

The Effects of Instigation, Experiential Avoidance, and Emotion Dysregulation on
Dating Aggression

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ABSTRACT

Physical violence, psychological aggression, and cyber abuse are particularly prevalent in college student dating relationships. A behavioral theory of aggression and violent behavior, I³ Theory predicts that aggressive behavior and dating aggression are most likely to occur in the presence of three processes: instigating cues (e.g., provocation), aggressive-impelling forces (e.g., experiential avoidance), and diminished inhibition (e.g., emotion dysregulation). Recent research suggests that higher levels of experiential avoidance and emotion dysregulation may moderate the relation between provocation and dating aggression. However, no studies to date have examined these variables simultaneously. The purpose of this study was to test I³ Theory using an experimental test of aggression using the Voodoo Doll Task (VDT). College students ($N = 269$) listened to a neutral recording and then completed a behavioral measure of aggressive tendencies, the VDT. Participants then listened to a provocative jealousy induction scenario and again completed the VDT. Emotion dysregulation marginally accounted for the increase in aggressive tendencies on the VDT following provocation. Emotion dysregulation predicted use of physical, psychological, and cyber aggression, whereas experiential avoidance significantly predicted cyber aggression.

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INTRODUCTION

The Effects of Instigation, Experiential Avoidance, and Emotion Dysregulation on Dating Aggression

Intimate partner violence (IPV) is a public health problem that impacts millions of Americans. IPV is defined as physical, sexual, and psychological aggression committed against an intimate partner regardless of relationship status and includes violent threats and stalking (Centers for Disease Control, 2019). While IPV between adults has been studied extensively, dating aggression specifically has not received as much attention (Jennings, Okeem, Piquero, Sellers, Theobald, & Farrington, 2017). Dating aggression is defined as partner-aggressive behaviors that occur between two individuals who “share an emotional, romantic, and/or sexual connection beyond a friendship, but they are not married, engaged, or similarly committed” (Iconis, 2013, p. 111). Dating aggression is associated with several physical and mental health concerns such as physical injuries, sexually transmitted infections (STIs), alcohol abuse, low self-esteem, depression, anxiety, and posttraumatic stress (PTS) symptoms (Amanor-Boadu, Stith, Miller, Cook, Allen, & Gorzek, 2011; Buelna, Ulloa, & Ulibarri, 2009).

Dating aggression is a particularly important area of study, as data suggests the risk for intimate partner homicide is greatest between ages 18 to 25 (Block & Christakos, 1995; Breitman, Shackelford, & Block, 2004). Approximately 20% to 37% of college student dating couples engage in physical assault and 60% to 90% in psychological aggression (Shorey, Cornelius, & Bell, 2008). Straus (2004) found similar rates (25% for men; 28% for women) of violence perpetration among male and

female college students. However, a daily diary study found that within a 90-day period, college women perpetrated 80 acts of psychological abuse and 62 acts of physical violence against their male partners (Shorey, Stuart, Moore, & McNulty, 2014), whereas college men perpetrated 50 acts of psychological aggression and 23 acts of physical aggression against their female partners (Shorey, McNulty, Moore, & Stuart, 2015). These findings demonstrate that dating aggression is also particularly prevalent among college women.

Cyber abuse is another form of psychological abuse that is a recent area of focus in the literature. Cyber abuse is particularly prevalent in college student and young-adult dating relationships (Watkins, Maldonado, & DiLillo, 2018). Cyber abuse is a multidimensional construct that consists of using electronic means, such as social media, text messages, and GPS to monitor, threaten, embarrass, and send or request sexual content (Watkins et al., 2018; Wolford-Clevenger et al., 2016). Prevalence rates for using and experiencing cyber abuse range from 60% to 93% (Leisring & Giumetti, 2014; Marganski, 2013; Marganski & Melander, 2018). Similar to other forms of dating aggression, cyber abuse is associated with emotional distress, alcohol abuse, depression, anxiety, and posttraumatic stress (PTS) symptoms (Bennett, Guran, Ramos, & Margolin, 2011; Watkins et al., 2018). Risk factors for dating aggression and cyber abuse include experiential avoidance and poor emotion or anger regulation skills (Baker & Stith, 2008; Jennings et al., 2017; Shorey et al., 2014; Taft, Schumm, Orazem, Meis, & Pinto, 2010).

I³ Theory

I³ Theory (pronounced “I-cubed”) is a behavioral theory of aggression that argues the risk for aggression is highest when three processes are present: instigating cues, aggressive-impelling forces, and diminished inhibition, creating “the perfect storm” for aggression (Finkel et al., 2012; Finkel & Eckhardt, 2013). Instigating cues are external situations that trigger an aggressive urge, such as provocation. Aggressive-impelling forces are defined as internal characteristics (e.g., experiential avoidance) that are unlikely to result in aggression on their own, but increase the risk for aggression when combined with diminished inhibition or instigating cues. Inhibitory cues are defined as behaviors, characteristics, or events, such as emotion regulation, that reduce the risk of aggression in the presence of an aggressive urge. In cases of diminished inhibition, these normally protective factors are either absent or at ineffectively low levels (e.g., emotion dysregulation). The purpose of this dissertation was to test the I³ Theory experimentally by examining if the interaction between the impelling cue, experiential avoidance, and disinhibiting force of emotion dysregulation predicted aggression in the absence and presence of provocation.

