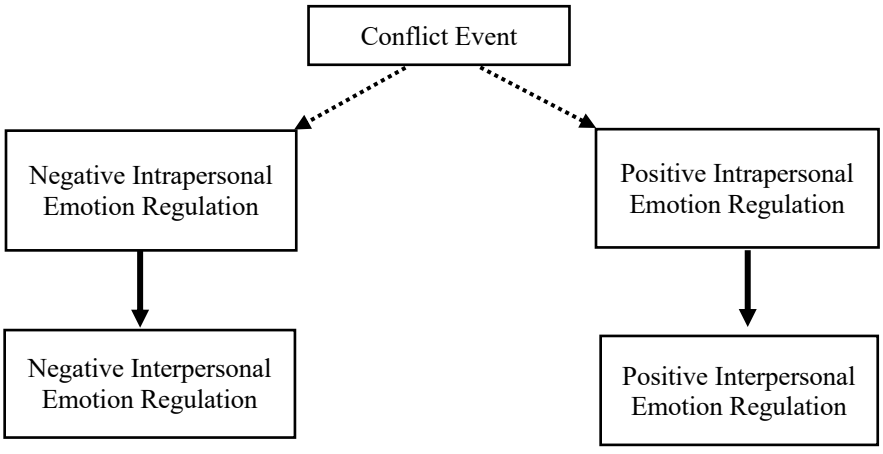

Figure 4: Hypothesized model testing associations between self-reported intrapersonal emotion regulation strategies and observed IER strategies during the conflict discussion

H4. One's own IER use would be associated with one's partner's IER use in return, such that one's use of negative IER would be associated with reciprocal use of negative IER

by one's partner (4a), and one's positive IER would be associated with reciprocal use of positive IER by one's partner (4b).

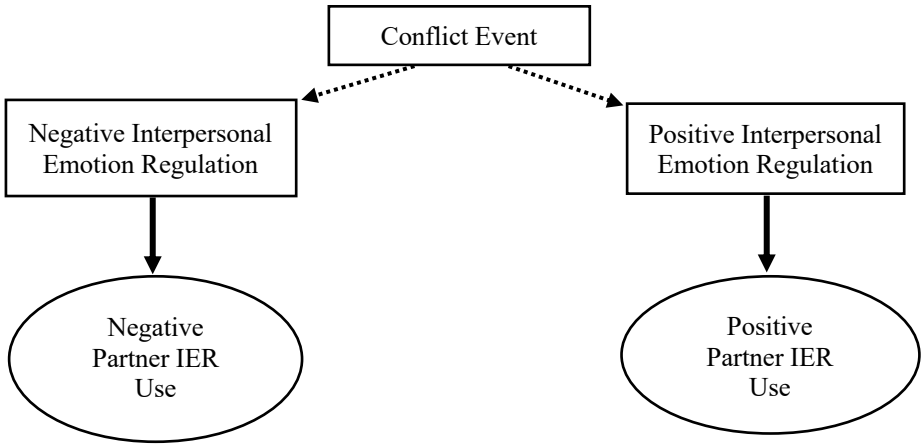

Figure 5: Hypothesized model testing associations between partners' observed use of interpersonal emotion regulation strategies during the conflict discussion

H5. One's own use of IER strategies would be associated with one's own subsequent partner-directed state aggression. Specifically, Partner A's greater use of negative IER would be positively associated with Partner A's partner-directed state aggression (5a), and Partner A's greater use of positive IER would be negatively associated with Partner A's use of partner-directed state aggression (5b).

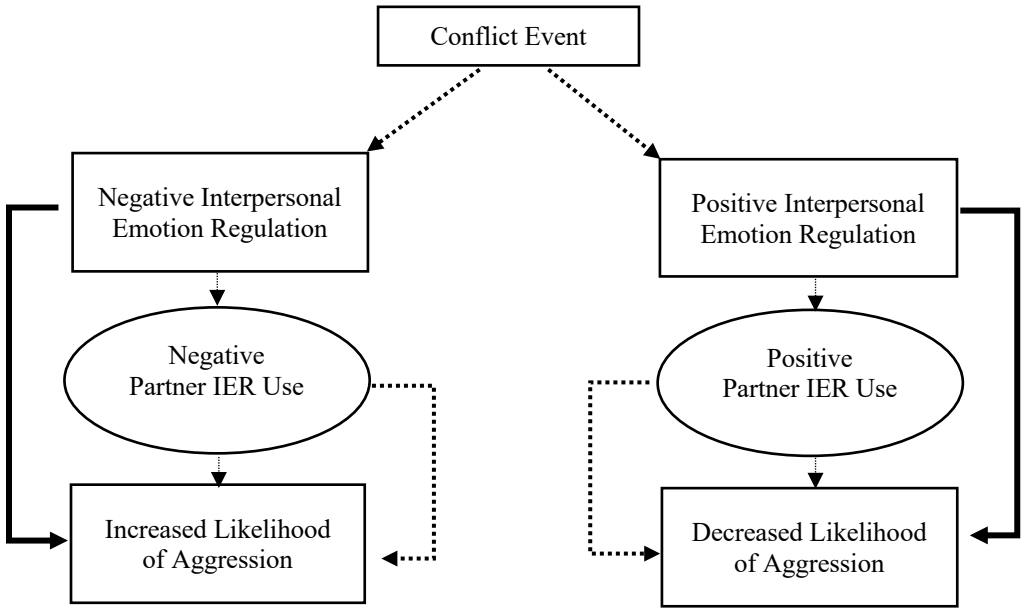

Figure 6: Hypothesized model testing actor effects of observed use of IER during the conflict discussion on partner-directed state aggression

H6. Partner A's use of IER strategies would be associated with one's own subsequent partner-directed state aggression. Specifically, Partner A's greater use of negative IER would be positively associated with Partner B's partner-directed state aggression (6a), and Partner A's greater use of positive IER would be negatively associated with Partner B's use of partner-directed state aggression (6b).

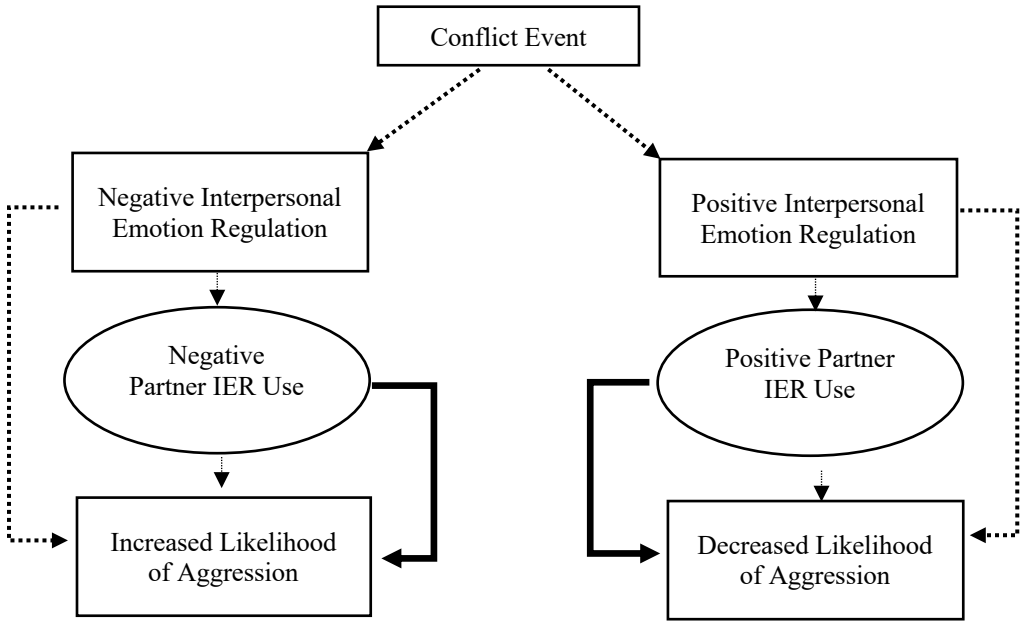

Figure 7: Hypothesized model testing partner effects of observed use of IER during the conflict discussion on partner-directed state aggression

H7. The relation between one's own feelings of psychological closeness and one's partner's IER strategy use would interact to predict actor state aggression. Greater use of negative IER by Partner A would interact with decreased feelings of psychological closeness of Partner B to predict the likelihood of Partner B's use of partner-directed state aggression (7a). Further, greater use of positive IER by Partner A would interact with increased feelings of psychological closeness of Partner B to predict decreased feelings of partner-directed state aggression by Partner B (7b).

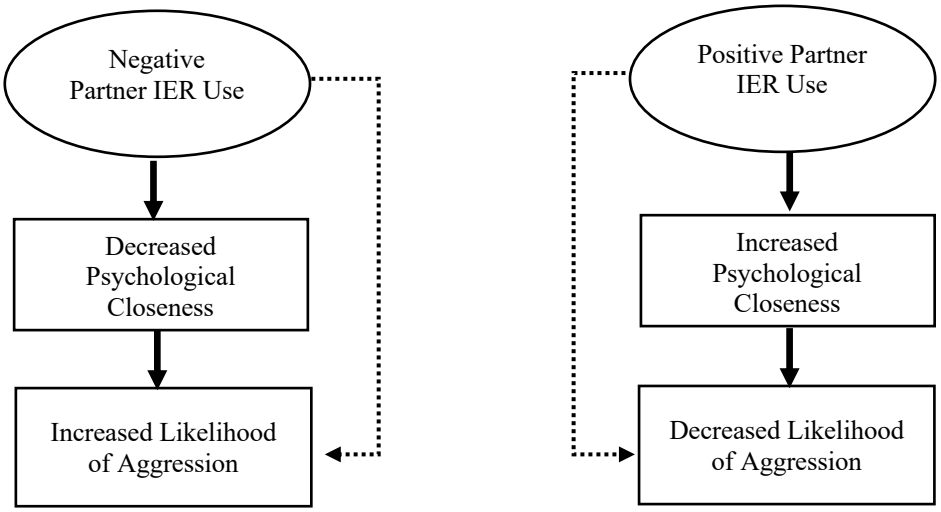

Figure 8: Hypothesized model testing actor effects of observed use of IER during the conflict discussion on partner-directed state aggression

Method

Participants

One-hundred two romantic couples (N = 204 individuals) were recruited through the university SONA pool. Ten couples were excluded from analyses due to technical issues (internet connectivity, video recording issues, n = 2), participants speaking in another language (n = 1) so verbal interactions could not be coded, couples that did not meet the inclusion criteria (n = 3). Same sex couples were also excluded from analyses because the sub-sample was too small for comparison (n = 5). The final sample was comprised of 92 young adult, heterosexual couples (N = 184). The majority of participants were White (95.7%) and non-Hispanic/Latino (95.1%). Participants were either in a serious and committed dating relationship (97.8%), engaged (1.1%) or married (1.1%). Only a small portion of the couples lived together (7.6%), and overall, participants saw their partner on average 5 days a week (M = 4.83, SD = 2.06). The average age of the participants was 19 (M = 19.37, SD = 1.74, Range: 18 – 27). Participants had been together, on average,18 months (M = 17.51, SD = 11.37, Range 3 – 48).

Procedure

Participants were recruited through the University's SONA website and flyers posted around campus. Participants had to be at least 18 and in a serious and committed dating relationship for at least three months to participate. If interested in participating, couples arrived at the laboratory and filled out consent forms in separate rooms. A research assistant was present in each room to review the consent form with each participant and to answer any questions that they had. Once a participant consented, the research assistant in their room handed them an envelope containing a safety screener and a relationship screener. The research assistant asked them to please answer the questions honestly and left the room while the participant answered the questions.

The safety screener directions asked participants to answer the questions honestly and informed them that their responses were confidential. Participants were asked "Are you afraid of your partner?", "Has your partner ever been arrested for domestic violence?", "Have you ever had to seek medical attention from campus services, the hospital, or another medical facility because of harm inflicted by your partner?", and "Have you ever worried that your partner may cause you serious bodily harm?". If participants answered yes to any of these questions, they were to receive alternative study procedures that excluded them from 1) answering questions about IPA in their relationship and 2) discussing a conflict in their relationship. No participants answered affirmatively to any of the safety screener questions so no alternative procedures were utilized.

The relationship screener asked participants to answer the following questions: "Where did you meet your partner?", "How long have you been dating your partner?", "When is your relationship anniversary?", and "What did you do for your first date?". The purpose of these questions was to identify participants who were not in a real romantic relationship with the

person they came in with. Five couples failed the relationship screener (answered less than two questions in a similar way) and were asked to leave.

Once both members of the couple completed the consent form and safety and relationship screener questions, they began to fill out a computer-based survey on Qualtrics (See Appendix A for all survey measures). This survey contained questions about demographics, emotion regulation, experiences of IPA perpetration and victimization in their relationship, and other emotion and relationship relevant constructs (e.g., emotional intelligence; relationship satisfaction). Participants were also given a sheet of paper with a list of 20 disagreement topics and asked to circle the top 5 major disagreement topics in their relationship and then rank them from 1 (*most disagreement*) to 5 (*least disagreement*). See Appendix F for a list of the 20 disagreement topics and the percent of couples that discussed each topic.

Once the participant completed the survey and sources of disagreement sheet, the research assistant entered the room to check in with the other participant before reuniting them with their partner. Specifically, participants were asked if they had any questions, if they felt safe being reunited with their partner, and if they wanted to continue with the study. There were no cases in which participants reported feeling unsafe with their partner or wanted to stop their participation in the study.

Next, a research assistant compared the main sources of conflict that both participants listed to find a mutually agreed upon source of disagreement. If none of the 5 listed disagreement topics overlapped, the research assistant flipped a coin and assigned one of the top listed topics for the couple to discuss. Couples were then reunited in a room together that had remotely controlled and partially concealed audio-visual recording equipment set up. Couples were seated in chairs next to each other and asked to engage in a 10-minute discussion about the disagreement topic, a paradigm that has been widely used in relationship research (for review see

Gottman & Notarius, 2000). During the 10-minute discussion, the conversation was monitored by a research assistant from a control room. Couples were monitored to make sure that they were discussing the assigned disagreement topic and staying on task. If participants were silent for an extended period of time (greater than 30 seconds), indicated that they were done talking about the topic, or were just off topic, the research assistant turned on the audio function and prompted them to continue talking about the topic. If the couple was quiet or said they were finished talking, the research assistant was instructed to say: "Please continue to discuss the assigned topic for the remainder of the session". If the couple was off topic, the research assistant said: "Please only discuss the assigned topic."

After the discussion, a research assistant entered the room and let the couple know that they were to be separated again for a short follow-up survey. The participants were then led back to their original rooms to begin the online follow-up survey. During this survey, participants completed a negative affect mood measure (Watson & Clark, 1994), a measure of psychological closeness to their partner (Aron et al., 1992) and the Voodoo doll task, a proxy for partner-directed state aggression (DeWall et al., 2013). Participants were instructed that they would be provided with a safe outlet for their feelings, because they might have experienced negative emotions during the discussion. At this time, they were given the Voodoo Doll Task to measure partner-directed aggression. The VDT, which involves sticking pins into a doll representing one's partner, is a valid measure of aggression used in couples research. More pins inserted indicates greater levels of aggressive intent. This task is also a proxy for measuring IPA, with greater numbers of pins in the doll associated with psychological and physical IPA (DeWall et al., 2013).

At this point, participants were again asked if they felt safe being reunited with their partner. All participants confirmed that they felt safe and were then reunited with their partner to

engage in a 5-minute discussion about positive aspects of their relationship. The purpose of this discussion was to leave participants in a positive mood and reduce any residual negative feelings toward their partner (Ben-Naim et al., 2013). Afterward, participants were individually debriefed about the purpose of the study and given a resource sheet that includes the phone numbers and web addresses of both local and national domestic violence, sexual assault, and mental health resources. SONA pool participants received 2 hours of SONA credit for their participation and their partner received $15 for their participation (or SONA credit if applicable).

Measures

Interpersonal Emotion Regulation (Self-report). As in Study 1, The Regulation of Others Feelings scale (ROOF; Gable & Boyer, 2018) was used to measure how often participants self-reported their own use of positive (M = 3.75, SD = .725) and negative (M = 1.08, SD = .510) IER strategies with their partners in their daily lives. Participants responded to each item on a Likert scale to indicate how often they use each strategy from 0 (*never*) to 7 (*very frequently*). Reliability for positive and negative IER were good (α = .84; α = .74 respectively).

Intimate Partner Aggression (Self-report). The physical and psychological subscales of the Revised Conflict Tactics Scale (CTS2; Straus et al., 1996) were again used to measure participants' experiences of physical and psychological aggression perpetration. Participants indicated the number of times they had perpetrated each act of aggression against their partner in the past 12 months from 0 (*this has not happened in the past year*) to 6 (*more than 20 times in the past year*).

Intrapersonal Emotion Regulation (Self-report). Participants indicated the degree to which they engaged in three forms of intrapersonal emotion regulation: cognitive reappraisal, suppression, and perspective taking during the conflict discussion. Cognitive reappraisal and suppression were measured using the Emotion Regulation Questionnaire (ERQ; Gross & John,

2003). This questionnaire consisted of 10 items that measured individuals use of these two regulatory strategies. Items were adapted to reflect the use of these strategies specifically during the conflict discussion, instead of broad use. Example items: “When I wanted to feel less negative emotion (such as sadness or anger), I changed what I was thinking about” (cognitive reappraisal; $M = 4.04$; $SD = 1.27$); “I controlled my emotions by not expressing them” (suppression; $M = 2.23$; $SD = 1.09$). Response choices on these items range from 1 (*strongly disagree*) to 7 (*strongly agree*). Reliabilities for cognitive reappraisal ($\alpha = .84$) and suppression ($\alpha = .78$) were good. To measure perspective taking, three items from a subscale of the Interpersonal Reactivity Index by Davis (1980;1983) assessing the tendency to adopt the psychological point of view of others were employed. Again, this measure was adapted to reflect the use of perspective taking specifically during the conflict interaction. Example item: “Before criticizing my partner, I tried to image how I would feel if I were in their place”. These items were on a scale from 1 (*does not describe me well*) to 7 (*describes me very well*). The reliability for perspective taking ($M = 5.80$, SD = 1.05) was good ($\alpha = .87$).

Anger. In order to assess changes in anger before and after the conflict discussion, participants were given the negative affect scale of the Positive and Negative Affect Scale-Expanded (PANAS-X; Watson & Clark, 1994). An anger score comprised of mood ratings on four adjectives from the PANAS “angry”, “hostile”, “irritable”, disgusted”, and one other mood item added, “annoyed” was also calculated based on previous research (Eckhardt & Jamison, 2002; Eckhardt et al., 2002; Maldonado et al., 2015). These mood items were administered before and after the conflict discussion. Fourteen items assessed negative affect on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Reliability of the anger score was acceptable at baseline and after the conflict discussion ($\alpha = .55$; $\alpha = .67$ respectively).

Psychological Closeness. The Inclusion of Other in the Self scale (IOS; Aron et al., 1992) was be used to measure psychological closeness between the self and the partner. This scale included only one item that asked participants to indicate their level of closeness with their romantic partner using seven pictures of circles overlapping to different degrees. Choices ranged from 1 (*no overlap between circles*) to 7 (*complete overlap of circles*). Participants completed this single item measure both before (M = 5.51, SD = 1.26) and after (M = 5.20, SD = 1.16) the conflict discussion.

Partner Directed State Aggression. As in Study 1, The Voodoo Doll Task (VDT DeWall et al., 2013) was used to measure state aggression toward one's romantic partner after the conflict discussion (M = 1.03; SD = 2.508; Range 0 – 19). The majority of participants did not use any pins (69.57%; n = 128). Another quarter of the sample used 1-4 pins (25.54%; n = 47), and approximately 5% of the sample used 5 or more pins (4.89%, n = 9).

Data Analysis Plan

IPA Perpetration Scoring. Consistent with Study 1, psychological and physical perpetration were scored using a variety scoring method (i.e., each item in the measure was answered dichotomously and then summed to get an accurate count of total numbers of different aggressive behaviors reported). This method of scoring has been found to be less skewed and more reliable data than frequency data (Vega & O'Leary, 2007) and gives equal weight to all acts of aggression committed (Moffitt et al., 1997).

Observed Interpersonal Emotion Regulation Coding and Scoring. To code instances of positive and negative IER in which both partners engaged, behaviors were drawn from existing self-report measures of IER and previous studies of IER (Debrot et al., 2013; Gable & Boyer, 2018; Horn et al., 2018; Niven et al., 2011). From these measures, eight verbal (e.g., emphasizing the negatives in the situation) and four nonverbal (e.g., eye rolling) negative IER

behaviors, as well as eight verbal (e.g., interpreting the situation in a positive way) and four non-verbal (e.g., active listening) positive IER behaviors were derived. Independent observers used a scale from 1 (*not at all*) to 7 (*nearly all the time*) to indicate the degree to which participants engaged in each behavior. See Appendix E for a complete list of verbal and non-verbal behaviors, and coding instructions.

The recorded conflict discussions were content coded for verbal and non-verbal instances of positive and negative IER. Before coding, independent observers were provided with detailed definitions for each code and instructions for how to code the recorded conversations, as well as training and practice coding. There were four independent observers employed to code each conflict discussion (two observers for coding each member of the couple). Independent observers did not code both members of the couple to reduce chances of bias. Further, verbal and non-verbal behaviors were also coded separately. When coding non-verbal behaviors, independent observers had the sound turned off, and when coding verbal behaviors, sound was turned on.

After training, the independent observers watched the recordings and used a scale from 1 (*not at all*) to 7 (*nearly all the time*) to indicate the degree to which participants engaged in each behavior. The ratings of two independent coders on each behavior were compared to calculate interrater reliability. Because the ratings of behaviors were continuous, interrater reliability was calculated using intraclass correlations (ICCs). Using a two-way mixed model, the independent observers were seen as the fixed effect and the coded behaviors as the random effect (Shrout & Fleiss, 1979). A consistency computation determined if observers' scores were correlated. Rating of the two independent observers were averaged to form a single rating for each coded behavior. For this study, ICC scores of .50 or higher on each behavior were considered acceptable inter-rater reliability. One verbal positive and one verbal negative code were below .50 and were excluded from the average scores. These were "Taking about negative/positive future

implications of the situation". Behaviors were combined to form general negative IER and general positive IER scores, where higher scores indicated greater observed behavior. See Table 8 for all behaviors and ICCs.

Table 8
Intra-class correlations of observed verbal and nonverbal interpersonal emotion regulation behaviors during the conflict discussion

Interpersonal Emotion Regulation		ICC
Negative		
Verbal	Discuss partner's shortcomings / things they don't like about them	.71
	Say something unpleasant/insulting	.72
	Distract from the conversation in a negative way	.59
	Emphasize the negatives in the situation	.64
	Provide a negative interpretation of the situation	.67
	Talking about negative future implications of the situation*	.43
	Assign negative, personal attribution	.77
Nonverbal	Indicate annoyance (e.g., eyerolling, sighing)	.82
	Ignore their partner (e.g., avoid eye contact, refuse to respond)	.75
	Indicate hostility (e.g., angry looks, intimidating body language)	.92
	Moving farther away from partner	.77
Positive		
Verbal	Discuss partner's positive characteristics	.67
	Say something pleasant (e.g., make a joke to lighten mood)	.67
	Distract from the conversation in a positive way	.52
	Emphasize the positives in the situation	.62
	Provide a positive interpretation of the situation	.56
	Talking about positive future implications of the situation*	.45
	Assign a positive, situational attribution	.58
Nonverbal	Active listening (e.g., maintaining eye contact, nodding)	.71
	Touch (e.g., putting hand on partners, touching shoulders)	.83
	Indicate positive feelings (e.g., smiling)	.62
	Lean in closer to partner	.74

Note: * behaviors were removed from analyses due to low ICCS.

Dyadic Data Analysis Strategy. Data for most study hypotheses (H1, H2, H5 - H7) were analyzed using the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006). The APIM is an approach to modeling dyadic data that allows for interdependence within dyads by assuming that characteristics of both partners influence an individual's behavior. APIM models

estimate each person's (i.e., actor) outcome as a function of their own predictors (i.e., actor effects) and their partner's predictors (i.e., partner effects). As with Study 1, the IPA outcome variables (i.e., psychological and physical aggression perpetration) for H1 and H2 were counted with positively skewed distributions. The Kolmogorov-Smirnov test confirmed that psychological, $D(182) = .14$, $p < .001$ and physical, $D(182) = .45$, $p < .001$ perpetration scores did not meet the assumption of normality. Therefore, actor and partner effects needed to be estimated using generalized estimating equations (GEE) methodology (Loeys et al., 2014). GEE methodology allows for the estimation of actor and partner effects in APIM when the outcome variables are not measured at the interval level. The outcome variable for H5-H7 was partner-directed state aggression measured by the Voodoo Doll Task, which was also positively skewed and did not meet the assumption of normality, $D(182) = .36$, $p < .001$, and so again actor and partner effects were estimated using GEE.

All APIM models are presented in three steps. For hypotheses 1 and 2, grand-mean centered scores for actor and partner self-reported interpersonal IER, were calculated and added into the model on step 1 to estimate the main effects on IPA perpetration. The step 1 results correspond to the evaluation of the first and second hypotheses (i.e., that actor (Hypothesis 1) and partner (Hypothesis 2) interpersonal emotion regulation would be uniquely related to an increased likelihood of IPA perpetration. In step 2, two-way interaction terms between actor and partner self-reported interpersonal emotion regulation, and interaction terms with gender were added. The purpose of adding these interactions was to evaluate the extent to which the association between one's own IER use and IPA perpetration would be different as a function of partner IER use. In this way, the Actor × Partner interaction terms evaluates how concordance or similarity of the two partners is related to perpetration: for example, if one partners is high in negative IER but the other is low, is IPA perpetration more likely than if only one partner is high

in negative IER? It is also possible that one person's IPA as a result of their own negative IER is ameliorated by his or her partner's regulation. For example, if one partner is high in negative IER use, but the other is high in positive IER use, is IPA perpetration more or less likely than if the partner was low in positive IER use. Both of these possibilities would be reflected in significant Actor × Partner IER interactions. In step 2, two-way interactions with gender were also included. In step 3, the three-way actor × partner × gender interaction terms were included.

The same processes were applied for testing Hypotheses 5 – 6 which examined the potential dyadic effects of both partners' observed use of positive and negative IER use during the conflict discussion and subsequent feelings of partner-directed aggression. For hypotheses 5 through 7, grand-mean centered scores for actor and partner interpersonal IER during the discussion were calculated and added into the model on step 1 to estimate the main effects on partner-directed state aggression. The step 1 results correspond to the evaluation of the fifth and sixth hypotheses (i.e., that actor and partner interpersonal emotion regulation during the discussion would be uniquely related to an increased likelihood of exhibiting partner-directed state aggression). In step 2, interaction terms between actor and partner interpersonal emotion regulation use during the discussion were added. Again, the purpose of adding these interactions was to evaluate the extent to which the association between one's own IER use during the discussion and subsequent partner-directed state aggression would be different as a function of partner IER use. Interactions with gender were also again included at step 2. In step 3, the three-way actor × partner × gender interaction terms were included.

Results

Preliminary Results

Interpersonal Emotion Regulation (Self-report). Men's (M = 1.00, SD = 0.53) and women's (M = 1.16, SD = 0.47) scores of negative interpersonal regulation were compared using

an independent samples *t*-test, which concluded that women had significantly higher scores of negative interpersonal emotion regulation compared to men, t (182) = -2.12, p = .04, although the effect size was small, d = 0.309. Scores of positive interpersonal regulation for men (M = 3.78, SD = 0.76) and women (M = 3.72, SD = 0.69) were also compared and there was no significant difference between scores based on gender, t (182) = .51, p = .61; d = 0.08). Correlations between self-reported use of negative and positive IER with their partner in their daily lives are included in Table 9.

Table 9
Correlations between self-reported IER and IPA perpetration

Variables	Mean (SD)	1.	2.	3.	4.	5.	6.	7.	8.
1. Negative IER	1.08 (0.51)	-							
2. Positive IER	3.75 (0.73)	-.08	-						
3. Psychological Perpetration Overall	2.52 (1.80)	.34**	-.03	-					
4. Psychological Perpetration Minor	2.15 (1.32)	.35**	-.04	.91**	-				
5. Psychological Perpetration Severe	0.37 (0.80)	.20**	-.01	.74**	.40**	-			
6. Physical Perpetration Overall	0.50 (1.30)	.15*	-.08	.39**	.28**	.41**	-		
7. Physical Perpetration - Minor	0.34 (0.76)	.23**	-.09	.40**	.32**	.37**	.93**	-	
8. Physical Perpetration - Severe	0.16 (0.66)	.02	-.08	.30**	.19*	.37**	.90**	.68**	-

Note: * p <.05, ** p < .01, Psychological Perpetration – Overall and Physical Perpetration – Overall are the overall mean score of all acts of psychological and physical combined. Below each are the mean scores of minor and severe acts separately.

IPA Perpetration (Self-report). Across the sample, 83.7% of the sample engaged in at least one act of psychological aggression in the past year, and 22.8% of the sample engaged in at least one act of physical aggression in the past year against their partner. Frequencies of overall IPA scores, and scores parsed by minor and severe acts, by gender are in Table 10. The mean and standard deviations of IPA perpetration scores by gender are included in Table 9, where they

are correlated with self-reported use of negative and positive IER with their partner in their daily lives.

Table 10
Rates of IPA perpetration by gender

	Male (*N* = 92)	**Female** (*N* = 92)
Psychological perpetration		
Overall	82.6% (*n* = 76)	83.7% (*n* = 77)
Minor	82.6% (*n* = 76)	83.7% (*n* = 77)
Severe	17.4% (*n* = 16)	32.6% (*n* = 30)
Physical perpetration		
Overall	15.2% (*n* = 14)	30.4% (*n* = 28)
Minor	15.2% (*n* = 14)	28.3% (*n* = 26)
Severe	4.3% (*n* = 4)	14.1% (*n* = 13)

Coded Interpersonal Emotion Regulation Use During Discussion (Observed). Men's ($M = 1.63$, $SD = 0.46$) and women's ($M = 1.74$, $SD = 0.48$) mean scores of negative interpersonal regulation use during the conflict discussion were compared using an independent samples *t*-test, which indicated no significant difference between use by gender, $t(182) = .46$, $p = .11$, $d = 0.24$. Scores of positive interpersonal emotion regulation use during the conflict discussion for men ($M = 2.36$, $SD = 0.06$) and women ($M = 2.44$, $SD = 0.56$) were also examined, and no significant difference was found, $t(182) = .042$, $p = .84$, $d = 0.15$. However, when examining mean scores of verbal and nonverbal IER use separately, verbal use of negative IER did differ significantly for men ($M = 1.60$, $SD = 0.54$) and women ($M = 1.82$, $SD = 0.69$), $t\ (182) = 4.14$, $p = .04$, although the effect size was relatively small, $d = .36$. No significant differences between men's and women's negative nonverbal IER scores, positive verbal IER scores, or positive nonverbal IER scores were found. See Table 11 for correlations between types of IER use during the discussion.

Table 11

Correlations between observed IER use during the conflict discussion and state aggression

Variables	Mean (SD)	1.	2.	3.	4.	5.	6.	7.
1. Negative IER - Overall	1.68 (0.47)	-						
2. Negative IER – Verbal	1.71 (0.63)	.88**	-					
3. Negative IER -Nonverbal	1.64 (0.57)	.61**	.15*	-				
4. Positive IER - Overall	2.40 (0.57)	-.43**	-.30**	-.38**	-			
5. Positive IER – Verbal	1.82 (0.64)	-.42**	-.34**	-.30**	.83**	-		
6. Positive IER - Nonverbal	3.26 (0.83)	-.25**	-.12	-.31**	.76**	.26**	-	
7. State aggression (VDT)	1.03 (2.52)	.13	.09	.08	-.09	-.12	-.01	-

Note: * p <.05, ** p < .01. Negative IER - Overall and Positive IER – Overall are the overall mean score of all verbal and nonverbal behaviors combined. Below each are negative and positive separated by verbal and non-verbal mean scores.

Intrapersonal Emotion Regulation Use During Discussion (Self-report). Differences in men and women's self-reported use of intrapersonal emotion regulation during the discussion were explored. Women reported engaging in cognitive reappraisal (M = 4.36, SD = 1.09) significantly more often than men (M = 3.73, SD = 1.31), t (182) = -3.55, p <.001, d = .52. Men (M = 2.33, SD = 1.06) and women's (M = 2.15, SD = 1.11) self-reported use of suppression did not significantly differ, t(182) = 1.07, p = .85, d = .17. Perspective taking did not differ between men (M = 5.74, SD = 1.04) and women (M = 5.85, SD = 1.06) either, t(182) = -.70, p = .35, d = .11.

Associations Between Self-Reported IER and Observed IER use During Discussion. To determine if self-reported IER use was similar to observed IER use during the conflict discussion, two linear regressions were run. Self-reported negative IER use in one's relationship was a significant predictor of observed negative IER use during the conflict discussion, b = .16, t = 2.42, p = .02. However, self-reported positive IER use in one's relationship was not a significant predictor of observed positive IER use during the conflict discussion, b = .08, t = 1.35, p = .18.

Partner-Directed State Aggression. Overall, 30.2% of the sample used at least one pin in the Voodoo Doll Task after their discussion with their partner. By gender, 24.2% of men and 36.3% of women used at least one pin during the Voodoo Doll Task. However, there was no significant difference between pin use frequency by gender , $\chi 2(1) = 3.15$, $p = .11$. This was consistent with study 1 results. Correlations between observed IER use during the conflict discussion and state aggression can be found in Table 11.

Anger. Possible change in anger scores before ($M = 5.51$, $SD = 1.00$) and after ($M = 5.59$, $SD = 1.26$) the conflict discussion was assessed with a repeated measures ANOVA. The results indicated no significant change in anger scores overall, $F(1, 181)$ .74, $p = .39$. However, when examining the gender differences with a mixed method design, there was a significant interaction between time and gender, 1(180) 5.66, $p = .02$, such that women's scores went up (Before: $M = 5.27$, $SD = 0.63$; After: $M = 5.58$, $SD = 1.28$) and men's (Before: $M = 5.75$, $SD = 1.22$; After: $M = 5.60$, $SD = 1.25$) scores remained relatively stable over time. Anger scores after the conflict discussion were positively correlated with partner-directed state aggression, $r(182) = .26$, $p < .001$.

Psychological Closeness. Possible change in feelings of psychological closeness before ($M = 5.18$, $SD = 1.15$) and after ($M = 5.49$, $SD = 1.26$) the conflict discussion were also assessed with a repeated measures ANOVA. The results indicated that there was a significant increase in psychological closeness scores overall, $F(1, 181) = 19.16$, $p < .001$. When examining a gender differences with a mixed method design, there was no significant interaction between time and gender, $F(1, 180) = 1.41$, $p = .21$. Psychological closeness scores after the conflict discussion were negatively correlated with both anger scores, $r(182) = -.29$, $p < .001$, and partner-directed state aggression, $r(182) = -.18$, $p = .02$.