Instigating Cues

The articulated thoughts in simulated situations (ATSS) paradigm (Davison, Vogel, & Coffman, 1997) is a widely used task that measures immediate cognitive and affective responses using imaginal situations. Eckhardt, Davison, & Kassiove (1998) modified this paradigm to assess responses to IPV-provoking situations, in which participants are asked to imagine themselves in various audio-recorded scenarios involving their romantic partners (e.g., overhearing their partner flirt with another, criticize their performance in bed, etc.) and asked to state aloud their immediate

thoughts and feelings (Zanov & Davison, 2010). Several studies have found that the ATSS provocation scenarios result in more aggressive responses than neutral scenarios, demonstrating its utility as an instigating cue (Slotter, Finkel, DeWall, Pond, Lambert, Bodenhausen, & Fincham, 2011; Zanov & Davison, 2010). The ATSS converges with measures of IPV, such that self-reported measures assessing use of physical and psychological IPV are positively correlated with the number of aggressive responses made during the ATSS in the lab (Eckhardt et al., 1998). Similar results were found among college samples, with college men with a history of dating aggression demonstrating more aggressive responses during the ATSS than those with no prior history of dating aggression (Eckhardt & Crane, 2015; Eckhardt, Jamison, & Watts, 2002). Sprunger & Eckhardt (2017) also found that in conditions of provocation, college students who endorsed positive IPV attitudes rated items measuring their desire to engage in IPV (e.g., hit my partner) more highly than those without positive IPV attitudes. This suggests that the ATSS may converge with behavioral measures of aggression.

Some studies have utilized the ATSS in combination with behavioral measures of aggression. One commonly used behavioral measure is the Voodoo Doll Task (VDT; DeWall et al., 2013). Drawing from the literature on the laws of similarity and magical beliefs, DeWall and colleagues (2013) argued that participants transfer characteristics of a person onto a voodoo doll representing that person. They reasoned that causing harm to a voodoo doll by stabbing it with pins is psychologically similar to harming the actual person the doll represents. Multiple studies using college student and community samples have demonstrated that the VDT has strong reliability,

convergent validity, and construct validity (Chester & DeWall, 2017; DeWall et al., 2013; Slotter et al., 2012). Studies using college student samples have found that undergraduates insert more pins into a voodoo doll representing their partner in the presence of provocation than in the absence of provocation (Slotter et al., 2012; Slotter, Grom, & Tervo-Clemmens, 2020).

Aggressive-Impelling Forces

The presence of experiential avoidance may facilitate or impel dating aggression. Experiential avoidance is defined as a person's attempt to alter or avoid unwanted internal or mental experiences (Hayes, Wilson, Gifford, Follette, & Stroschal, 1996). Although experiential avoidance is central to some psychotherapeutic interventions for IPV (Zarling, Lawrence, Orengo-Aguayo, 2017), the research examining experiential avoidance and aggression is quite limited, with only five studies conducted to date. Only one tested I³ Theory using an experimental task. First, Tull et al. (2007) found that experiential avoidance predicted general aggression, even after controlling for PTSD symptom severity, trait anger, and emotional inexpressivity. Secondly, Shorey et al. (2014) found that experiential avoidance was positively associated with the use of physical, psychological, and sexual dating aggression among a sample of college men, even after controlling for age, alcohol use, and relationship satisfaction. Thirdly, Gromet et al. (2021a) found that higher levels of experiential avoidance and sexual coercion victimization were associated with perpetration of sexual coercion, regardless of gender. Surprisingly, women reported engaging in more sexually coercive behaviors when they reported *low* levels of experiential avoidance and high rates of prior sexual coercion. Fourth, Reddy et al.

(2011) found significant actor and partner effects for male combat veterans only, such that men who endorsed more experiential avoidance reported that they and their partners perpetrated more physical assault (Reddy et al., 2011). Unlike the previous studies, experiential avoidance was not associated with psychological abuse. However, when Reddy et al. (2011) controlled for gender, the relationship between men's experiential avoidance and women's psychological abuse trended toward significance. Finally, Grom et al. (2021b) found that acute alcohol intoxication was associated with greater IPV perpetration as measured by the Taylor Aggression Paradigm (TAP) among participants with high levels of experiential avoidance. This was the first study to experimentally examine the relation between experiential avoidance and a behavioral measure of aggression. These findings provide compelling evidence demonstrating the relations between experiential avoidance and use of IPV.

(Dis)Inhibiting Forces

The ability to regulate negative emotions may be a powerful inhibitor of IPV perpetration. Emotion regulation is defined as “the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275). Anger, jealousy, and retaliation are commonly cited motivations for partner aggression among men and women (Elmqvist, Hamel, Shorey, Labrecque, Ninnemann, & Stuart, 2014; Langhinrichsen-Rohling, McCullars, & Misra, 2012; Kelley, Edwards, Dardis, & Gidycz, 2015), indicating that difficulties with emotion regulation may be one pathway to dating aggression. Researchers have suggested that aggression toward a romantic partner may be used in an attempt to regulate unwanted negative emotions (Gratz & Roemer, 2004; Jakupcak,

Lisak, & Roemer, 2002). Indeed, there is significant evidence linking emotion dysregulation to dating aggression among men and women (Bilton et al., 2016; Lee, Rodriguez, Edwards, & Neal, 2020; Shorey, Brasfield, Febres, & Stuart, 2011; Shorey et al., 2015; Stappenbeck et al., 2016). One study found that men with a history of dating aggression scored lower on measures of anger control than men without a history of dating aggression (Eckhardt et al., 2002). Using a 90-day diary study, Shorey et al., (2015) found that emotion regulation moderated the relations between specific negative emotions (e.g., hostility, irritation, sadness) and use of physical dating aggression among college men. Specifically, they found that proximal negative affect increased the odds of engaging in physical aggression among men who reported more emotional dysregulation. These findings further demonstrate that emotion dysregulation increases the risk for dating aggression by lowering the ability to inhibit aggressive impulses.