Primary Results

To test hypotheses 1 and 2 (that both partner A's and partner B's self-reported use of IER would be associated with Partner A's perpetration of IPA), two dyadic models were run for the outcome variables of psychological and physical IPA perpetration (Table 12). On step 1, actor and partner effects for negative IER use and positive IER use, as well as gender were entered into the model. Average days spent together each week was also entered as a control. On step 2, interaction terms for IER use were added to the model (Actor Negative IER × Partner Negative IER; Actor Negative IER × Partner Positive IER; Actor Negative IER × Actor Positive IER; Actor Positive IER × Partner Positive IER), as well as interaction terms with gender (Gender × Actor Negative IER; Gender × Partner Negative IER; Gender × Actor Positive IER; Gender × Partner Positive IER). On step 3, 3-way interaction terms were added to the model (Gender × Actor Negative IER × Partner Negative IER; Gender × Actor Negative IER × Partner Positive IER; Gender × Actor Negative IER × Actor Positive IER).

Hypothesis 1 (Self-reported IER use and IPA Perpetration). It was hypothesized that one's own use of IER with one's romantic partner would be significantly associated with one's own reports of IPA perpetration (i.e., an actor effect). Specifically, greater use of negative IER strategies by Partner A would be positively associated with Partner A's IPA perpetration (1a) and greater use of positive IER strategies by Partner A would be negatively associated with Partner A's IPA perpetration (1b). Two APIM models were run with psychological perpetration and physical perpetration as the outcome variables.

Table 12

Actor and partner effects of self-reported use of negative and positive IER on actor psychological perpetration

Psychological Perpetration						
Step	Predictor	*b*	*SE*	*p*	LLCI	ULCI
1	Gender	-.08	.04	.051	-.16	.01
	Days	-.01	.03	.837	-.06	.05
	Actor Neg IER	.44**	.08	.001	.28	.59
	Partner Neg IER	.089	.08	.263	-.07	.24
	Actor Pos IER	-.01	.07	.982	-.13	.13
	Partner Pos IER	-.03	.08	.693	-.19	.13
2	Gender × Actor Neg IER	.09	.09	.279	-.07	.26
	Gender × Partner Neg IER	.01	.08	.884	-.16	.18
	Gender × Actor Pos IER	.04	.07	.593	-.10	.18
	Gender × Partner Pos IER	.01	.08	.988	-.15	.16
	Actor Neg IER × Partner Neg IER	-.48*	.22	.027	-.91	-.06
	Actor Neg IER × Partner Pos IER	.12	.11	.269	-.09	.32
	Actor Neg IER × Actor Pos IER	-.04	.11	.733	-.26	.18
3	Gender × Actor Neg IER × Partner Neg IER	-.09	.16	.570	-.39	.22
	Gender × Actor Neg IER × Partner Pos IER	-.28*	.12	.018	-.52	-.05
	Gender × Actor Neg IER × Actor Pos IER	.21	.11	.066	-.01	.42
Physical Perpetration						
Step	Predictor	*b*	*SE*	*p*	LLCI	ULCI
1	Gender	-.44**	.17	.009	-.77	-.11
	Days	-.05	.10	.597	-.26	.18
	Actor Neg IER	.78**	.28	.006	.22	1.33
	Partner Neg IER	.09	.30	.756	-.49	.67
	Actor Pos IER	-.18	.29	.542	-.74	.39
	Partner Pos IER	-.25	.23	.281	-.70	.21
2	Gender × Actor Neg IER	-.28	.32	.375	-.91	.34
	Gender × Partner Neg IER	-.03	.37	.945	-.75	.70
	Gender × Actor Pos IER	-.11	.33	.742	-.74	.53
	Gender × Partner Pos IER	-.07	.24	.764	-.53	.39
	Actor Neg IER × Partner Neg IER	-.51	.63	.442	-1.75	.73
	Actor Neg IER × Partner Pos IER	.38	.26	.148	-.13	.89
	Actor Neg IER × Actor Pos IER	-.55	.58	.343	-1.68	.58
3	Gender × Actor Neg IER × Partner Neg IER	-.29	.60	.632	-1.45	.88
	Gender × Actor Neg IER × Partner Pos IER	-.09	.30	.772	-.680	.50
	Gender × Actor Neg IER × Actor Pos IER	.50	.68	.465	1.83	.53

Note: *b* = unstandardized beta coefficient, *SE* = standard error, LLCI = Lower limit confidence interval, ULCI = Upper limit confidence interval, Neg IER = Negative interpersonal emotion regulation, Pos IER = Positive interpersonal emotion regulation, * p <.05, ** p < .01.

Psychological Perpetration (Actor Effects). The psychological perpetration APIM model included actor effects (relevant to H1) and partner effects (relevant to H2), as well as gender (See Table 12). Days partners spent together on average was included in the model as a control. A significant main effect of actor negative IER was detected (b = .44, p < .001, 95% CI [.28, .59), indicating that one's own negative IER use was associated with an increased likelihood of psychological perpetration (H1a). There was no significant main effect of positive IER use for psychological perpetration (b = -.001, p = .98, 95% CI [-.13, .13) (H1b). These results actor are in line with study 1 results, where self-reported negative IER use with one's partner was associated with one's own psychological perpetration against their partner, but self-reported positive IER use was not. Neither of the main effects for gender (b = -.08, p = .05, 95% CI [-.16, p < .001]) or days on average spent with partner (b = -.01, p = .84, 95% CI [-.063, .051]) were significantly associated with psychological perpetration, a result that was also consistent with study 1 findings. Follow up analyses were conducted to explore associations between self-reported IER use and psychological perpetration separately for men and women. There was a significant actor effect of negative IER use on psychological perpetration for both men (b = .49, p = .001, 95% CI [.30, .68]) and women (b = .39, p = .004, 95% CI [.12, .66]), indicating that for both genders, one's own use of negative IER with one's partner was associated with an increased likelihood of psychological perpetration (Figure 9). As expected, there were no significant actor effects for either men or women for positive IER (Figure 10).

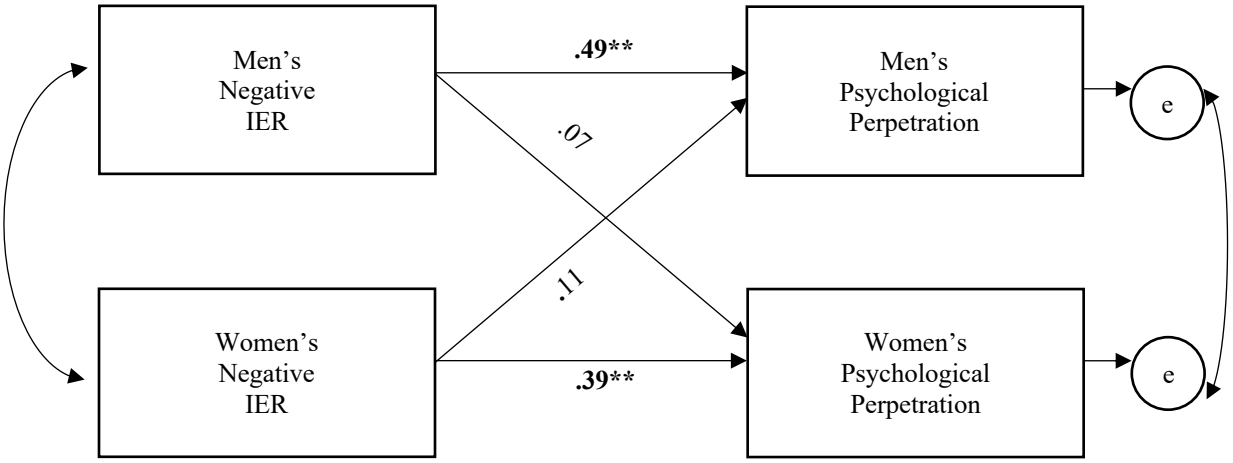

Figure 9: Dyadic model of self-reported negative IER use and psychological perpetration

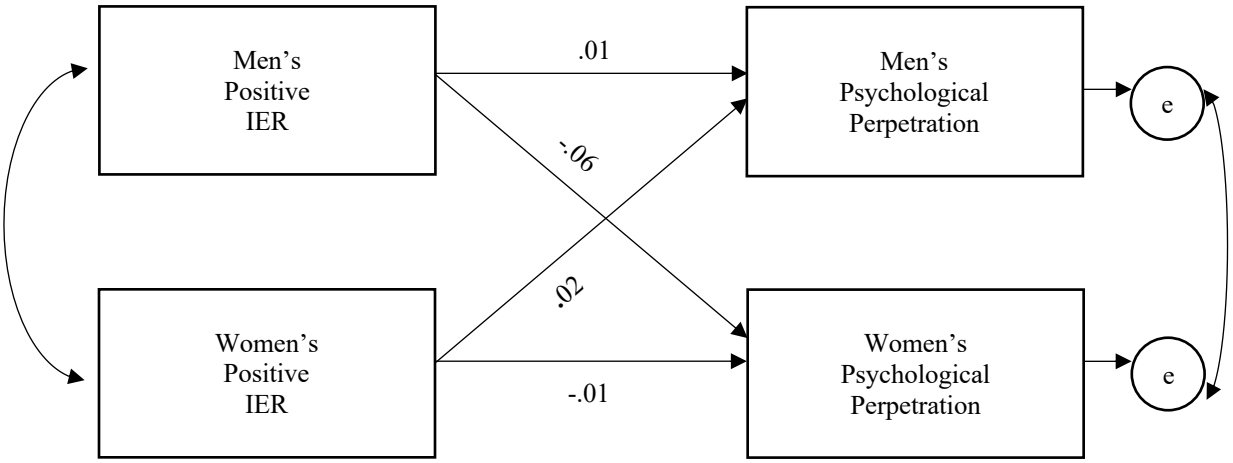

Figure 10: Dyadic model of self-reported positive IER use and psychological perpetration

Physical Perpetration (Actor Effects). The physical perpetration APIM model included actor effects (relevant to H1), partner effects (relevant to H2), and gender (See Table 5). As with the psychological model, days partners spent together on average was included as a control. There was a significant main effect for actor negative IER on physical perpetration (b = .78, p = .01, 95% CI [.22, 1.33]), indicating that own negative IER use is associated with an increased likelihood of physical perpetration (H1a). There was no significant main effect for actor positive IER use (b = -.18, p = .54, 95% CI [-.74, .39]), indicating that one's own use of positive IER

does not reduce the likelihood of one's own physical perpetration. There was also a significant main effect for gender, (b = -.42, p = .01, 95% CI [-.77, -.11]), which indicated that women were more likely to engage in physical perpetration than men. Again, there was no main effect of average days spent with partner (b = -.05, p = .60, 95% CI [-.26, .15]). As with psychological perpetration, these results were in line with study 1, which found that self-reported negative IER use and gender were significantly associated with physical perpetration, but that self-reported positive IER use was not significantly associated with physical perpetration. Follow up analyses were conducted to explore associations between self-reported IER use and physical perpetration separately for men and women. There was a significant actor effect of negative IER use on physical perpetration for women (b = 1.01, p = .02, 95% CI [.14, 1.88]), but not for men (b = .46, p = .28, 95% CI [-.37, 1.30]), indicating that for women specifically, one's own use of negative IER was associated with an increased likelihood of one's own physical perpetration (Figure 11). Again, as expected, self-reported positive IER use was not significantly associated with physical perpetration for either men or women (Figure 12).

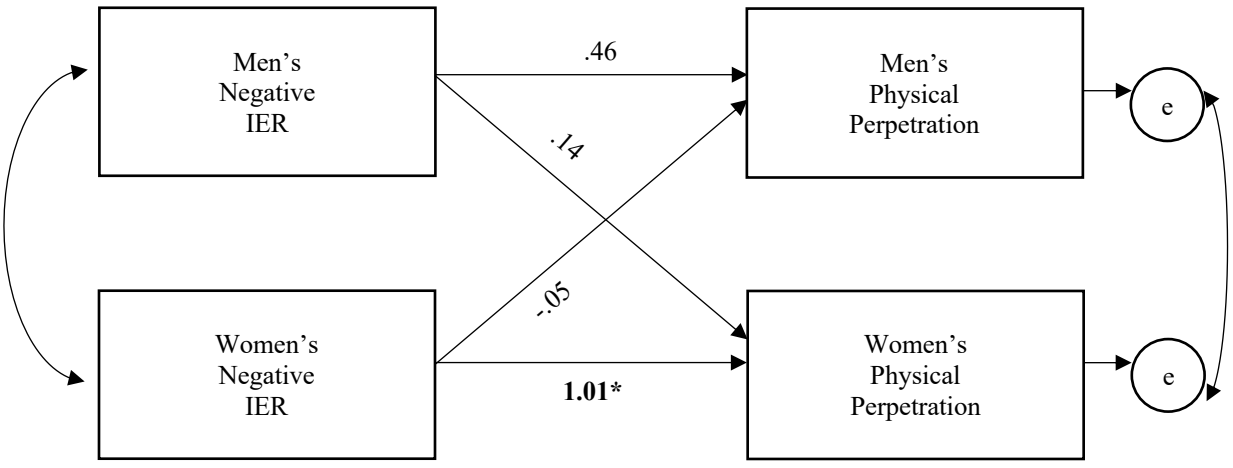

Figure 11. Dyadic model of self-reported negative IER use and physical perpetration

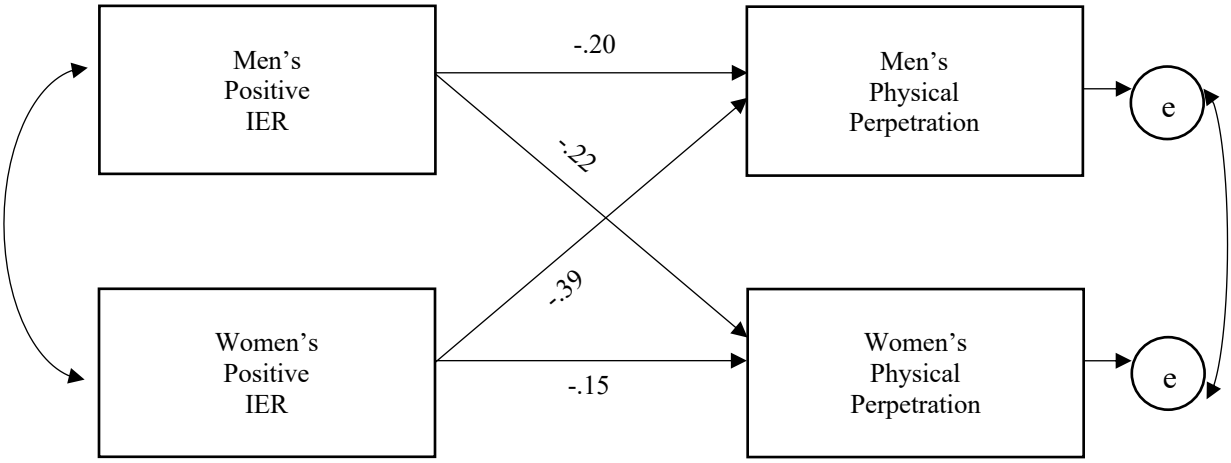

Figure 12. Dyadic model of self-reported positive IER use and psychological perpetration

Hypothesis 2 (Self-Reported IER Use and IPA Perpetration). It was also hypothesized that one's partner's use of IER strategies would be significantly associated with one's own reports of IPA perpetration (i.e., a partner effect). Specifically, greater use of negative IER by Partner A would be positively associated with Partner B's IPA perpetration (2a), and greater use of positive IER by Partner A would be negatively associated with Partner B's IPA perpetration (2b).

Psychological Perpetration (Partner Effects). There was no significant partner effect for negative IER use (b = .09, p = .26, 95% CI [-.07, .24]), indicating that use of negative IER by Partner A was not positively associated with Partner B's engagement in psychological perpetration (2a). There was also no significant partner effect for positive IER use (b = -.03, p = .69, 95% CI [-.19, .13]), indicating that use of positive IER by Partner A was not associated with Partner B's engagement in psychological perpetration (2b). In Step 2 of the model (Table 5), two-way interaction terms were added. No significant Actor × Gender or Partner × Gender interactions were present, but a significant two-way Actor × Partner interaction between both partners' negative IER was present (b = -.48, p = .03, 95% CI [-.91, -.06]). Further, at Step 3, a

three-way interaction (Actor × Partner × Gender) between actor negative IER use, partner positive IER use, and gender was also significant (b = -.28, p = .02, 95% CI [-.52, -.05]).

Follow up analyses were conducted to explore associations between partner IER use and psychological perpetration separately for men and women. There were no significant partner effects of negative IER for either men (b = .11, p = .36, 95% CI [-.13, .36]) nor women (b = .07, p = .55, 95% CI [-.15, .28]) (Figure 9). Further, as expected, no significant actor or partner effects of positive IER use were found for men or women (Figure 10). In addition, these analyses revealed that for men, there was a significant actor × partner interaction of negative IER use (b = -.64, p = .01, 95% CI [-1.13, -.14]). For women, there was no significant actor × partner interaction of negative IER use (b = -.54, p = .50, 95% CI [-1.09, .01]. To further decompose the significant actor × partner interaction for men, the association between actor negative IER and psychological perpetration at high (+1 SD) and low (-1 SD) levels of partner negative IER was examined. Testing of these simple slopes for men demonstrated that the actor effect of their own negative IER use on their own psychological perpetration was strong and significant when their female partners were higher in negative IER as well (b = .77, p = .001, 95% CI [.46, .74]). The actor effect of men's' own negative IER on their own state aggression was still significant when their female partners were lower in negative IER (b = .30, p = .01, 95% CI [.074, .52]), however the association was weaker. Thus, for men, having a female partner that engaged in lower levels of negative IER partially mitigated psychological perpetration associated with their own negative IER use.