The Current Study

Although several studies have examined various combinations of dating aggression perpetration, experiential avoidance, and emotion dysregulation, no studies have examined all three variables together in an experimental design. As I³ Theory focuses on predicting aggressive behavior, I elected to instigate anger using audio recordings from modified from previous ATSS studies specifically designed to illicit anger among partner violent men (Eckhardt et al., 2002). The behavioral measure of state aggressive tendencies employed was the Voodoo Doll Task, where participants imagine it is their own partner they are impaling with pins. Additionally, I examined emotional dysregulation as a measure of diminished inhibition along with experiential

avoidance as an impellor to predict frequencies of physical, psychological, and cyber dating aggression perpetration in the past 6 months.

Primary Hypothesis

1. The number of pins inserted will increase from Time 1 (neutral scenario) to Time 2 (jealousy scenario).
2. The increase in number of pins from the neutral scenario to the jealousy scenario will be significantly moderated by experiential avoidance and emotion dysregulation, such that higher reported levels of experiential avoidance and emotion dysregulation will be associated with an increase in aggressive inclinations.

Secondary Hypotheses

1. Experiential avoidance will predict physical, psychological, and cyber abuse perpetration, such that higher levels of experiential avoidance will be associated with higher levels of self-reported frequencies of physical, psychological, and cyber abuse perpetration.
2. Emotional dysregulation will moderate the relations between experiential avoidance and physical, psychological, and cyber abuse perpetration, such that higher levels of emotion dysregulation and experiential avoidance will be associated with greater reported use of physical, psychological, and cyber abuse.

Method

Two hundred sixty-nine undergraduate students were recruited from the University of Houston via using advertisements on SONA and Blackboard for a study

examining “emotional and behavioral responses in romantic relationships.”

Participants were at least 18 years old, in a heterosexual romantic-relationship for at least 6 months, and reported verbal and written English proficiency. The University of Houston’s Institutional Review Board approved all study procedures. All participants provided written informed consent.

Measures

Conflict Tactics Scale – Revised (CTS2; Straus et al., 1996). The CTS2 is a 78-item questionnaire that assesses the frequency of using and experiencing IPV in the past year. For this study, directions were modified to assess dating aggression within the last 6 months. The CTS2 consists of five subscales: physical assault, physical injury, sexual coercion, psychological aggression and negotiation. The CTS2 is rated on a 7-point scale, from 0 (*this has never happened*) to 6 (*more than 20 times*). A 7 indicates that an item has occurred but not within the past 6-months. Items were scored using the mid-point of the bin, such that an item rated as a 3 (*3-5 times*) was recoded to a 4. For this study, only the physical assault and psychological aggression subscales were analyzed. The physical assault and psychological aggression subscales demonstrated acceptable reliabilities in the current dataset, with alpha values of .96 and .76, respectively.

Cyber Aggression in Relationships Scale (CARS; Watkins et al., 2018).

The CARS was administered along with the CTS2 psychological aggression subscale to assess the role of technology in the use of dating aggression. The CARS is a 34-item questionnaire that consists of three subscales: psychological, sexual, and stalking cyber aggression. Samples items from each of the three subscales include, “Used

information posted on social media to put down or insult my partner”; “Pressured my partner to send sexual or naked photos of him or her to me”; and “Checked my partner’s phone to see who he or she was talking to or texting without my partner’s permission.” The CARS is rated on a 7-point scale, from 0 (*this has never happened*) to 6 (*more than 20 times in the past 6 months*). A 7 indicates that an item has occurred but not within the past 6-months. Items endorsed as having occurred in the past 6 months were coded as (1 = *present*, 0 = *absent*) and then summed to create a total score, with higher scores indicating greater use of cyber aggression in the past 6 months (Watkins et al., 2018). The total CARS demonstrated acceptable reliability with an alpha value of .88.

Modified Difficulties with Emotion Regulation Scale (M-DERS; Bardeen et al., 2016). The M-DERS is a newer measure of emotion regulation that was developed to address psychometric limitations in the original 36-item DERS (Gratz & Roemer, 2004). The M-DERS consists of 29-items that load onto five subscales in order to assess the four theoretical domains of emotional regulation: *identification* of emotions, *non-acceptance* of emotion, *strategies* to manage emotional responses, challenges in working toward *goals* while experiencing negative emotions, and *impulse* control difficulties while experiencing negative emotions. The M-DERS includes items such as, “When I’m upset, I feel like I can’t remain in control of my behaviors.” The M-DERS is rated on a 5-point scale measuring the frequency that each item occurs, from 1 (*almost never; 0-10%*) to 5 (*almost always; 91-100%*), with higher scores indicating greater emotional dysregulation. For this study, items on the

M-DERS were summed to create a total score of emotion dysregulation. The total M-DERS demonstrated an adequate alpha value of .97.

Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT; Francis et al., 2016). The CompACT was administered to measure experiential avoidance. The CompACT is a newer measure of experiential avoidance that was developed in response to criticisms that the Acceptance and Action Questionnaire (AAQ-II) measures distress rather than psychological inflexibility. The CompACT is a 23-item questionnaire that loads onto three subscales that measures the six core-processes of ACT: *openness to experience*, *behavioral awareness*, and *valued action*. The CompACT includes items such as, “I tell myself I shouldn’t have certain thoughts,” “It seems I am ‘running on automatic’ without much awareness of what I’m doing,” and “I make choices based on what is important to me, even if it is stressful.” Items on the CompACT are rated on a 7-point Likert scale, from 0 (*strongly disagree*) to 6 (*strongly agree*). Relevant items are reverse coded and then all items are summed together to create the three subscales and a total score of psychological flexibility, with higher scores suggesting greater experiential avoidance or psychological inflexibility. For the purposes of this study, only the total score was examined. The CompACT demonstrated an adequate alpha value of .89.

The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011). The AAQ-II is one of the most widely used measures experiential avoidance; however in recent years, researchers have argued that it measures general distress rather than experiential avoidance. The AAQ-II was included to allow for comparison with the CompACT and existing research. The AAQ-II is a 7-item questionnaire and includes

items such as, “I worry about not being able to control my worries and feelings.” The AAQ-II is rated on a 7-point scale that ranges from 1 (*never true*) to 7 (*always true*), with higher scores indicating greater levels of psychological inflexibility and experiential avoidance. The AAQ-II has demonstrated adequate reliability ($\alpha = .84$; Bond et al., 2011).

The Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is a widely used measure of affective states that allows for measurement of affect across a number of time periods, from present moment affect to overall affect. The PANAS is a 20-item measure that includes mood states such as, “distressed” and “hostile.” The PANAS consists of two subscales with 10-items each, positive and negative affect. Items on the PANAS are rated on a 5-point likert scale, from 1 (*very slightly or not at all*) to 5 (*extremely*). Participants were presented the negative affect subscale at baseline, post-neutral ATSS, and post-jealousy ATSS. For the purposes of this study, changes in negative affect from post-neutral ATSS and post-jealousy ATSS served as a manipulation check. The PANAS demonstrated adequate test-retest reliability, $r = .581$.

Automated Thoughts in Simulated Scenarios (ATSS) Paradigm (Davison et al., 1983; Appendix A). Stimuli modified from previous ATSS studies were used to instigate anger in response to fictitious scenarios involving dating partners. The ATSS scenarios were presented to participants via Qualtrics. Participants were instructed to listen to two audio recordings (neutral and jealousy). Participants first listened to the neutral scenario, completed tasks, and then listened to the jealousy scenario. The neutral scenario portrays a situation in which the participant and their

partner are at a restaurant and overhear a conversation between a nearby couple. The jealousy scenario portrays a situation in which participants overhear flirting between their partner and someone of the opposite gender. The jealousy scenario has two recordings, one for female-identified participants and one for male-identified participants.

In previous studies from our lab (Costa & Babcock, 2008), we used jealousy and anger-inducing ATSS recordings with the repeated, 30-second articulation pauses removed from the 1998 recordings. I consulted with Christopher Eckhardt (personal communication, June 4, 2020) regarding whether to use the existing recordings or create newer ones, as the 1998 recordings were designed for older, married couples. His suggestion was to record the scenarios using local college students, as the actors from the 1998 recordings “do not sound like college students” and previous participants in his lab in Indiana have said that their college student “recordings were hard to imagine because the actors were so different from the respondent in terms of background, vocal style, etc.” Therefore, I elected to record the script for college students (see Appendix A) using the voices of undergraduate research assistants in our lab.

The Voodoo Doll Task (VDT; DeWall et al., 2013; (Appendix B). The VDT is a validated behavioral measure of aggressive inclinations, as theory suggests participants transfer characteristics of a person onto the voodoo doll that represents them. Causing harm to a voodoo doll by stabbing it with pins is psychologically similar to causing actual harm to the person that the voodoo doll represents (DeWall et al., 2013). In this study, the VDT was presented to participants twice via Qualtrics,

immediately after the ATSS neutral and jealousy scenarios, respectively. Participants were instructed to imagine the doll represents their current romantic partner and choose how many sharp pins they would like to stab into the doll, from 0 to 51. They are shown an example doll with 51 pins and told this represents “when you feel a great amount of anger from your partner.” On a final slide, they are instructed to select the number of pins they wish to insert.

Procedure

Data was collected via Qualtrics during one online session. After providing consent, participants reported information regarding their demographics and completed a number of self-report measures (as well as measures not used in the current analyses). Prior to study tasks, participants completed an initial PANAS to assess baseline state affect. Participants listened to the neutral scenario, completed the VDT, and a second PANAS followed by the jealousy-induction scenario, the VDT, and a final PANAS. Finally, participants were asked the following questions to assess whether they experienced any technical difficulties and if they were actively engaged during the study: “Briefly summarize your thoughts and feelings during the audio recordings,” “On a scale from 1 (very unrealistic) to 7 (very realistic), how realistic was the scenario you heard,” “On a scale from 1 (very difficult) to 7 (very easy), how easy or difficult was it for you to imagine the scenario,” and “Now that you have completed the study, do you have any idea what the study was about?” Participants were asked to watch a comedy clip to alleviate any short-term negative mood-effects from the study, debrief, and awarded credit for their participation.