Physical Perpetration (Partner Effects). No significant partner effects of negative IER use (b = .09, p = .26, 95% CI [-.07, .22]) or positive IER use (b = -.25, p = .28, 95% CI [-.70, .21]) for physical perpetration were detected. These results indicated that there were no main effects of partner use of any IER strategies (negative or positive) on actor IPA perpetration.

Follow up analyses were conducted to explore associations between partner IER use and physical perpetration separately for men and women. There were no significant partner effects of negative IER for either men (b = -.05, p = .94, 95% CI [-1.48, 1.37]) or women (b = .14, p = .59, 95% CI [-.38, .66]) (Figure 11). Further, as expected, no significant actor or partner effects of positive IER use were found for men or women (Figure 12). No significant two- or three-way interactions between partners' use of IER strategies and/or gender were present, so no follow-up simple slope testing was employed.

Hypothesis 3 (Self-Reported Intrapersonal and Observed Interpersonal Emotion Regulation). Correlations were conducted to test the hypothesis that one's own use of intrapersonal regulation strategies during the conflict discussion would be significantly associated with one's own use of IER strategies. Specifically, greater use of negative intrapersonal regulatory strategies (i.e., suppression) would be associated with greater use of negative IER (3a), and greater use of positive intrapersonal regulatory strategies (i.e., cognitive reappraisal and perspective taking) would be associated with greater use of positive IER (3b). Results did not support hypothesis 3a; suppression was not significantly associated with either observed negative IER, r(182) = .10, p = .19, or observed positive IER, r(182) = -.06, p = .41. However, hypothesis 3b was partially supported. While self-reported use of cognitive reappraisal during the discussion was not negatively correlated with observed negative IER use, r(182) = -.02, p = .80, there was a marginally significant positive correlation between cognitive reappraisal and observed positive IER use, r(182) = .13, p = .08. Further, as hypothesized, self-reported perspective taking during the discussion was negatively correlated with observed negative IER use, r(182) = -.26, p <.001, and positively correlated with observed positive IER use, r(182) = .19, p = .01. For all correlations between variables relevant to this hypothesis, see Table 13.

Table 13
Correlations between interpersonal and intrapersonal emotion regulation use during the conflict discussion

Variables	Mean (SD)	1.	2.	3.	4.	5.	6.
1. Negative IER mean	1.68 (0.47)	-					
2. Positive IER mean	2.40 (0.57)	-.43**	-				
3. Suppression	2.24 (1.09)	.10	-.06	-			
4. Cognitive reappraisal	4.04 (1.25)	-.02	.13	.21**	-		
5. Perspective taking	5.80 (1.05)	-.26**	.19*	-.41**	.09	-	
6. State aggression	1.03 (2.52)	.13	-.09	.24**	.05	-.01	-

Note: $N = 182$, * $p < .05$, ** $p < .01$.

Hypothesis 4 (Actor and Partner Observed IER Use). Correlation analyses were also conducted to determine if observed IER use during the conflict discussion was reciprocated by one's partner (Table 14). Specifically, it was hypothesized that one's own IER use would be associated with partner's IER use in return, such that use of negative IER would be associated with reciprocal use of negative IER by one's partner (4a), and positive IER would be associated with reciprocal use of positive IER by one's partner (4b). Negative IER use of Partner A was positively associated with negative IER use of Partner B, $r(182) = .55$, $p < .001$ (4a). Likewise, positive IER use of Partner A was positively associated with positive IER use of Partner B $r(182) = .25$, $p = .001$ (4b). There was also a significant negative correlation between Partner A's use of negative IER and Partner B's use of positive IER, $r(182) = -.43$, $p < .001$. See Table 6 for all correlations between overall IER use and verbal and nonverbal IER use.

Table 14

Bivariate relationships of observed interpersonal emotion regulation between partners

Variables	Mean (SD)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Negative IER Overall (A)	1.68 (.47)	-											
2. Negative IER Overall (P)	1.68 (.47)	.55**	-										
3. Negative Verbal IER (A)	1.71 (.63)	.88**	.46**	-									
4. Negative Verbal IER (P)	1.71 (.63)	.46**	.88**	.34**	-								
5. Negative Nonverbal IER (A)	1.64 (.57)	.61**	.36**	.15*	.38**	-							
6. Negative Nonverbal IER (P)	1.64 (.57)	.36**	.61**	.38**	.15*	.11	-						
7. Positive IER Overall (A)	2.40 (.57)	-.43**	-.43**	-.30**	-.37**	-.38**	-.27**	-					
8. Positive IER Overall (P)	2.40 (.57)	-.43**	-.43**	-.37**	-.30**	-.27**	-.38**	.25**	-				
9. Positive Verbal IER (A)	1.82 (.64)	-.42**	-.42**	-.34**	-.36**	-.30**	-.27**	.83**	.23**	-			
10. Positive Verbal IER (P)	1.82 (.64)	-.42**	-.42**	-.36**	-.34**	-.27**	-.30**	.23**	.83**	.25**	-		
11. Positive Nonverbal IER (A)	3.26 (.64)	-.25**	-.26**	-.12	-.22**	-.31**	.16*	.76**	.16*	.27**	.11	-	
12. Positive Nonverbal IER (P)	3.26 (.64)	-.26**	-.25**	-.22**	-.12	-.16*	-.31*	.16*	.76**	.11	.27**	.15*	-

Note: p <.05 ** p < .01.

Hypothesis 5 (Observed IER Use and State Aggression). To examine the relation between observed IER use during the conflict discussion and subsequent partner-directed state aggression, APIM analyses were again utilized. It was anticipated that there would be significant actor effects for both negative and positive IER use. Specifically, it was expected that Partner A's use of negative IER during the discussion would be significantly associated with an increase in the likelihood that Partner A demonstrates state aggression (H5a), and Partner A's use of positive IER during the discussion would be significantly associated with a decrease in the likelihood that Partner A demonstrates state aggression (H5b). The APIM model was run that included actor effects (relevant to H5) and partner effects (relevant to H6), as well as gender (See Table 15). There was no significant main effect for actor negative IER use during the conflict discussion and partner-directed state aggression measured by the VDT *(b* = .14, *p* = .89, 95% CI [-.62, .89]), indicating that own use of negative IER was not associated with one's own likelihood of exhibiting partner-directed state aggression. There was no significant main effect for actor positive IER use either (*b* = -.04, *p* = .89, 95% CI [-.55, .48]). The main effect of gender on partner-directed state aggression was nonsignificant (*b* = -.27, *p* = .17, 95% CI [-.65, .12]), indicating that men and women did not differ in their partner-directed state aggression overall.

Hypothesis 6 (Observed IER Use and State Aggression). It was also hypothesized that partner use of IER strategies would be associated with one's own subsequent partner-directed state aggression (i.e., partner effect). Specifically, Partner A's greater use of negative IER would be positively associated with Partner B's partner-directed state aggression (6a), and Partner A's greater use of positive IER would be negatively associated with Partner B's partner-directed state aggression (6b). While no actor effects were found in the model, there was a significant partner effect for negative IER use (*b* = .87, *p* = .01, 95% CI [.24, 1.50]), indicating that greater use of negative IER by Partner A during the discussion was positively associated with Partner B's

likelihood of exhibiting partner-directed state aggression. No partner effect for positive IER use (*b* = .18, p = .43, 95% CI [-.64, .27]), indicating no significant association between Partner A's positive IER use and Partner B's state aggression.

Table 15
Actor and Partner Effects of Observed Interpersonal Emotion Regulation During the Conflict Discussion on Partner-Directed State Aggression

Step	Predictor	*b*	*SE*	*p*	LLCI	ULCI
1	Gender	-.27	.19	.173	-.65	.12
	Actor Neg IER	.14	.39	.722	-.62	.89
	Partner Neg IER	.87**	.32	.006	.24	1.50
	Actor Pos IER	-.04	.26	.887	-.55	.48
	Partner Pos IER	-.18	.23	.425	-.64	.27
2	Gender × Actor Neg IER	.24	.40	.557	-.55	1.02
	Gender × Partner Neg IER	-.05	.39	.892	-.81	.71
	Gender × Actor Pos IER	.21	.35	.536	-.46	.89
	Gender × Partner Pos IER	-.43	.26	.094	-.94	.07
	Actor Neg IER × Partner Neg IER	-2.07**	.66	.002	-.3.36	-.77
	Actor Neg IER × Partner Pos IER	-.50	.43	.243	-1.35	.34
	Actor Neg IER × Actor Pos IER	-.10	.41	.807	-.90	.70
3	Gender × Actor Neg IER × Partner Neg IER	-2.44**	.57	.001	-3.56	-1.32
	Gender × Actor Neg IER × Partner Pos IER	-.36	.65	.576	-1.63	.91
	Gender × Actor Neg IER × Actor Pos IER	-.22	.52	.677	-1.23	.80

Note: *b* = unstandardized beta coefficient, *SE* = standard error, LLCI = Lower limit confidence interval, ULCI = Upper limit confidence interval, * p <.05, ** p < .01.

Follow-up analyses were conducted to explore two-way interactions between partners' IER use during the discussion and gender. No significant Actor × Gender or Partner × Gender interactions were present, but a significant two-way Actor × Partner interaction between both partners' levels of negative IER use was present (*b* = -2.07, *p* = .002, 95% CI [-3.44, -.77]). Further, a three-way interaction (Actor × Partner × Gender) between both partners' negative IER use and gender was also significant (*b* = -2.44, *p* = .001, 95% CI [-3.56, -.1.32]). Follow-up analyses revealed no significant actor effects for men or women. In other words, there was no significant difference between one's own negative IER use and one's own state aggression by

gender. However, as can be seen in figure 13, there was a significant partner effect for men (b = 1.38, p = .02, 95% CI [.27, 2.48]), but not women (b = .42, p = .43, 95% CI [-.62, 1.45]), indicating that for men, their female partner's use of negative IER during the discussion increased their own state aggression, but for women, their male partner's use of negative IER did not increase their own state aggression. Because there were no significant main or interaction effects of positive IER use by either partner, no follow-up analyses were conducted for positive strategies (Figure 14).

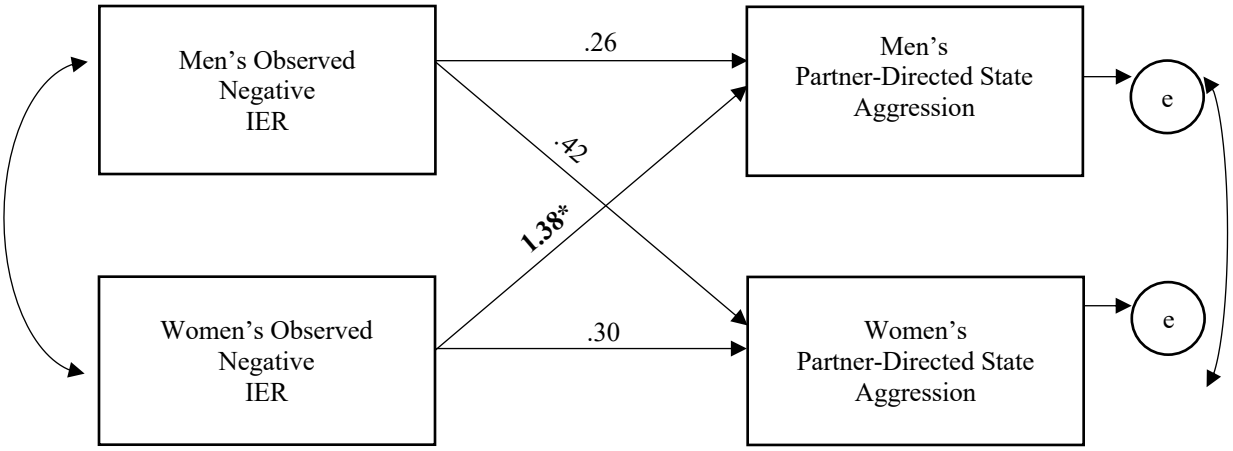

Figure 13: Dyadic model of observed negative IER use during the conflict discussion and partner directed state aggression

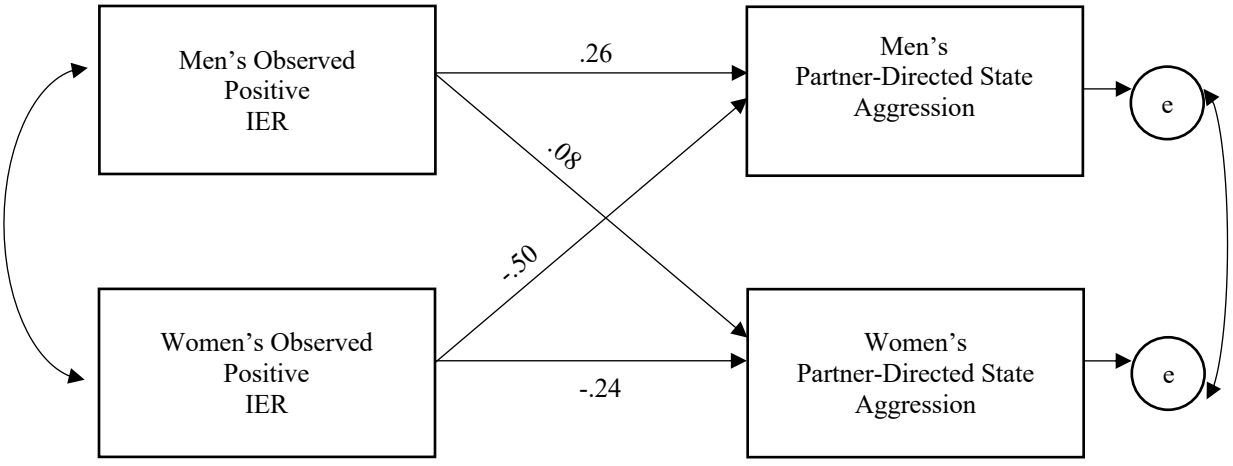

Figure 14: Dyadic model of observed positive IER use during the conflict discussion and partner directed state aggression

Further follow-up analyses were conducted to explore the three-way interaction between both partners observed use of negative IER use during the discussion and gender (Actor Negative IER × Partner Negative IER × Gender). The purpose of this analysis was to parse out the synergistic effect of negative IER use on state aggression, or how a unique element about actor and partner negative IER use *together* that might account for additional variability in state aggression. Follow-up analyses revealed that for men, the actor × partner interaction between negative IER use was indeed significant (b = -4.29, p <.001, 95% CI [-6.68, -1.89]). To further decompose this actor × partner interaction for men, the association between actor negative IER and state aggression at high (+1 SD) and low (-1 SD) levels of partner negative IER was examined. Testing of these simple slopes for men demonstrated that the actor effect of their own negative IER on their own state aggression was significant when their female partners were higher in negative IER as well (b = 2.57, p = .02, 95% CI [.39, 4.75]). In contrast, the actor effect of men's own negative IER on their own state aggression was not significant when their female partners were lower in negative IER (b = -.50, p = .20, 95% CI [-1.26, .26]). Thus, for men, having a female partner that engaged in lower levels of negative IER mitigated feelings of state aggression associated with their own negative IER use.

Hypothesis 7. To test the hypothesis that partner use of IER and actor feelings of psychological closeness would interact to predict actor state aggression, one APIM model utilizing GEE methodology was run (Table 16). In these models, an interaction between partner IER strategy use and actor feelings of psychological closeness was tested. This model examined the interactive effects of IER use and psychological closeness on partner-directed state aggression (H7a) and the interactive effects of positive IER use and psychological closeness on partner-directed state aggression (H7b). Grand-mean centered scores for actor feelings of psychological closeness after the conflict discussion and partner use of negative and positive IER

were added to the model on step 1 to estimate the main effects on partner-directed state aggression. Actor feelings of closeness before the conflict discussion were also added to the model as a control. Because there was no main effect of gender in the model or any interactions with gender, the model was run as indistinguishable. In step 2, the interaction terms (Actor Psychological Closeness × Partner Negative IER Use; Actor Psychological Closeness × Partner Negative IER Use) were added to evaluate the extent to which the association between own psychological closeness and partner-directed state aggression would be different as a function of partner IER use. It was anticipated that there would be a significant main effect of actor psychological closeness, partner negative IER use, and partner positive IER use. There was a significant main effect of actor psychological closeness (b = -.57, p < .001, 95% CI [-.83, -.31]) and partner negative IER use (b = .57, p = .03, 95% CI [.07, 1.07]). These results indicated that Partner A's feelings of psychological closeness were negatively associated with Partner A's state aggression, and Partner B's use of negative IER during the conflict discussion was positively associated with Partner A's state aggression. There was no significant main effect of positive IER use (b = -.31, p = .25, 95% CI [-.85, .22]), indicating that Partner B's use of positive IER during the conflict discussion was not significantly associated with Partner A's state aggression. This finding was consistent with results from H5 and H6, where main effects of positive IER use were not detected.

Further, it was anticipated that the interactions would be significant as well, where negative IER use by one's partner and one's own feelings of psychological closeness would interact to predict an increased likelihood of own partner-directed state aggression (H7a). Results did indicate that this was indeed the case, (b = .29, p = .03, 95% CI [.03, .56]), where Partner A's feelings of closeness and Partner B's use of negative IER interacted to predict Partner A's state aggression. It was also hypothesized that positive IER use by one's partner and one's own

feelings of psychological closeness would interact to predict a decreased likelihood of one's own partner-directed state aggression (H7b). There was no evidence to suggest that actor feelings of psychological closeness and partner use of positive IER interacted to predict actor state aggression (b = -.26, p = .13, 95% CI [-.60, .07]).