Analytic Approach

All analyses were performed using SPSS version 28. When examining main and interactive effects of experiential avoidance and emotion dysregulation in estimating the expected increase in aggressive inclinations following exposure to a provoking stimulus, I applied a generalized linear model (GLM). As each response (i.e., number of pins) represent discrete counts and were non-independent responses due to their measurement at two time-points, I utilized generalized estimating equations (GEE) to perform two types of repeated-measures analyses: Poisson, a distribution model which assumes that the mean of the dependent variable is equal to its residual variance; and Negative Binomial, which includes an additional parameter to allow for overdispersion, which occurs when the residual variance of the dependent variable exceeds its mean (Field, 2013; Payne et al., 2017). The negative binomial model was performed using maximum likelihood estimation and hybrid parameter estimation. When comparing models, the Quasi Likelihood under Independence Criterion (QIC) and the Corrected Quasi Likelihood under Independence Criterion (QICC) were examined, with smaller numbers indicating better fit. All predictors were grand mean centered prior to running the analyses to minimize the likelihood of multicollinearity (Aiken & West, 1991). In estimating the frequency of self-report measures of aggression (i.e., physical, psychological, and cyber aggression), I also applied Poisson and Negative Binomial models to account for their positively skewed distributions. When comparing models, the Pearson chi-square and degrees of freedom ratio was examined, with values greater than 1.2 signaling the presence of overdispersion.

Results

Descriptive Statistics and Bivariate Correlations

Of the 269 participants in the study, 230 (85.5%) identified as women and 39 (14.5%) identified as men. Participants were on average 22-years-old ($SD = 5.61$) and had been in their current relationship for an average of 3 years and 3 months ($M = 38.85$; $SD = 42.37$). Twenty-nine percent ($n = 78$) of the sample self-identified as Hispanic or Latino, 8.9% ($n = 24$) as Black or African American, 25.7% ($n = 69$) as non-Latino White or Caucasian, 21.9% ($n = 59$) as Asian or Asian American, 3.3% ($n = 9$) as Middle Eastern, and 3% ($n = 8$) as multi-racial, which is reflective of the racial diversity at the University of Houston. The education level of the sample included 16.7% ($n = 45$) classified themselves as freshman, 17.8% ($n = 48$) as sophomores, 29% ($n = 78$) as juniors, 31.6% ($n = 85$) as seniors, 2.6% ($n = 7$) as 5th year students, and 2.2% ($n = 6$) as post-baccalaureate students. Regarding sexual orientation, 79.6% ($n = 214$) of students self-identified as heterosexual, 12% ($n = 32$) self-identified as bisexual or pansexual, and 7.8% ($n = 21$) identified with two or more sexual orientations, including questioning their sexual orientation.

Means and correlations of study variables are presented in Table 1. The average number of pins chosen on the VDT following the neutral ATSS scenario was 2.06 ($SD = 7.03$). Overall, 76.2% of participants did not insert any pins, 18.6% selected 1-10 pins, and 5.2% selected more than 10 pins. The average number of pins on the VDT following the jealousy induction scenario was 19.42 ($SD = 21.08$). In contrast, 29.7% of participants did not insert any pins, 23.1% selected 1-10 pins, 24.5% selected 11-50 pins, and 22.7% selected the maximum number of pins, 51. The number of pins was significantly higher in response to the jealousy scenario as

compared to the neutral scenario, Related-Samples Wilcoxon Signed Rank Test = 11.35, $p < .001$, suggesting that the aggression induction was successful. Moreover, the manipulation checks of believability of and difficulty in imagining the audio recorded scenarios averaged, 4.21 ($SD = 1.90$) and 4.57 ($SD = 2.12$) respectively, suggesting that participants found the scenarios to be moderately realistic and were moderately able to imagine themselves and their partners in the scenarios. Experiential avoidance was positively related to emotion dysregulation, the frequency of perpetrating psychological and cyber aggression, and number of pins following the jealousy scenario. Experiential avoidance was not significantly related to use of physical aggression or number of pins following the neutral scenario. Emotion dysregulation was positively related to use of physical, psychological, and cyber aggression as well as number of pins following the neutral and jealousy scenarios. Number of pins following the neutral scenario was positively related to use of physical, psychological, and cyber aggression, whereas number of pins following the jealousy scenario was positively related to experiential avoidance and emotion dysregulation (see Table 1).

Anger Arousal Manipulation Check

State negative affect summary scores from the PANAS completed after the neutral and jealousy scenarios were examined using a dependent t test to determine whether listening to the jealousy scenario was related to increased negative affect. There was a significant difference in negative affect between the two time-points, $t(268) = 11.48$, $p < .001$, such that there was a significant increase in negative affect from the neutral scenario ($M = 16.68$, $SD = 7.83$) to the jealousy scenario ($M = 22.46$,

$SD = 9.80$). A similar pattern was demonstrated when only examining angry affect (i.e., summing hostile and irritable affect), $t(268) = 15.49, p < .001$. These findings confirm that the jealousy scenario served as an instigating cue.

Preliminary analyses were conducted to determine if emotion dysregulation and experiential avoidance varied depending on demographics (e.g., gender, race, age, and relationship length). First, correlations were run to examine whether age and relationship length were significantly correlated with study variables. Age was positively related to relationship length and negatively related to experiential avoidance, emotion dysregulation, and the number of pins following the jealousy scenario. Relationship length was negatively related to emotion dysregulation, but not significantly related to any other study variables. Subsequently, two multiple linear regression analyses were performed to test if age and relationship length were significant predictors of experiential avoidance and emotion dysregulation, respectively. The overall regression model predicting experiential avoidance was statistically significant ($R^2 = .06, F(2, 265) = 8.95, p < .001$). Age significantly predicted experiential avoidance ($\beta = -.31, p < .001$); however, relationship length was not a significant predictor of experiential avoidance ($\beta = .11, p = .16$). The overall regression model predicting emotion dysregulation was statistically significant, ($R^2 = .05, F(2, 265) = 7.18, p < .001$). Age was a significant predictor of emotion dysregulation ($\beta = -.23, p = .004$); however, relationship length was not a significant predictor of emotion dysregulation ($\beta < .001, p > .05$).

The second set of preliminary analyses tested for gender and race differences in experiential avoidance and emotion dysregulation. Due to the small number of men

($n = 39$) in the study, two one-way MANOVAs were performed with gender and race entered as the fixed factors and measures of emotion dysregulation and experiential avoidance entered as the dependent variables. The first analysis testing the multivariate effect of gender was not significant, Wilks' Lambda $F(2, 266) = 1.03, p = .36$. Given the differences in sample size across genders, descriptive statistics were performed to assess for the presence of any patterns in the data. Examination of the means revealed that women ($M = 62.14, SD = 25.74$) reported on average, higher levels of emotion dysregulation than men ($M = 55.92, SD = 21.65$). Similarly, women ($M = 58.33, SD = 20.77$) reported slightly higher levels of experiential avoidance than men ($M = 56.03, SD = 18.98$). The second analysis testing the multivariate effect of race was significant, Wilks' Lambda $F(10, 524) = 2.65, p = .004$. Univariate analyses revealed significant main effects for experiential avoidance $F(5, 263) = 4.09, p = .001$ and for emotion dysregulation $F(5, 263) = 2.32, p = .04$. Follow-up analyses performed with a Bonferroni correction revealed that participants who identified as Black or African American reported significantly higher levels of experiential avoidance than participants who identified as White or Caucasian, as well as participants who identified as multi-racial (all p 's $< .05$). There were no significant differences between racial/ethnic groups for emotion dysregulation.

Aggressive Inclinations Across Instigation Conditions

The first model tested the main and interactive effects of experiential avoidance and emotion dysregulation in estimating aggressive inclinations across levels of instigation (e.g. neutral scenario, jealousy scenario). Time, with two levels (ATSS neutral and ATSS jealousy), was entered as the within-subject effect and

number of pins across the scenarios were entered as the dependent variable. Experiential avoidance, emotion dysregulation, and their interaction were entered as covariates into the model. Poisson and Negative Binomial distributions were applied to the data; when comparing values on goodness of fit indices, a negative binomial distribution (QIC = 469.53, QICC = 474.65) was found to have better model fit than Poisson (QIC = 13727.42, QICC = 13544.09). When examining the model effects and parameter estimates, there were no significant main or interactive effects. However, the main effect of emotion dysregulation was trending toward significance, Wald Chi-Square ($df = 1$) 3.70, $Exp B = 1.01$, $B = .006$, $SE = .01$, $p = .055$. Estimates of the model factors are presented in Table 2.

Perpetration of Physical Assault by Experiential Avoidance and Emotion Dysregulation

The second model initially tested the main and interactive effects of experiential avoidance and emotion dysregulation on perpetration of physical assault with a Poisson distribution. However, this model demonstrated significant overdispersion with a Pearson chi-square and degrees of freedom ratio > 1.2 . Therefore, a negative binomial distribution with a log-link using maximum likelihood estimation and hybrid parameter estimation was applied to the model. In determining whether to include age as a covariate into the models, the Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC) values were examined, with smaller values indicating overall better fit. A negative binomial model controlling for age was found to be of poorer fit (AIC = 464.37, BIC = 496.73) than a negative binomial model that did not control for age (AIC = 462.65, BIC = 480.63); thus, age was

excluded from the model. The full factorial model estimating physical aggression was significant with a Chi-Square Likelihood ratio of ($df = 3$) 9.05, $p = .03$. Estimates of the model factors are presented in Table 2. Within the full model, there was only a significant main effect of emotion dysregulation, such that greater reported emotion dysregulation was associated with greater use of physical assault ($Exp B = 1.05$, $B = .05$, $SE = .02$, $p = .02$).