Table 16
Actor effect of psychological closeness and partner effect of observed IER on partner-directed state aggression

Step	Predictor	*b*	*SE*	*p*	LLCI	ULCI
1	Actor Closeness Before Discussion (*Control*)	.33*	.15	.028	.03	.61
	Actor Closeness After Discussion	-.57**	.13	.001	-.83	-.31
	Partner Neg IER	.57*	.26	.026	.07	1.07
	Partner Pos IER	-.31	.27	.253	-.85	.22
2	Actor Closeness × Partner Neg IER	.29*	.14	.029	-03	.56
	Actor Closeness × Partner Pos IER	-.26	.17	.127	-.60	.07
	Partner Neg IER × Partner Pos IER	.44	.43	.299	-.39	1.28

Note: b = unstandardized beta coefficient, *SE* = standard error, LLCI = Lower limit confidence interval, ULCI = Upper limit confidence interval, * p <.05 **, p < .01.

Discussion

The purpose of this study was to examine the effect of dyadic processes of IER during conflict on partner-directed state aggression. First, associations between self-reported use of IER strategies with one's partner and self-reported IPA were tested. The results indicated that one's own use of negative IER with one's partner was associated with one's own psychological perpetration, a result that was significant for both men and women. A similar result was found between negative IER use with one's partner and physical perpetration; but this result was only significant for women. It is unclear why this association would not hold for men as well; it could be that women are more likely to report physical perpetration against their partner, because it is seen as more socially acceptable (e.g., Simon et al., 2001; Sorenson & Taylor, 2005). For psychological perpetration specifically, there was a three-way interaction among actor negative IER use, partner negative IER use, and gender, wherein the link between women's own negative

IER use and their own perpetration of psychological aggression did not depend on their partner's reported negative IER use, but that men's own negative IER use and their own psychological perpetration did depend on their partner's negative IER use. When men were paired with female partners who reported engaging in low levels of negative IER, their own negative IER was weakly related to their psychological perpetration. However, when men were paired with female partners who reported engaging in high levels of negative IER, their own negative IER use was strongly related to their psychological perpetration. These results support the notion that negative IER of both members of the dyad can interact to predict psychological aggression perpetration, and that men may be more influenced by their partner's use of negative IER than women. These results mirror those found by Lee and colleagues (2019) between emotional dysregulation in couples and physical aggression. They found that when men were paired with relatively regulated female partners, their own dysregulation was not related to their physical perpetration. However, when paired with a relatively dysregulated female partner, their own dysregulation was related to their physical perpetration. These consistent gendered associations of emotional regulation (on both an individual and interpersonal level), indicate that there may be something distinct about the process between emotional arousal and aggression in men. A meta-analysis of gender differences in emotional arousal and aggression provides support for the notion that men, relative to women, are more easily aroused by emotionally evocative situations, and less able to successfully regulate that arousal (Knight et al., 2002). It could be that when female partners engage in more negative IER toward their partner during an emotionally charged event, that men have a more difficult time controlling their aggressive urges in response.

Hypothesis 3, that self-reported use of intrapersonal regulation strategies during the conflict discussion would be significantly associated with observed use of IER strategies, was partially supported. Specifically, self-reported use of perspective taking during the discussion

was positively correlated with observed positive IER use, and negatively correlated with negative IER use. This finding was consistent with previous research that found perspective taking to be associated with greater use of positive interpersonal emotion regulation during conflict (Vater & Schröder-Abé, 2015). Cognitive reappraisal was marginally associated with positive IER use as well. However, suppression was not significantly associated with observed use of negative or positive IER strategies but was significantly correlated with partner-directed state aggression, a result that is consistent with previous research on suppression and aggression (Nagtegaal et al., 2006). Further suppression and cognitive reappraisal were positively correlated in the study, indicating that individuals were reporting engaging in both strategies.

It was also hypothesized that observed IER use during the conflict discussion would be reciprocated by one's partner. Results supported this hypotheses, where observed negative IER use by one partner was significantly associated with their partner's use of negative IER, with the same trend for positive IER use by both partners. This finding indicates that partners reciprocated negative and positive emotional regulatory strategies from their partners. It is reasonable to suggest that a negative feedback loop could be occurring that leads to both partners feeling more aggressive.

Results from this study also supported a temporal association between observed IER use during the conflict discussion and partner-directed state aggression. Specifically, it depicts how the use of negative IER by both partners is associated with increased state aggression. There was a significant three-way interaction between both partners observed use of negative IER use during the discussion and gender on subsequent state aggression. Specifically, men demonstrated that the effect of their own negative IER use on their own state aggression was significant when their female partners were higher in negative IER as well. In contrast, the actor effect of men's own negative IER on their own state aggression was not significant when their female partners

were lower in negative IER. Thus, for men, having a female partner that engaged in lower levels of negative IER mitigated feelings of state aggression associated with their own negative IER use. These results mirror those found between men's self-reported IER and their psychological perpetration (Hypothesis 1 and 2). This further supports the idea that emotional arousal during an emotionally charged event, such as the discussion relational conflict, may be greater for men than women, and that men may be more reactive.

Lastly, the current study also found a significant interaction between observed partner negative IER use and actor feelings of psychological closeness to their partner in predicting state aggression. This supports the idea that as one's partner uses more negative IER, and as the individual feels more psychological distance from their partner. This may lead to feeling less like the partner is an extension of the self, and less inhibition of state aggression. While dyadic effects were tested in the current study as an interaction, it is possible that mediation analyses may be more appropriate, where the association between partner negative IER use and actor aggression is mediated by actor feelings of psychological closeness. Future research should investigate this association.

Overall, the results from this study add to the existing literature by demonstrating that a romantic partner's use of IER strategies during conflict affects state aggression. The majority of research on emotion regulation and aggression only considered self-regulatory processes and their association with increased or decreased aggression toward one's romantic partner (Blake et al., 2018; Birkley & Eckhardt, 2018; Maldonado et al., 2015; Watkins et al., 2015). These results support the idea that use of interpersonal (as opposed to just intrapersonal) regulatory strategies employed by both members of a dyad influence state aggression. Further, these results provide preliminary support for a dyadic model of IER and aggression in romantic relationships. While some associations of the proposed model could not be tested in the current study, it was possible

to test actor and partner effects of IER strategies on partner-directed state aggression, as well as associations between partners' use of positive and negative IER strategies in general.

Limitations

There are a few limitations to the proposed study. While the nature of the research design helped determine how IER use by both partners is associated with subsequent feelings of aggression toward one's partner, causal inferences cannot be made between IER use and aggression. There was no experimental manipulation of regulatory processes, no control group, and no standard conflict topic assigned to the couples.

Further, couples may engage in different behaviors while trying to solve a conflict with their partner in a laboratory setting compared to in private. With the current methodology, there is no way to know how reflective the couples' conversations in the lab really are of their actual conversations in private. Also, there are likely other important contextual differences between the conflict discussion in the lab versus at home. For example, researchers have found alcohol use to be associated with emotion regulation processes and IPA (Maldonado et al., 2015; Watkins et al., 2014). This is something that could not be examined in the current study.

Lastly, the university sample used in the current study is homogenous in terms of age, race, and ethnicity, limiting the generalizability of the findings. Despite these limitations, the proposed study is important to begin understanding how partners together use IER during conflict and how it is temporally associated with aggression.

CHAPTER VIII

GENERAL DISCUSSION

The current research examined IER processes and their associations with partner-directed state aggression. This research consisted of two studies that aimed to address gaps in the literature surrounding emotion regulation and IPA. These gaps include a dearth of studies of emotion regulation and IPA that utilize dyadic samples (addressed in Study 2) and that experimentally manipulate emotion regulation and examine its effect on aggression (addressed in Study 1). As emotion regulation and couple conflict are both dyadic processes (Diamond & Aspenwall, 2003; Langhinrichsen-Rohling et al., 2012), it is important to understand how the underlying interpersonal processes of these variables are connected and influence aggressive behavior. Researchers who have only studied individual-level processes of emotion regulation and make assumptions about the effects of those processes on IPA are likely overlooking a critical piece of the puzzle.

Both Study 1 and Study 2 examined associations between self-reported use of IER strategies with one's romantic partner and IPA perpetration. This is the first known set of studies to explore how interpersonal emotion regulation strategies may impact aggression perpetration. The largely consistent findings across these study indicated that self-reported use of negative IER strategies with one's partner was associated with an increased likelihood of perpetrating both psychological and physical aggression. Self-reported use of positive strategies was not associated with either an increased or decreased likelihood of perpetration psychological or physical aggression. These results indicated that the use of negative IER strategies with one's partner in general seemed to be associated with IPA perpetration, whereas positive IER strategies did not have an impact on IPA perpetration. By employing a dyadic sample, Study 2 was able to test for possible partner effects of IER use. Partners' self-reported use of negative and positive

IER strategies were not significantly associated with an increased or decreased likelihood of either type of IPA perpetration, indicating that only one's own negative IER use was associated with IPA perpetration. However, when examining potential associations between both partners' use of IER strategies, self-reported negative IER use of both members of the couple interacted to predict psychological aggression perpetration. This highlights the importance of considering both members of the couple's use of IER strategies when examining couple conflict. It is important to remember that an individual's self-reported use of positive and negative IER strategies with their partner day to day might not be the same as that individual's actual use of IER during a disagreement or conflict with their partner.

The current research also attempted to experimentally manipulate interpersonal emotional regulatory strategies to study their effect on partner-directed state aggression. Specifically, Study 1 aimed to examine if assigned IER strategies had a direct effect on subsequent feelings of partner-directed state aggression. Results did not support this notion, providing no evidence that assigned IER strategies were associated with more or less partner-directed state aggression. However, feelings of anger did increase for participants in the no instruction and negative IER conditions and remained stable in the positive IER condition, indicating some effect of the condition on participants' mood. This indicates that use of certain IER strategies are associated with feelings of anger, but that these feelings do not necessarily lead to state aggression. Previous researchers found that IPA perpetration history was a moderating factor in the relation between assigned emotion regulation strategies (such as suppression and cognitive reappraisal) and state aggression (Eckhardt, 2007; Maldonado et al., 2015). Therefore, it is reasonable to assume that there may be similar moderating effects with interpersonal regulatory strategies. It could be that during times of high emotional arousal, those that already have a history of IPA

have fewer cognitive resources and rely on their usual response patterns (Maldonado et al., 2015) or see aggression as a strategy for regulating one's emotions (Neal et al., 2015).

Study 2 was also novel in that it employed a dyadic sample to investigate how both romantic partners' use of IER strategies during conflict could be associated with partner-directed state aggression. Indeed, observed use of negative IER by both partners was associated with an increased likelihood of aggression measured by the Voodoo Doll Task. These results mirrored those from the self-report dyadic data, where the negative IER use by both partners interacted to predict psychological aggression. A similar association between self-reported IER and physical aggression perpetration, as with observed IER and partner-directed state aggression, did not occur.

Study 1 was also able to replicate previous research on the measure of state aggression (i.e., Voodoo doll task), finding that greater self-reported psychological aggression was associated with greater pin use on the task (DeWall et al., 2013). Study 1 found that a history of physical aggression did not uniquely predict pin use on the Voodoo Doll Task when controlling for psychological aggression. It could be that negative IER use is more of a precursor to psychological aggression than physical during conflict. It could also be possible that only certain types of physical aggression generally result from negative IER use during conflict. Types of physical aggression that researchers have identified as more minor (e.g., slapping) compared to severe (e.g., choking), might be more likely a result of failing to successfully regulate emotions in the moment during conflict, compared to a desire for coercive control. In study 2, women reported perpetrating acts of physical aggression two times as much as men. A review of physical perpetration studies found that women and men were equally likely to initiate physically aggressive acts in relationships characterized by "situational couple violence", whereas men are more like to initiate physical aggression in relationships characterized by "intimate terrorism"

(Swan et al., 2008). Men are more likely to use physical aggression to control their female partners (Barnett et al., 1997; Langhinrichsen-Rohling et al., 1999), whereas women are more likely to use it to regulate their emotions or be understood by their partner (Stuart et al., 2006). While situational couple violence, referred to as "common couple violence," may not stem from wanting to harm one's partner, and may be a situational failure to successfully regulate one's emotions, it is still very detrimental to victims and to romantic relationship in general. Therefore, it is important for future research to examine if there are differences between couples' IPA experiences, and the types of physical aggression that are present in their relationships, to see if regulatory interventions may be helpful for some individuals and couples, but not others. It would be particularly important to include a measure of intimate terrorism in future studies to explore how interpersonal regulatory strategies in dyads differ based on the type of IPA occurring in the relationship.

Finally, these studies also allowed for partial testing of the proposed model IER and aggression in couples. The proposed model (Figure 1) theorized there would be associations between both negative and positive IER strategies and intimate partner aggression. As discussed, only associations with negative IER strategies were supported. There were also interactive effects found, where both partners' use of negative IER strategies together were predictive of both psychological IPA and state aggression.

Further, this model proposed that *intra*personal and *inter*personal emotion regulation strategies would be associated with one another. Based on previous research, it was believed that greater self-reported use of suppression (a negative intrapersonal regulatory strategies) would be associated with greater observed use of negative IER during the discussion (Ben-Naim et al., 2013). This was not found; suppression was not significantly associated with negative IER, however, both suppression and negative IER use were positively associated with state

aggression. This indicates that they are unique regulatory processes that are both associated with aggression. Suppression in general does not downregulate the experience of negative emotions (Kalokerinos et al., 2015; Roberton et al., 2012). Therefore, suppression could elevate one's own feelings of aggression, but also mitigate the expression of negative interpersonal emotion regulation. It is possible that one's own engagement in suppression does not lead to one's own negative IER use directly, but it could be that engaging in suppression leads to one's partner becoming frustrated and using negative IER strategies themselves. To further disentangle the possible association between *intra*personal and *inter*personal emotion regulation in couples, one could manipulate intrapersonal strategies to assess how assigned *intra*personal strategies influence outward use of *inter*personal emotion regulation by one's romantic partner, and how that dynamic impacts feelings of aggression toward one's partner.

Further, how the intrapersonal strategies of suppression and cognitive reappraisal were operationalized and measured may have impacted findings. Suppression, as measured by items from the emotion regulation questionnaire (Gross & John, 2003), examined suppression of all emotions that participants may have been feeling during the conflict discussion, regardless of whether those emotions were positive or negative. It could be worthwhile to explore individual differences in suppressive tendencies (i.e., those who suppress all emotions compared to those who just attempt to suppress negative emotions). It could be that suppressing all emotions is more cognitively taxing, and more likely to lead to aggression. Cognitive reappraisal, also measured by the emotion regulation questionnaire, was measured by how the individual attempted to reappraise the situation to feel more positive emotions or less negative emotions. The converse of this was not examined. It could be that reappraising the situation in a negative way (i.e., to make oneself feel worse) may be associated with greater feelings of aggression

toward one's partner. It would be helpful to explore the potential negative side of cognitive reappraisal.

It was also postulated in the proposed model that partners' use of positive and negative IER strategies would be reciprocated by their partner. The results of study 2 showed that greater observed use of negative IER by one partner was significantly associated with greater observed use of negative IER by the other. This same significant association was found for positive IER use between partners. This indicated evidence for a feedback loop, where one's own negative IER use would be associated with partners' negative IER use. Therefore, one's own and one's partner's feelings of aggression would likely increase.

The model lastly posits that when one's partner engages in negative interpersonal emotion regulation during conflict, this leads to greater perceived psychological distance from one's partner, and this greater perceived distance in turn decreases the feeling that the partner is an extension of the self, and decreases the motive to alleviate the negative feelings of their partner, all leading to more feelings of aggression. Results from study 2 indicated that negative IER use by one's partner significantly interacted with perceived psychological closeness to predict state aggression. However, a dyadic mediation model was not tested. Future exploratory analyses should test whether the association between partner negative IER use and actor aggression is mediated by actor feelings of psychological closeness.

Because positive interpersonal emotion regulatory strategy (self-reported or observed) did not significantly impact aggression directly or interact with negative strategies, this was removed from the revised theoretical model (Figure 15). In this model, black solid lines indicate what was able to be tested in the current studies, and the dotted black lines indicate theoretical associations that have yet to be tested.