Perpetration of Psychological Abuse by Experiential Avoidance and Emotion Dysregulation

The third model initially tested the main and interactive effects of experiential avoidance and emotion dysregulation on use of psychological aggression with a Poisson distribution. However, this model demonstrated significant overdispersion with a Person chi-square and degrees of freedom ratio > 1.2 . Therefore, a negative binomial distribution with a log-link using maximum likelihood estimation and hybrid parameter estimation was applied to the model. In determining whether to include age as a covariate into the models, the Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC) values were examined, with smaller values indicating overall better fit. A negative binomial model controlling for age was found to be of poorer fit (AIC = 1407.61, BIC = 1439.97) than a negative binomial model that did not control for age (AIC = 1403.73, BIC = 1421.70); thus age was excluded from the model. The full factorial model estimating psychological aggression was significant with a Chi-Square Likelihood ratio of ($df = 3$) 18.63, $p < .001$. Estimates of the model factors are presented in table 2. Within the full model, there was a significant main effect of emotion dysregulation, such that higher reported levels of emotion

dysregulation was associated with greater use of psychological aggression ($Exp B = 1.02, B = .02, SE = .01, p = .007$).

Perpetration of Cyber Aggression by Experiential Avoidance and Emotion

Dysregulation

The fourth model initially tested the main and interactive effects of experiential avoidance and emotion dysregulation on cyber aggression using a Poisson distribution; however, this model also demonstrated significant overdispersion with a Person chi-square and degrees of freedom ratio > 1.2 . Therefore, I applied a negative binomial distribution with a log-link using maximum likelihood estimation and hybrid parameter estimation to the model. In determining whether to include age as a covariate into the models, the Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC) values were examined, with smaller values indicating overall better fit. A negative binomial model controlling for age was found to be of poorer fit (AIC = 810.25, BIC = 842.60) than a negative binomial model that did not control for age (AIC = 806.74, BIC = 824.71); thus, age was excluded from the model. The full factorial model estimating cyber aggression was significant with a Chi-Square Likelihood ratio of ($df = 3$) 28.92, $p < .001$. Estimates of the model factors are presented in Table 2. Within the full model, there were significant main effects of emotion dysregulation ($Exp B = 1.01, B = .01, SE = .01, p = .03$) and experiential avoidance ($Exp B = 1.02, B = .02, SE = .01, p = .01$), such that higher levels of reported emotion dysregulation and experiential avoidance, respectively, were associated with more frequent use of cyber aggression. The interactive effect of

emotion dysregulation and experiential avoidance was not significant, thus no follow up tests were performed.

Exploratory Analyses

The Acceptance and Action Questionnaire-II. Given that the AAQ-II has been criticized for measuring general distress rather than experiential avoidance, collinearity diagnostics were performed to test for the presence of multicollinearity between experiential avoidance as measured by the AAQ-II and emotion dysregulation. There was no evidence of multicollinearity, as the tolerance and variance inflation factor (VIF) values were above and below the recommended cut-offs of .20 and 5, respectively (Tolerance = .50, VIF = 1.99) (Hair et al., 2010). However, the correlation between the M-DERS (i.e., emotion dysregulation) and the AAQ-II was higher ($r = .71$) than correlation between the M-DERS and the CompACT ($r = .58$).

To allow for comparison of findings between the AAQ-II and the CompACT, the main study analyses were performed again with the AAQ-II substituting the CompACT as the self-report measure of experiential avoidance. The first exploratory analysis examined the main and interactive effects of experiential avoidance (AAQ-II) and emotion dysregulation in estimating the change in aggressive inclinations across levels of instigation. As previously discussed, the time with two levels (ATSS neutral and ATSS jealousy) was entered as the within-subject effect and number of pins across the scenarios were entered as the dependent variable. Experiential avoidance (measured via AAQ-II), emotion dysregulation, and their interaction were entered as covariates into the model. A Negative Binomial model with maximum likelihood

estimation and hybrid parameter estimation was applied to the data. When examining the model effects and parameter estimates, there was a significant main effect of emotion dysregulation, Wald Chi-Square ($df = 1$) 11.59, $Exp B = 1.01$, $B = .01$, $SE = .01$, $p < .001$. The main effect of experiential avoidance and the interactive effect were non-significant. To allow for further comparison between the original model that included the CompACT and the exploratory model substituting the AAQ-II for the CompACT, the QIC and QICC values were examined regarding overall model fit, with smaller values indicating overall better fit. The goodness of fit values were approximately equal across the two models (AAQ-II: QIC = 469.35; QICC = 474.65; CompACT: QIC = 469.53, QICC = 474.65). Estimates of the model factors are presented in Table 3.

The second exploratory analysis examined the main and interactive effects of experiential avoidance as measured by the AAQ-II and emotion dysregulation in estimating use of physical assault as measured by the CTS2. A negative binomial distribution with a log-link using maximum likelihood estimation and hybrid parameter estimation was applied to the model. The full factorial model estimating physical aggression was significant with a Chi-Square Likelihood ratio of ($df = 3$) 10.85, $p = .01$. Within the full model, there was only a significant main effect of emotion dysregulation ($Exp B = 1.02$, $B = .07$, $SE = .02$, $p = .003$). In comparing the inclusion of the AAQ-II versus the CompACT, the AIC and BIC values were examined regarding overall model fit. The goodness of fit values were slightly better for the model including the AAQ-II (AIC = 460.86; BIC = 478.83) compared to the

model including the CompACT (AIC = 462.65, BIC = 480.63). Estimates of the model factors are presented in Table 3.