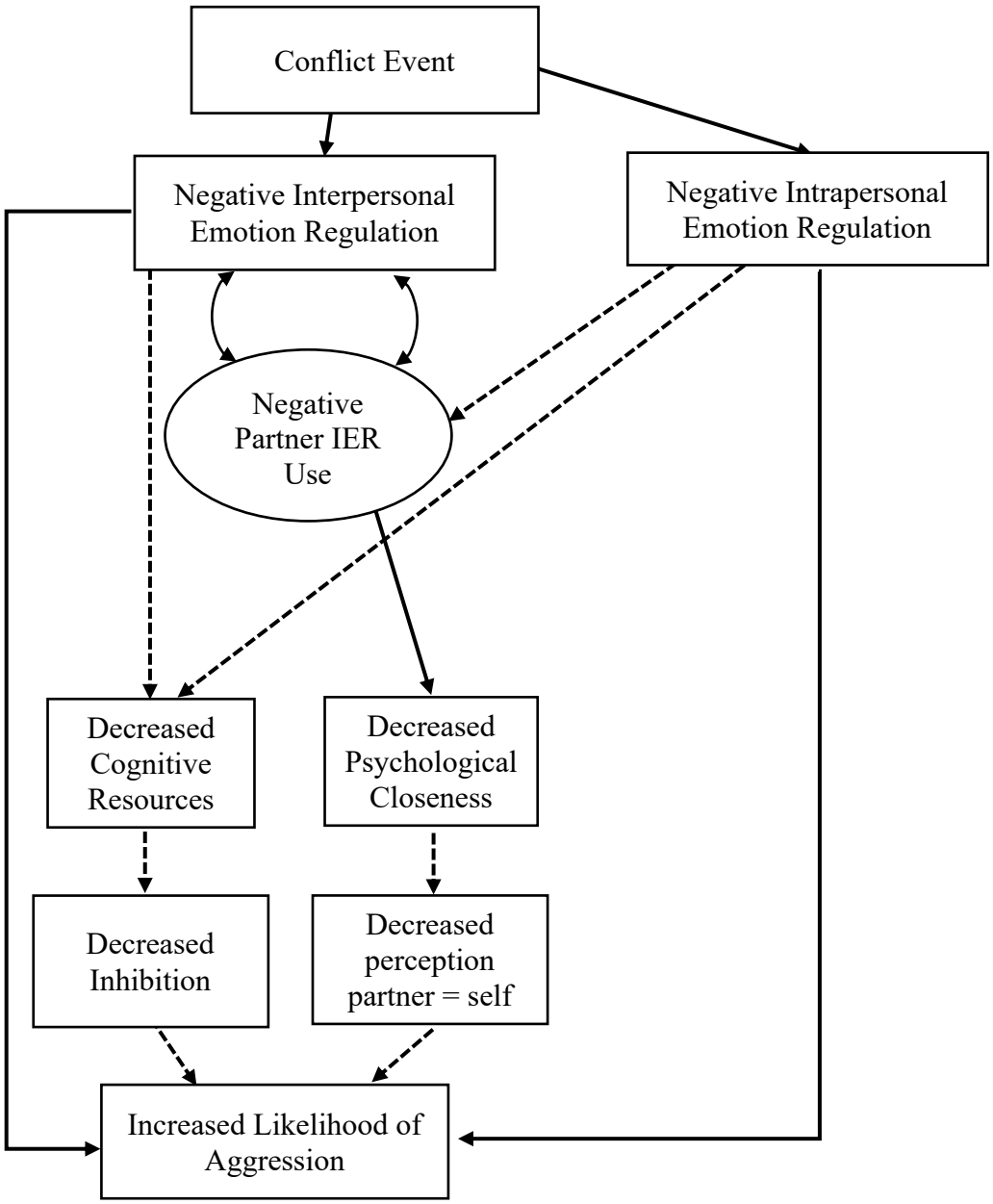

Figure 15: Revised theoretical model of interpersonal emotion regulation and aggression in couples

Research Implications

The current studies contribute to the understanding of emotion regulation and IPA in a few ways. First, these studies extend previous research by incorporating interpersonal elements of emotion regulation. Previous researchers have found a significant association between emotion regulation and IPA via multiple pathways (e.g., Berzenski & Yates, 2010; Ortiz et al., 2015; Shorey et al, 2015). This research demonstrates that both *intra*personal regulation processes and *inter*personal regulation processes are important to take into account when studying intimate partner aggression.

Further, previous researchers found that the characteristics of both partners in a relationship influence individual and relationship level variables, such as happiness, health, and relationship satisfaction (e.g., Herzberg, 2013; Keizer & Komter, 2015; Slatcher, 2010). This research provides further evidence that dyadic processes are important to examine in all romantic relationship processes, even those of conflict and aggression. These studies will lay the groundwork for future studies of IER in couples that can explore what other covariates may help explain this relation and further distinguish between automatic and deliberate processes of IER. Researchers are still currently exploring differences between automatic and deliberate emotion regulation processes as they relate to anger and aggression (Mauss, Cook, & Gross, 2007). It will be important to distinguish between these constructs for IER strategies moving forward as well.

Finally, these studies provide preliminary support a new model of IER and intimate partner aggression that emphasizes the importance of dyadic processes. Support for this model found in the current studies could shift the focus from individual-level regulatory processes to dyad-level processes of emotion regulation. There are processes of the model that were not tested in the current studies and are important to explore in the future. These processes involve associations between IER use, cognitive resource depletion, and inhibition control. Future

research could employ an experimental design that measures inhibition control before and after using both positive and negative strategies of IER. This research would increase understanding of these processes, and how they are subsequently associated with aggression. Further, a time series analysis of discussions between members of romantic couples could provide meaningful temporal and fine grain data. Specifically, it would allow for an analysis of how quickly negative IER use is reciprocated by one's partner, and if positive IER use can in fact disrupt the negative feedback loop during conflict. A combination of experimentally manipulated IER strategies and time series analysis could provide better understanding of how IER functions in the moment during conflict to either exacerbate or mitigate feelings of aggression toward one's romantic partner.

Clinical Implications

As IER strategies of both partners were found to be associated with increases in partner-directed state aggression, it is possible that specific couple-based interventions could be developed to target negative IER strategies and foster deliberate and positive regulatory strategies that are safe and effective. While positive IER strategies were not found to impact feelings of aggression, replacing maladaptive negative IER strategies with positive strategies would be beneficial. Further, while positive strategies may not have an immediate and measurable effect on feelings of aggression, that does not mean there is no relationship between the two. Researchers have begun to find significant associations between positive interpersonal emotion regulation use and relationship satisfaction (Rusu et al., 2019). Greater relationship satisfaction has also been identified as a protective factor against engaging in IPA (Petit et al., 2017). Therefore, if positive interpersonal regulation use leads to greater relationship satisfaction, than it could mitigate the risk of future IPA perpetration in the relationship.

Individual-level treatment is currently the standard for addressing issues with emotion regulation and IPA (Birkley & Eckhardt, 2015). The current research findings provide support for also focusing on the specific emotional dynamics of the couple when addressing relational conflict and aggression. While couples-based clinical interventions are not advised if there is severe physical aggression in the relationship (O'Leary, Heyman, & Neidig, 1999), couples that are experiencing predominantly bidirectional, situational violence (Dutton & Corvo, 2007; Johnson, 1995; Kelley & Johnson, 2008) may benefit from couples-based interventions. That is, couples who engage in situational violence (i.e., violence that occurs are a result of situational stressors and use less severe forms of violence as a misguided form of problem solving) rather than coercive controlling violence (i.e., severe violence used habitually to dominate one's partner) may see greater success in interventions (Capaldi, Shortt, & Crosby, 2003; O'Leary et al., 1999).

There is empirical support for couples-based treatment of IPA that indicates it works as well, if not better than individual-based treatment, and does not increase risk of injury (Stith, Rosen, & McCollum, 2003). In fact, LaTaillade and colleagues assert that not addressing dyadic conflict can contribute more to future violence in the relationship rather than protecting individuals from it (LaTaillade et al., 2006). Through the development of deliberate strategies for improving interpersonal regulation, couples may be better able to manage conflict using positive regulatory strategies that are safe and effective and decrease the likelihood of IPA experiences.

Limitations and Future Directions

There are a few limitations to the current research. While the nature of the research design will help determine how IER use by both partners is associated with subsequent feelings of aggression toward one's partner, causal inferences cannot be made between IER use and aggression. This study will serve as a springboard for future experimental studies that can

manipulate IER strategies in couples to determine possible cause and effect. These studies would also include a control group, something that was not feasible within the current research.
It would also be worthwhile to recruit couples based on their perpetration history. This way, a sample of couples with and without a history of IPA perpetration could be compared. It could also be beneficial to further parse the couples with IPA perpetration histories into two groups: 1) couples where only one member has a perpetration history, and 2) couples where perpetration is bidirectional between members. There could be significant differences between these two groups in terms of how they interact during conflict. Manipulating the conflict topic that couples discuss could also be important, as some topics may evoke more negative emotions than others.

Further, couples may engage in different behaviors while trying to solve a conflict with their partner in a laboratory setting compared to in private. Utilizing a daily diary methodology could help solve this issue, and is an important area for future research. Couples could be recruited and sampled after they have engaged in a conflict. They could self-report intrapersonal and interpersonal regulation attempts, as well as information on if the conflict evolved into a situation involving IPA. While the self-report nature of the data would be limiting, when combined within person studies we could get a better picture of how IER and IPA are associated in a natural setting. This type of design would also allow researchers to take other key factors into account that have been found to be associated with emotional regulation and IPA, such as alcohol use (Ortiz et al., 2015; Parrott et al., 2017; Watkins et al., 2014; 2015).

Another limitation of the current studies is that the voodoo doll task is the single measure of partner-directed state aggression. The voodoo doll task is good for measuring state aggression in a minimally invasive way via the computer. However, there may have been differences in pin use if participants were given a physical doll in the lab. Further, the voodoo doll task does not allow for the measurement of intensity; researchers cannot measure pin insertion intensity with

this task (DeWall et al., 2013). Further, as this task was done on a computer with images of the doll with pins inserted, participants had no control over where on the body of the doll the pins were inserted. There could be individual differences between participants that are not currently being captured but that would be if in intensity and placement were measured. For example, individuals that engage in more severe acts of physical aggression with their partner, may complete the task differently than those who engage in the more minor acts aggression. Another issues with the voodoo doll task is the non-normal distribution of responses. This is currently an issue with many measures of aggression, such as the conflict tactics scale (Straus et al., 1996). Future studies could work to develop something similar to the voodoo doll task but for positive feelings. In this scenario, instead of causing harm to the doll, participants would have the option to be nice to it in some way. This could measure both feelings of aggression and positive feelings that may result from the conflict discussion.

Lastly, the participant sample is homogenous in terms of age, race, sexual orientation, and ethnicity, limiting the generalizability of the findings. It is expected that in this population, lower levels of aggression within dating relationships will be found overall compared to the general population. Recruiting from other, more diverse populations in the future would be advisable. Despite these limitations, the proposed study is important to beginning to understand how partners together can successfully navigate conflict in a safe and healthy way.

Conclusion

The current research studies examined associations between IER and partner-directed state aggression via multiple study designs (i.e., experimental, correlational, observational). Results indicate that interpersonal, in addition to intrapersonal, emotion regulation is associated with IPA, and that there are significant dyadic influences within emotion regulation processes that affect aggression. Support for a new model of interpersonal emotion regulation and IPA was

also found. The findings from these research studies can inform future research and also support the development of IER training for couples, for safe and effective communication during conflict.

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APPENDICES

APPENDIX A: STUDY MEASURES

Demographics
(Included in Study 1 and Study 2)

Instructions: Please read each question carefully and select the most accurate response.

1. What is your age? _____

2. What is your gender?
    a. Male
    b. Female
    c. Transgender
    d. Other _____
    e. Prefer not to answer

3. What is your sexual orientation?
    a. Heterosexual
    b. Homosexual
    c. Bisexual
    d. Prefer not to say

4. What is your racial background? Select all that apply
    a. White/Caucasian
    b. Native American/American Indian
    c. Black/African American
    d. Asian
    e. Native Hawaiian/ Pacific Islander
    f. Other _____

5. What is your ethnic background?
    a. Hispanic/Latino
    b. Nonhispanic

6. What is your current level of involvement with your relationship partner? (select one)

Casual Dating	*Exclusive Dating*	*Nearly Engaged*	*Engaged*	*Married*
1	*2*	*3*	*4*	*5*

7. Is this the only person you are currently seeing?
    a. Yes
    b. No

8. How long have you been with your current relationship partner?

    _____ years and _____ months

9. Are you currently living with your partner?

a. Yes
b. No

10. How many days of the week on average do you see your partner?
    a. 0 days
    b. 1 day
    c. 2 days
    d. 3 days
    e. 4 days
    f. 5 days
    g. 6 days
    h. 7 days

Big Five Inventory – Short Form (BFI-2XS)
(Soto & John, 2017; Included in Study 1 and Study 2)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who *likes to spend time with others?* Please write a number next to each statement to indicate the extent to which *you agree or disagree with that statement.*

Disagree Strongly	*Disagree a Little*	*Neutral; No opinion*	*Agree a Little*	*Agree Strongly*
1	*2*	*3*	*4*	*5*

I am someone who….

____ 1. Tends to be quiet

____ 2. Is compassionate, has a soft heart.

____ 3. Tends to be disorganized

____ 4. Worries a lot.

____ 5. Is fascinated by art, music, or literature.

____ 6. Is dominant, acts as a leader.

____ 7. Is sometimes rude to others.

____ 8. Has difficulty getting started on tasks.

____ 9. Tends to feel depressed, blue.

____ 10. Has little interest in abstract ideas.

____ 11. Is full of energy.

____ 12. Assumes the best about people.

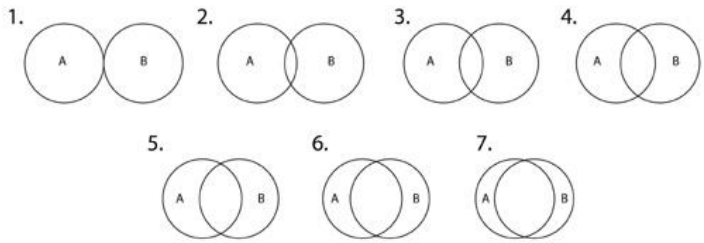
____ 13. Is reliable, can always be counted on.

____ 14. Is emotionally stable, not easily upset.

____ 15. Is original, comes up with new ideas.

Inclusion of Other in the Self (IOS)
(Aron et al., 1992; Included in Study 1 and Study 2)

Please refer to the picture below. If circle A represents you and circle B represents your partner, please indicate which picture below best describes your relationship with your partner:



Experiences in Close Relationships (ECR)
(Brennan et al., 1998; Included in Study 1 and Study 2)

These questions are concerned with your experiences in romantic relationships. Take a moment to think about these experiences and answer the following questions with them in mind. Please read each of the following statements carefully. Please use the following scale and write your responses in the space provided.

Strongly Disagree *Neither Agree or Disagree* *Strongly Agree*

1 2 3 4 5 6 7

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my partner(s) don't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares people away.
7. I try to avoid getting too close to my partner
8. I do not often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if romantic partners are not available when I need them.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them.

Regulation of Others' Feelings (ROOF)
(Gable & Boyer, 2018; Included in Study 1 and Study 2)

Most everyone has had experiences where they have wanted or needed to lead another person to feel (or maintain) positive emotion/pleasant mood or feel less negative emotion/bad mood. Listed below are different ways in which people might try to make someone feel good (or less bad), feel better, or just maintain a pleasant state. Please indicate how often you have done these using the following scale:

Never	*Rarely*	*Occasionally*	*Sometimes*	*Regularly*	*Frequently*	*Very Freq*
1	*2*	*3*	*4*	*5*	*6*	*7*

1. I arrange or take them to an activity or event that they will enjoy.
2. I tell other people how this person is feeling.
3. I add/remove something or someone to/from the situation.
4. I bring up a pleasant topic or memory to take the attention off the current situation or event.
5. I emphasize the positives in the situation.
6. I distract them from something unpleasant around them.
7. I encourage them in some way to not show their feelings on the outside.
8. I direct their attention towards something pleasant in the situation.
9. I encourage them in some way to express their feelings.
10. I make (or buy) them something that they will like.
11. I do or say something funny or pleasant to change the mood.
12. I point out the potential positive future implications of the situation.
13. I change the environment in some way (e.g. the music, lights, channel) to make it more pleasant.
14. I share a positive interpretation of the situation.
15. I complete a task, errand, or chore for them.

Most everyone has had experiences where they have wanted or needed to lead another person to feel (or maintain) negative emotions/unpleasant mood or feel less positive emotion/good mood. Listed below are different ways in which people might try to make someone feel bad, feel worse (or less good), or just maintain an unpleasant state. Please indicate how often you have done these using the following scale

Never	*Rarely*	*Occasionally*	*Sometimes*	*Regularly*	*Frequently*	*Very Freq*
1	*2*	*3*	*4*	*5*	*6*	*7*

1. I encourage them in some way to express their feelings.
2. I offer a negative interpretation of the situation.
3. I ask them to do an unpleasant errand or chore or put more responsibilities on them.
4. I bring up an unpleasant topic or memory to take the attention off the current situation.
5. I cancel our plans.
6. I encourage them in come way to not show their feelings on the outside.
7. I distract them from something unpleasant around them.
8. I emphasize the negatives in the situation.

9. I leave the situation or stop participating in the event.
10. I pick a fight with them.
11. I ignore them or otherwise exclude them.
12. I tell other people how this person is feeling.
13. I point out a potential problem or bad future implication of the situation.
14. I direct their attention to something unpleasant.
15. I do or say something unpleasant to change the mood.

Interpersonal Emotion Regulation Questionnaire
(Hofman et al., 2016; Included in Study 1 Only)

Below is a list of statements that describe how people use their partner to regulate their emotions. Please read each statement and then circle the number next to it to indicate how much this is true for you by using a scale from 1 (not true for me at all) to 5 (extremely true for me). Please do this for each statement. There are no right or wrong answers.

1	2	3	4	5
Not true for Me at all	A little bit	Moderately	Quite a bit	Extremely true for me

1. It makes me feel better to learn how my partner deals with their emotions.
2. It helps me deal with my depressed mood when my partner points out that things aren't at as bad as they seem.
3. I like being around my partner when I'm excited to share my joy.
4. I look for my partner to offer me compassion when I'm upset.
5. Hearing another person's thoughts on how to handle things helps me when I am worried.
6. Being in the presence of my partner feels good when I'm elated.
7. Having my partner remind me that others are worse off helps me when I'm upset.
8. I like being in the presence of my partner when I feel positive because it magnifies the good feeling.
9. Feeling upset often causes me to seek out others who will express sympathy.
10. When I am upset, my partner makes me feel better by making me realize that things could be a lot worse.
11. Seeing how my partner would handle the same situation helps me when I am frustrated.
12. I look to my partner for comfort when I feel upset.
13. Because happiness is contagious, I seek out my partner when I'm happy.
14. When I am annoyed, my partner can soothe me by telling me not to worry about it.
15. When I'm sad, it helps me to hear how my partner has dealt with similar feelings.
16. I look to my partner when I feel depressed just to know that I am loved.
17. Having my partner telling my not to worry can calm me down when I am anxious.
18. When I feel elated, I seek out my partner to make them happy.
19. When I feel sad, I seek out my partner for consolation.
20. If I'm upset, I like knowing what my partner would do if they were in my situations.

The Emotional Contagion Scale

(Doherty, 1997; Included in Study 1 and Study 2)

This is a scale that measures a variety of feelings and behaviors in various situations. There are no right or wrong answers, so try very hard to be completely honest in your answers. Results are *completely confidential.* Read each question and indicate the answer which best applies to you. Please answer each question very carefully.

Never	*Rarely*	*Usually*	*Often*	*Always*
1	*2*	*3*	*4*	*5*

1. If someone I'm talking with begins to cry, I get teary-eyed.
2. Being with a happy person picks me up when I'm feeling down.
3. When someone smiles warmly at me, I smile back and feel warm inside.
4. I get filled with sorrow when people talk about the death of their loved ones.
5. I clench my jaws and my shoulders get tight when I see the angry faces on the news.
6. When I look into the eyes of the one I love, my mind is filled with thoughts of romance.
7. It irritates me to be around angry people.
8. Watching the fearful faces of victims on the news makes me try to imagine how they might be feeling.
9. I melt when the one I love holds me close
10. I tense when overhearing an angry quarrel.
11. Being around happy people fills my mind with happy thoughts.
12. I sense my body responding when the one I love touches me.
13. I notice myself getting tense when I'm around people who are stressed out.
14. I cry at sad movies.
15. Listening to the shrill screams of a terrified child in a dentist's waiting room makes me feel nervous.

Situational Test of Emotional Understanding- Brief Form (STEU-B)
(Allen et al., 2014; Included in Study 1 and Study 2)

The following questions each describe a situation and ask you to choose which of five emotions is most likely to result from that situation.

1. Xavier completes a difficult task on time and under budget. Xavier is most likely to feel?

a. Surprise
b. Pride
c. Relief
d. Hope
e. Joy

2. If the current situation continues, Denise's employer will probably be able to move her job to a location much closer to her home, which she really wants. Denise is most likely to feel?

a. Distress
b. Joy
c. Surprise
d. Hope
e. Fear

3. Song finds out that a friend has borrowed money from others to pay urgent bills but has in fact used the money for less serious purposes. Song is most likely to feel?

a. Anger
b. Excitement
c. Contempt
d. Shame
e. Horror

4. Charles is meeting a friend to see a movie. The friend is very late and they are not in time to make the movie. Charles is most likely to feel?

a. Depressed
b. Frustrated
c. Angry
d. Contemptuous
e. Distressed

5. Someone believes that another person harmed them on purpose. There is not a lot that can be done to make things better. The person involved is most likely to feel?

a. Dislike
b. Rage
c. Jealousy
d. Surprise

e. Anxiety

6. Jim enjoys spending Saturdays playing with his children in the park. This year they have sporting activities on Saturdays and cannot go to the park with him anymore.
Jim is most likely to feel?

a. Angry
b. Sad
c. Frustrated
d. Distressed
e. Ashamed

7. Megan is looking to buy a house. Something happened and she felt regret. What is most likely to have happened?

a. She didn't make an offer on a house she wanted, and now she is trying to find out if it is too late.
b. She found a house she liked that she didn't think she would find.
c. She couldn't make an offer on a house she liked because the bank didn't get her the money in time.
d. She didn't make an offer on a house she liked and now someone else has bought it.
e. She made an offer on a house and is waiting to see if it is accepted.

8. Mary was working at her desk. Something happened that caused her to feel surprised. What is most likely to have happened?

a. Her work-mate told a silly joke.
b. She was working on a new task she hadn't dealt with before.
c. She found some results that were different from what she thought they would be.
d. She realized she would not be able to complete her work.
e. She had to do a task she didn’t normally do at work.

9. Someone thinks that another person has deliberately caused something good to happen to them. They are most likely to feel?

a. Hope
b. Pride
c. Gratitude
d. Surprise
e. Relief

10. By their own actions, a person reaches a goal they wanted to reach. The person is most likely to feel?

a. Joy
b. Hope
c. Relief
d. Pride
e. Surprise

11. An unwanted situation becomes less likely or stops altogether. The person involved is most likely to feel?

a. Regret
b. Hope
c. Joy
d. Sadness
e. Relief

12. Hasad tries to use his new mobile phone. He has always been able to work out how to use different appliances, but he cannot get the phone to function. Hasad is most likely to feel?

a. Distressed
b. Confused
c. Surprised
d. Relieved
e. Frustrated

13. Dorian's friend is ill and coughs all over him without bothering to turn away or cover his mouth. Dorian is most likely to feel?

a. Anxiety
b. Dislike
c. Surprise
d. Jealousy
e. Rage

14. Quan and his wife are talking about what happened to them that day. Something happened that caused Quan to feel surprised. What is most likely to have happened?

a. His wife talked a lot, which did not usually happen.
b. His wife talked about things that were different to what they usually discussed.
c. His wife told him that she might have some bad news.
d. His wife told Quan some news that was not what he thought it would be.
e. His wife told a funny story.

15. A supervisor who is unpleasant to work for leaves Alfonso's work.
Alfonso is most likely to feel?

a. Joy
b. Hope
c. Regret
d. Relief
e. Sadness

16. The nature of Sara's job changes due to unpredictable factors and she no longer gets to do the portions of her work that she most enjoyed. Sara is most likely to feel?

a. Ashamed
b. Sad
c. Angry
d. Distressed
e. Frustrated

17. Leila has been unable to sleep well lately and there are no changes in her life that might indicate why. Leila is most likely to feel?

a. Angry
b. Scared
c. Sad
d. Distressed
e. Guilty

18. Someone believes another person has deliberately caused something good to stop happening to them. However, they feel they can do something about it.
They are most likely to feel?

a. Angry
b. Contemptuous
c. Distress
d. Depressed
e. Frustrated

19. Matthew has been at his current job for six months. Something happened that caused him to feel regret. What is most likely to have happened?

a. He did not apply for a position he wanted, and has found out that someone else less qualified got the job.
b. He did not apply for a position he wanted, and has started looking for a similar position.
c. He found out that opportunities for promotion have dried up.
d. He found out that he didn't get a position he thought he would get.
e. He didn't hear about a position he could have applied for and now it is too late.

Difficulties in Emotion Regulation Scale- Short Form (DERS)

(Bjureberg et al., 2015; Included in Study 1 and Study 2)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item.

Almost Never	*Sometimes*	*About Half the Time*	*Most of the Time*	*Almost Always*
1	*2*	*3*	*4*	*5*
(0-10%)	*(11-35%)*	*(36-65%)*	*(66-90%)*	*(91-100%)*

___ 1. I pay attention to how I feel.

____ 2. I have no idea how I am feeling.

____ 3. I have difficulty making sense out of my feelings.

____ 4. I care about what I am feeling.

____ 5. I am confused about how I feel.

____ 6. When I'm upset, I acknowledge my emotions.

____ 7. When I'm upset, I become embarrassed for feeling that way.

____ 8. When I'm upset, I have difficulty getting work done.

____ 9. When I'm upset, I become out of control.

____ 10. When I'm upset, I believe that I will end up feeling very depressed.

____ 11. When I'm upset, I have difficulty focusing on other things.

____ 12. When I'm upset, I feel guilty for feeling that way.

____ 13. When I'm upset, I have difficulty concentrating.

____ 14. When I'm upset, I have difficulty controlling my behaviors.

____ 15. When I'm upset, I believe there is nothing I can do to make myself feel better.

____ 16. When I'm upset, I become irritated at myself for feeling that way.

____ 17. When I'm upset, I lose control over behavior.

____ 18. When I'm upset, it takes me a long time to feel better.

Positive Affect and Negative Affect Scale (PANAS)
(Watson & Clark,1994; Included in Study 1 and Study 2)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then enter the number on the scale below that corresponds to your response. Indicate to what extent you have felt this way in response to the discussion you just had with your partner.

	Very Slightly or Not at All 1	A Little 2	Moderately 3	Quite a Bit 4	Extremely 5
Angry					
Afraid					
Scared					
Nervous					
Jittery					
Guilty					
Ashamed					
Irritable					
Hostile					
Upset					
Distressed					
Scornful					
Disgusted					
Loathing					
Annoyed					
Cheerful					
Happy					
Joyful					
Delighted					
Enthusiastic					
Excited					
Lively					
Energetic					
Calm					
Relaxed					
At ease					

Revised Conflict Tactics Scale (CTS2)
(Straus et al., 1996; Included in Study 1 and Study 2)

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please mark how many times you did each to these things in the past year (**not in self-defense**), and how many times your partner did them in the past year (**not in self-defense**). If you or your partner did not do one of these things in the past year, but it happened before that, mark a "7" on your answer sheet for that question. If it never happened, mark an "8" on your answer sheet.

How often did this happen in the past year with **YOUR CURRENT PARTNER**?

1	2	3	4	5	6	7	0
Once in the past year	Twice in the past year	3-5 times in the past year	6-10 times in the past year	11-20 times in the past year	More than 20 times in the past year	Not in the past year, but it did happen before	This has never happened

__ 1. I kicked, bit, or punched my partner.
__ 2. My partner did this to me.
__ 3. I slapped my partner.
__ 4. My partner did this to me.
__ 5. I beat up my partner.
__ 6. My partner did this to me.
__ 7. I hit my partner with something.
__ 8. My partner did this to me.
__ 9. I choked my partner.
__ 10. My partner did this to me.
__ 11. I slammed my partner against a wall.
__ 12. My partner did this to me.
__ 13. I grabbed my partner.
__ 14. My partner did this to me.
__ 15. I threw something at my partner that could hurt.
__ 16. My partner did this to me.
__ 17. I used a knife or gun on my partner.
__ 18. My partner did this to me.
__ 19. I pushed or shoved my partner.
__ 20. My partner did this to me.
__ 21. I twisted my partner's arm or hair.
__ 22. My partner did this to me.
__ 23. I burned or scaled my partner on purpose.

__ 24. My partner did this to me.
__ 25. I insulted or swore at my partner.
__ 26. My partner did this to me.
__ 27. I shouted at my partner.
__ 28. My partner did this to me.
__ 29. I stomped out of the room.
__ 30. My partner did this to me.
__ 31. I threatened to hit or throw something at my partner.
__ 32. My partner did this to me.
__ 33. I destroyed something belonging to my partner.
__ 34. My partner did this to me.
__ 35. I did something to spite my partner.
__ 36. My partner did this to me.
__ 37. I called my partner fat or ugly.
__ 38. My partner did this to me.
__ 39. I accused my partner of being a lousy lover.
__ 40. My partner did this to me.

Single Item Self-Esteem Scale (Robins, Hendin & Trzesniewski, 2001)
(Robins et al., 2001; Included in Study 1 and Study 2)

I have high self-esteem.

1 = not very true of me 2 3 4 5 6 7 = very true of me

Brief Self Control Scale

(Tagney et al., 2004; Included in Study 1 and Study 2)

Please rate the extent to which the following statements are characteristic of you.

1= Not at all 2 3 4 5= Very much

1. I am good at resisting temptation.
2. I have a hard time breaking bad habits.
3. I am lazy.
4. I say inappropriate things.
5. I do certain things that are bad for me, if they are fun.
6. I refuse things that are bad for me.
7. I wish I had more self-discipline.
8. People would say that I have iron self-discipline.
9. Pleasure and fun sometime keep me from getting work done.
10. I have trouble concentrating.
11. I am able to work effectively toward long-term goals.
12. Sometimes I can't stop myself from doing something, even if I know it is wrong.
13. I often act without thinking through all the alternatives.

Buss and Perry Aggression Questionnaire- Short Form
(Diamond & Magaletta, 2006; Included in Study 1 and Study 2)

Using the 5-point scale shown below, indicate how uncharacteristic or characteristic each of the following statements is in describing you. Place your rating in the box to the right of the statement.

1	2	3	4	5
Extremely Uncharacteristic of Me	Somewhat Uncharacteristic of Me	Neither Uncharacteristic nor Characteristic of Me	Somewhat Characteristic of Me	Extremely Characteristic of Me

____ 1. I can't help getting into arguments when people disagree with me.
____ 2. I wonder why sometimes I feel so bitter about things.
____ 3. I have threatened people I know.
____ 4. Given enough provocation, I may hit another person.
____ 5. At times I feel I have gotten a raw deal out of life.
____ 6. I have trouble controlling my temper.
____ 7. I often find myself disagreeing with people.
____ 8. I sometimes feel like a powder keg ready to explode.
____ 9. Other people always seem to get the breaks.
____ 10. There are people who pushed me so far that we came to blows.
____ 11. My friends say that I'm somewhat argumentative.
____ 12. Sometimes I fly off the handle for no good reason.

Investment Model of Commitment
(Rusbult et al., 1998; Included in Study 1 and Study 2)

1. Please indicate the degree to which you agree with each of the following statements regarding your current relationship (circle an answer for each item).

Don't Agree at All	*Agree Slightly*	*Agree Moderately*	*Agree Completely*
1	2	3	4

____ a. My partner fulfills my needs for intimacy (sharing personal thoughts, secrets, etc.)

____ b. My partner fulfills my needs for companionship (doing things together, enjoying each other's company, etc.)

____ c. My partner fulfills my sexual needs (holding hands, kissing, etc.)

____ d. My partner fulfills my needs for security (feeling trusting, comfortable in a stable relationship, etc.)

____ e. My partner fulfills my needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.)

Do Not Agree At All				*Agree Somewhat*				*Agree Completely*
0	1	2	3	4	5	6	7	8

2. I feel satisfied with our relationship.
3. My relationship is much better than others' relationships.
4. My relationship is close to ideal.
5. Our relationship makes me very happy.
6. Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.

7. Please indicate the degree to which you agree with each of the following statements regarding your current relationship.

Don't Agree at All	*Agree Slightly*	*Agree Moderately*	*Agree Completely*
1	*2*	*3*	*4*

____ a. My needs for intimacy (sharing personal thoughts, secrets, etc.) could be fulfilled in alternative relationships.
____ b. My needs for companionship (doing things together, enjoying each other's company, etc.) could be fulfilled in alternative relationships.
____ c. My sexual needs (holding hands, kissing, etc.) could be fulfilled in alternative relationships.
____ d. My needs for security (feeling trusting, comfortable in a stable relationship, etc.) could be fulfilled in alternative relationships.

____ e. My needs for emotional involvement (feeling emotionally attached, feeling good when another feels good, etc.) could be fulfilled in alternative relationships.

Do Not Agree At All				*Agree Somewhat*				*Agree Completely*
0	1	2	3	4	5	6	7	8

8. The people other than my partner with whom I might become involved are very appealing.
9. My alternatives to our relationship are close to ideal (dating another, spending time with friends or on my own, etc.).
10. If I weren't dating my partner, I would do fine – I would find another appealing person to date.
11. My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.).
12. My needs for intimacy, companionship, etc., could easily be fulfilled in an alternative relationship.

13. Please indicate the degree to which you agree with each of the following statements regarding your current relationship (circle an answer for each item).

Don't Agree at All	*Agree Slightly*	*Agree Moderately*	*Agree Completely*
1	*2*	*3*	*4*

____ a. I have invested a great deal of time in our relationship.

____ b. I have told my partner many private things about myself (I disclose secrets to him/her).

____ c. My partner and I have an intellectual life together that would be difficult to replace.

____ d. My sense of personal identity (who I am) is linked to my partner and our relationship.

____ e. My partner and I share many memories.

Do Not Agree At All				*Agree Somewhat*				*Agree Completely*
0	1	2	3	4	5	6	7	8

14. I have put a great deal into our relationship that I would lose if the relationship were to end.
15. Many aspects of my life have become linked to my partner (recreational activities, etc.), and I would lose all of this if we were to break up.
16. I feel very involved in our relationship – like I have put a great deal into it.
17. My relationships with friends and family members would be complicated if my partner and I were to break up (e.g., partner is friends with people I care about).
18. Compared to other people I know, I have invested a great deal in my relationship with my partner.

19. I want our relationship to last a very long time (please circle a number).
20. I am committed to maintaining my relationship with my partner.
21. I would not feel very upset if our relationship were to end in the near future.
22. It is likely that I will date someone other than my partner within the next year.
23. I feel very attached to our relationship – very strongly linked to my partner.
24. I want our relationship to last forever.
25. I am oriented toward the long-term future of my relationship (for example, I imagine being with my partner several years from now).

Narcissism Measure
(Konrath et al., 2014; Included in Study 1 and Study 2)

1. To what extent do you agree with this statement: I am a narcissist. (Note: The word "narcissist' means egotistical, self-focused, and vain)

1= Not at all true of me	2	3	4	5	6	7 = Very true of me

Emotion Regulation Questionnaire (ERQ)

(Gross & John, 2003; Included in Study 1 and Study 2 - Directions and Questions vary)

DIRECTIONS FOR STUDY 1: We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

Strongly Disagree						*Strongly Agree*
			Neutral			
1	*2*	*3*	*4*	*5*	*6*	*7*

1. When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. I keep my emotions to myself.
3. When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. When I am feeling *positive* emotions, I am careful not to express them.
5. When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. I control my emotions by *not expressing them*.
7. When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.
8. I control my emotions by *changing the way I think* about the situation I'm in.
9. When I am feeling *negative* emotions, I make sure not to express them.
10. When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

DIRECTIONS FOR STUDY 2: Please indicate how much you agree or disagree with the statements below regarding your experience during the discussion you just had with your partner.

Strongly Disagree						*Strongly Agree*
			Neutral			
1	*2*	*3*	*4*	*5*	*6*	*7*

1. When I wanted to feel more positive emotion (such as joy or amusement), I changed what I was thinking about.
2. I kept my emotions to myself.
3. When I want to feel less negative emotion (such as sadness or anger), I changed what I was thinking about.
4. When I was feeling positive emotions, I was careful not to express them.

5. I made myself think about the disagreement in a way that helped me stay calm.
6. I controlled my emotions by not expressing them.
7. When I wanted to feel more positive emotion, I changed the way I was thinking about the situation.
8. I controlled my emotions by changing the way I was thinking about the situation I was in.
9. When I was feeling negative emotions, I made sure not to express them.
10. When I wanted to feel less negative emotion, I changed the way I was thinking about the situation.

Perspective Taking
(Davis, 1980; 1983; Included in Study 1 only)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you.

Does not describe me well				Describes me very well
1	2	3	4	5

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
2. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
3. I sometimes try to understand my friends better by imagining how things look from their perspective.
4. I believe that there are two sides to every question and try to look at them both.
5. I sometimes find it difficult to see things from the "other guy's" point of view.
6. I try to look at everybody's side of a disagreement before I make a decision.
7. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

Perspective Taking
(Included in Study 2 only)

Please indicate how much you agree or disagree with the statements below regarding your experience during the discussion you just had with your partner.

Strongly Disagree						*Strongly Agree*
Neutral						
1	*2*	*3*	*4*	*5*	*6*	*7*

1. I imagined how I would feel if I were in my partner's place.
2. I tried to understand my partner better by imagining how things look from their perspective.
3. I thought about both sides of the disagreement

Relationship Uncertainty
(Kaufman et al., 2019; Included in Study 2 only)

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

(1) I have second thoughts about our relationship.
(2) I may not want to be with him/her a few years from now.
(3) I feel uncertain about our prospects to make this relationship work for a lifetime.

Physical and Psychological Aggressive Intent

(Created for this study based on the CTS2 (Straus et al., 1996); Included in Study 1 Only)

How much do you feel like you would engage in the following behaviors in response to this hypothetical conflict scenario with your partner?

	1 Not at all likely	**2** A little unlikely	**3** Somewhat unlikely	**4** Neither likely or unlikely	**5** A little likely	**6** Somewhat likely	**7** Extremely likely
Insult them							
Swear at them							
Yell at them							
Destroy something of theirs							
Threaten to hit them							

	1 Not at all likely	**2** A little unlikely	**3** Somewhat unlikely	**4** Neither likely or unlikely	**5** A little likely	**6** Somewhat likely	**7** Extremely likely
Push them							
Shove them							
Slap them							
Beat them up							
Punch them							
Kick them							

Honesty Check
(Included in Study 1 Only)

Thank you for completing this research study. We know that many of you are completing this study for SONA credit, and we also understand that there are not always studies available that you fit the participation criteria for.

Please let us know if you are really in a romantic relationship below. The integrity of our data is important to the scientific field of psychology. If you answer "no", indicating that you are not really in a current romantic relationship, **you will still receive Sona credit and there is no penalty.** It is just important for us to know if we should exclude your response from our analyses.

Are you currently in a romantic relationship?

____ Yes

____ No

What was your motivation/reasoning behind taking this survey designed for those in relationships, even though you are not in a current romantic relationship?

Overall, how honest do you think your responses were to the questions on this survey? Again, **there are no consequences for not being honest, you will still receive your Sona credit.**

Completely Honest	*Mostly Honest*	*Somewhat Honest*	*Mostly Dishonest*	*Completely Dishonest*
1	*2*	*3*	*4*	*5*

APPENDIX B: STUDY 1 CONFLICT SCENARIOS

Scenario A.
Before you and [partner name] started dating, you had a one-night stand with Alex, one of your friends. You and Alex both mutually decided that it shouldn't happen again, and you have since been on good terms. Alex is one of your best friends and you value their presence in your life.

When you began dating [partner name] and introduced him/her to your friend group, Alex was there. After this initial meeting, [Partner name] told you that they were jealous of Alex, because he/she seems to pay special attention to you. [Partner name] asked you if you and Alex had ever been more than friends. Although you felt that your one-night stand was not a big deal, you knew telling [partner name] about it would upset him and he would likely want you to end your friendship with Alex. So, you lied to [partner name] and said you had never hooked up with Alex.

As you continue dating [partner name], you think things are going well in your relationship. [partner name] and Alex even seem to be developing their own friendship. [partner name] still occasionally mentions that he is jealous of your friendship with Alex, especially when he's drunk.

One day, you are hanging out with [partner name] and you fall asleep. When you wake up from your nap, [partner name] has your phone in his/her hand with some of your old texts pulled up. They are messages between you and Alex about your one-night stand. [Partner name] looks hurt and upset. He/she confronts you by saying "What the hell? Why did you lie to me?". You feel guilty about lying to [partner name] but you are also very upset that he/she invaded your privacy and broke your trust.

Scenario B.
It's Friday night and you have plans to go to a party at your friend's place with [partner name]. You have just finished a stressful week full of exams and are excited to let loose. You have been looking forward to going to this party all week and have discussed your plans to go to it multiple times with [partner name].

The party started at 10:00 p.m. It's now 10:15 p.m. and you haven't heard from [partner name]. They were supposed to meet you at your place so you could go together. You text them and they say that they aren't in the mood to see your friends and are going to stay home. You feel irritated with them because they knew how much you were looking forward to this party. Their excuse also annoys you because you always make an effort to hang out with their friends, but they don't do the same for you. In fact, [partner name] has bailed on plans before that involve your friends.

You decide to head to the party without [partner name] and have fun with your friends. When you get to the party it is in full swing. You find your friends and they introduce you to Jesse, who lives on your friend's floor. One of your favorite songs comes on and all your friends start dancing, including Jesse. Jesse turns to you and begins dancing with you specifically. Jesse then moves closer to you and puts their hands on your hips. You think this might be crossing a line, but you don't intent to take it any further, so you don't stop it. All of a sudden, [partner name]

comes out of nowhere and shoves Jesse away. [Partner name] then turns to you and says “What the hell are you doing? I don’t want to come to this stupid party and you decide to cheat on me?”. You feel guilty about dancing with Jesse but are still mad that [partner name] blew you off and just made a scene which embarrassed you.

APPENDIX C: STUDY 1 AND STUDY 2 VOODOO DOLL TASK
(Based on the task developed by DeWall et al., 2013)

STUDY 1 DIRECTIONS: Because we just had you respond to a negative scenario, we need you complete a short task to get out some of the negative energy (e.g., frustration, anger) you might have. In the task, you'll be shown a doll that represents your romantic partner. You will get to choose how many needles (up to 19) you would like to put in the doll that represents your partner.

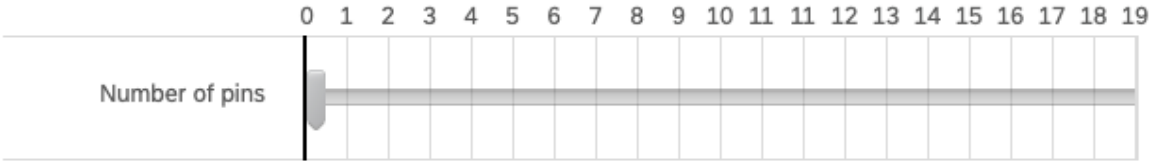
STUDY 2 DIRECTIONS: Because we just had you have a discussion with your partner about a source of disagreement in your relationship, we need you complete a short task to get out some of the negative energy (e.g., frustration, anger) you might be feeling.

In the task, you'll be shown a doll that represents your romantic partner. You will get to choose how many needles (up to 19) you would like to put in the doll that represents your partner.

The image below is the doll that represents your partner.

The images below demonstrates how the doll will look with 0 - 19 pins inserted into it.

Using the sliding scale, indicate how many pins you would like to insert into the doll.



APPENDIX D: STUDY 1 EXPERIMENTAL CONDITIONS

No Instruction Condition

Before reading the conflict scenario:

All couples at some point deal with conflict in their relationship. During a conflict, individuals have different strategies for dealing with the feelings of their partner. There are many ways in which you may want to make your partner feel better (decrease their negative feelings) or make them feel worse (intensify their negative feelings).

Please read the following scenario as if it was happening in your relationship with your partner. While reading, think of how you would respond to your partner, and **how you would influence what they are feeling.**

After reading the conflict scenario:

Please write for the next **2 minutes** (at least 150 words) how you would respond to your partner in this scenario and how you would **influence their feelings and emotions**.

Negative Interpersonal Emotion Regulation Condition

Before reading the conflict scenario:

All couples at some point deal with conflict in their relationship. During a conflict, individuals have different strategies for dealing with the feelings of their partner. We like you to **think about how to make your partner feel worse** (intensify their negative feelings).

Please read the following scenario as if it was happening in your relationship with your partner. While reading, think of how you would respond to your partner and how you would influence what they are feeling in a way that will **make them feel worse**.

After reading the conflict scenario:

Please write for the next **2 minutes** (at least 150 words) how you would respond to your partner in this scenario and how you would influence their feelings and emotions to **make them feel worse** in this situation.

Positive Interpersonal Emotion Regulation Condition

Before reading the conflict scenario:

All couples at some point deal with conflict in their relationship. During a conflict, individuals have different strategies for dealing with the feelings of their partner. We would like you to **think about how to make your partner feel better** (decrease their negative feelings).

Please read the following scenario as if it was happening in your relationship with your partner. While reading, think of how you would respond to your partner and how you would influence what they are feeling in a way that will **make them feel better**.

After reading the conflict scenario:

Please write for the next **2 minutes** (at least 150 words) how you would respond to your partner in this scenario and how you would influence their feelings and emotions to **make them feel better** in this situation.

APPENDIX E: QUALITATIVE CODING MATERIALS

Conflict Coding Sheet – Verbal Behaviors

Coder Initials ___ Couple # ____ Participant # ____ Participant Gender (bold) M F

To what extent did the participant in the clip….	Not at all			About Half the time			All the time
Discuss partner's shortcomings or things they don't like about them	1	2	3	4	5	6	7
Say something unpleasant/insulting	1	2	3	4	5	6	7
Distract from the conversation in a negative way (e.g., bring up unpleasant topic or memory to direct attention away from current conversation)	1	2	3	4	5	6	7
Emphasize the negatives in the situation	1	2	3	4	5	6	7
Provide a negative interpretation of the situation	1	2	3	4	5	6	7
Talking about negative future implications of the situation	1	2	3	4	5	6	7
Assign negative, personal attribution (e.g., "You did that purposefully to upset me")	1	2	3	4	5	6	7
Discuss partner's positive characteristics	1	2	3	4	5	6	7

Say something pleasant (e.g., make a joke to lighten mood)	1	2	3	4	5	6	7
Distract from the conversation in a positive way (e.g., bring up a pleasant topic or memory to direct attention away from current conversation)	1	2	3	4	5	6	7
Emphasize the positives in the situation	1	2	3	4	5	6	7
Provide a positive interpretation of the situation	1	2	3	4	5	6	7
Talking about positive future implications of the situation	1	2	3	4	5	6	7
Assign a positive, situational attribution (e.g., “I know you didn’t mean to upset me”)	1	2	3	4	5	6	7
Taking the perspective of the partner (e.g., “I see your point of view”)	1	2	3	4	5	6	7
Laughing	1	2	3	4	5	6	7

Conflict Coding Sheet – Nonverbal Behaviors

Coder Initials ___ Couple # ____ Participant # ____ Participant Gender (bold) M F

To what extent did the participant in the clip….	Not at all			About Half the Time			All the time
Indicate annoyance (e.g., eyerolling, sighing)	1	2	3	4	5	6	7
Ignore their partner (e.g., avoid eye contact, refuse to respond)	1	2	3	4	5	6	7
Indicate hostility (e.g., angry looks, intimidating body language)	1	2	3	4	5	6	7
Moving farther away from partner	1	2	3	4	5	6	7
Active listening (e.g., maintaining eye contact, nodding)	1	2	3	4	5	6	7
Touching (e.g., putting hand on partners, touching shoulders)	1	2	3	4	5	6	7
Indicate positive feelings (e.g., smiling)	1	2	3	4	5	6	7
Leaning in closer to partner	1	2	3	4	5	6	7
Indicate sadness (e.g., crying, frowning)	1	2	3	4	5	6	7
Indicate discomfort (e.g., nervous movements, fidgeting)	1	2	3	4	5	6	7
Closed off body language (e.g., cross arms, balled up)	1	2	3	4	5	6	7

Conflict Coding Likert Scale

1 – Not at all

Does NOT occur throughout entire video, no intensity
Occurs 0 minutes total

2 – Rarely

Happens once or twice, action is not intense
Occurs 0-1 minutes total

3 – Occasionally

Happens a few times (3-5 times), action is slightly intense
Occurs 2-3 minutes total

4 – Occurs half of the time

Happens throughout half of the video, action is mildly intense
Occurs 4-5 minutes total

5 – Frequently

Happens just over half of the time, occurs almost once a minute. Action is intense
Occurs 6-7 minutes total

6 – Almost the whole time

Happens very frequently, occurs several times a minute, action is very intense
Occurs 7-8 minutes total

7 – All the time

Happens throughout the entire video consistently, many times a minute, action is very intense
Occurs 9-10 minutes total

APPENDIX F: CONFLICT DISCUSSION TOPICS AND FREQUENCIES

DIRECTIONS: Below are 20 common areas in which romantic couples disagree. Please read through the following list carefully and circle the three top areas of disagreement in your relationship with your partner. Please also rank those areas from 1 (most disagreement) to 3 (least disagreement) by the number in next to the circled topic.

Topic	**Frequency** ***N***	**Percent** **%**
Jealousy	15	16.5
Independence	3	3.3
Amount of time spent together	7	7.7
Drugs and/or alcohol	3	3.3
Communication	17	18.7
Household management	1	1.1
Showing affection	6	6.6
Making decisions	5	5.5
Friends	3	3.3
Unrealistic expectations	3	3.3
Money management	3	3.3
Sex	1	1.1
Children	0	0
Solving problems	4	4.4
Trust	8	8.8
Religion	2	2.2
Recreation and leisure time	3	3.3
Career decisions	1	1.1
In laws, parents, relatives	2	2.2
Cell phones or social media use	4	4.4

APPENDIX G: INSTITUTIONAL REVIEW BOARD APPROVAL LETTERS

Study 1 IRB Approval Letter

University *of* New Hampshire
Research Integrity Services, Service Building
51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

07-May-2019

Lee, Katherine
Psychology,320 McConnell
Durham, NH 03824

IRB #: 8081
Study: Emotional Experiences in Romantic Relationships
Approval Date: 05-May-2019

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Expedited as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 1101(b). Approval is granted to conduct your study as described in your protocol.

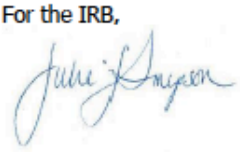
Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, *Responsibilities of Directors of Research Studies Involving Human Subjects.* (This document is also available at http://unh.edu/research/irb-application-resources.) Please read this document carefully before commencing your work involving human subjects.

Note: IRB approval is separate from UNH Purchasing approval of any proposed methods of paying study participants. Before making any payments to study participants, researchers should consult with their BSC or UNH Purchasing to ensure they are complying with institutional requirements. If such institutional requirements are not consistent with the confidentiality or anonymity assurances in the IRB-approved protocol and consent documents, the researcher may need to request a modification from the IRB.

Upon completion of your study, please complete the enclosed Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact Melissa McGee at 603-862-2005 or melissa.mcgee@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,



Julie F. Simpson
Director

cc: File
Cohn, Ellen

Study 1 IRB Modification Approval Letter

University *of* New Hampshire

Research Integrity Services, Service Building
51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

04-Feb-2020

Lee, Katherine
Psychology,320 McConnell
Durham, NH 03824

IRB #: 8081
Study: Emotional Experiences in Romantic Relationships
Modification Approval Date: 30-Jan-2020
Modification: Expanded recruitment

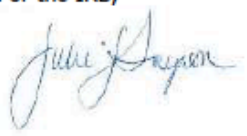
The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved your modification to this study, as indicated above. Further changes in your study must be submitted to the IRB for review and approval prior to implementation.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the document, *Responsibilities of Directors of Research Studies Involving Human Subjects.* This document is available at http://unh.edu/research/irb-application-resources or from me.

Note: IRB approval is separate from UNH Purchasing approval of any proposed methods of paying study participants. Before making any payments to study participants, researchers should consult with their BSC or UNH Purchasing to ensure they are complying with institutional requirements. If such institutional requirements are not consistent with the confidentiality or anonymity assurances in the IRB-approved protocol and consent documents, the researcher may need to request a modification from the IRB.

If you have questions or concerns about your study or this approval, please feel free to contact Melissa McGee at 603-862-2005 or melissa.mcgee@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,



Julie F. Simpson
Director

cc: File
Cohn, Ellen

Study 2 IRB Approval Letter

University *of* New Hampshire

Research Integrity Services, Service Building
51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

26-Aug-2019

Lee, Katherine
Psychology,320 McConnell
Durham, NH 03824

IRB #: 8114E
Study: The Effects of Interpersonal Emotion Regulation During Conflict on Partner-Directed State Aggression
Approval Date: 08-Jul-2019

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study.

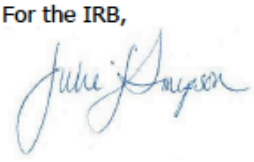
Approval is granted to conduct your study as described in your protocol for one year from the approval date above. At the end of the approval period you will be asked to submit a report with regard to the involvement of human subjects in this study. If your study is still active, you may request an extension of IRB approval.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, *Responsibilities of Directors of Research Studies Involving Human Subjects.* (This document is also available at http://unh.edu/research/irb-application-resources.) Please read this document carefully before commencing your work involving human subjects.

Note: IRB approval is separate from UNH Purchasing approval of any proposed methods of paying study participants. Before making any payments to study participants, researchers should consult with their BSC or UNH Purchasing to ensure they are complying with institutional requirements. If such institutional requirements are not consistent with the confidentiality or anonymity assurances in the IRB-approved protocol and consent documents, the researcher may need to request a modification from the IRB.

If you have questions or concerns about your study or this approval, please feel free to contact Melissa McGee at 603-862-2005 or melissa.mcgee@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,



Julie F. Simpson
Director

cc: File
Cohn, Ellen