The third exploratory analysis examined the main and interactive effects of experiential avoidance as measured by the AAQ-II and emotion dysregulation in estimating use of psychological abuse as measured by the CTS2. A negative binomial distribution with a log-link using maximum likelihood estimation and hybrid parameter estimation was applied to the model. The full factorial model estimating psychological aggression was significant with a Chi-Square Likelihood ratio of ($df = 3$) 23.64, $p < .001$. Within the full model, there was only a significant main effect of experiential avoidance ($Exp B = 1.01$, $B = .04$, $SE = .02$, $p = .02$). In comparing the inclusion of the AAQ-II versus the CompACT, the AIC and BIC values were examined regarding overall model fit. The goodness of fit values were slightly better for the model including the AAQ-II (AIC = 1398.71; BIC = 1416.69) compared to the model including the CompACT (AIC = 1403.73, BIC = 1421.70). Estimates of the model factors are presented in Table 3.

The fourth exploratory analysis examined the main and interactive effects of experiential avoidance as measured by the AAQ-II and emotion dysregulation in estimating use of cyber aggression. A negative binomial distribution with a log-link using maximum likelihood estimation and hybrid parameter estimation was applied to the model. The full factorial model estimating cyber aggression was significant with a Chi-Square Likelihood ratio of ($df = 3$) 33.70, $p < .001$. Within the full model, there was a significant interaction between experiential avoidance and emotion dysregulation ($Exp B = .99$, $B = -.001$, $SE = .001$, $p = .01$). The significant interaction

was probed with simple slopes analyses by examining the effects of emotion dysregulation on self-report measures of cyber aggression at low and high levels of emotion dysregulation (-1 standard deviation, +1 standard deviation; Holmbeck, 2002). Simple slopes analysis (see Figure 1) examining the effect of experiential avoidance on use of cyber aggression demonstrated that at low levels of emotion dysregulation, experiential avoidance was positively related to use of cyber aggression ($Exp B = 1.08, B = .07, SE = .02, p < .001$). At high levels of emotion dysregulation, experiential avoidance was marginally related to use of cyber aggression ($Exp B = 1.03, B = .03, SE = .01, p = .07$). In comparing the inclusion of the AAQ-II versus the CompACT, the AIC and BIC values were examined regarding overall model fit. The goodness of fit values were slightly better for the model including the AAQ-II (AIC = 801.96; BIC = 819.93) compared to the model including the CompACT (AIC = 806.74, BIC = 824.71). Estimates of the model factors are presented in Table 3.

State Negative Affect and Experiential Avoidance

Diary studies have found that proximal negative affect allows for greater precision in measuring IPV, as cross-sectional studies are subject to recall bias (Derrick & Testa, 2017; Elkins et al., 2013; Shorey et al., 2015; Testa & Derrick, 2014). This finding also aligns with I³ Theory's rationale that the immediate presence of disinhibiting cues increases the risk of IPV. Given that the VDT is measuring state aggressive inclinations following instigation, it follows that a state measure of negative affect would allow for greater precision in capturing which variables influence aggressive inclinations. Thus, I elected to replace trait emotion dysregulation with a state measure of negative affect (i.e., PANAS) that was measured after the

jealousy scenario. As previously described, time with two levels (ATSS neutral and ATSS jealousy) was entered as the within-subject effect and number of pins across the neutral and jealousy scenarios were entered as the dependent variable. Experiential avoidance (measured via CompACT), state negative affect following the jealousy scenario, and their interaction were entered as covariates into the model. A Negative Binomial model with maximum likelihood estimation and hybrid parameter estimation was applied to the data. When examining the model effects and parameter estimates, there was a significant main effect of state negative affect, Wald Chi-Square ($df = 1$) 40.88, $p < .001$ ($Exp B = 1.04$, $B = .04$, $SE = .01$) and a marginally significant effect of experiential avoidance, Wald Chi-Square ($df = 1$) 3.49, $p = .062$ ($Exp B = 1.01$, $B = .01$, $SE = .01$; see Figure 2). The interactive effect between trait experiential avoidance and state negative affect was non-significant. In comparing the goodness of fit values from this analysis and the analysis testing the interactive effect of the CompACT and emotion dysregulation, the latter model was found to have slightly better fit (QIC = 469.53, QICC = 474.65) than the current analysis (QIC = 470.44, QICC = 475.27). Estimates of the model factors are presented in Table 3.

Discussion

The current study aimed to test I³ Theory's "perfect storm" hypothesis to determine if individuals are more aggressive when instigation and impelling cues are high and inhibitory processes are low (Finkel & Eckhardt, 2013). We expected that participants reporting greater levels of both experiential avoidance (high impellor) and emotion dysregulation (low inhibition) would exhibit a stronger tendency to engage in dating aggression. Overall, the "perfect storm" hypothesis was partially supported,

such that emotion dysregulation was a significant predictor of partner aggression as measured by the Voodoo Doll Task (VDT), the CTS2 physical and psychological abuse scales, and the Cyber Aggression scale. However, there was less support for experiential avoidance serving as an impelling factor, as it predicted psychological abuse and cyber aggression only. Contrary to our main study hypotheses, emotion dysregulation and experiential avoidance did not interact to predict any type of partner aggression. However, exploratory analyses revealed a significant interaction between experiential avoidance, when measured by the AAQ-II, and emotion dysregulation to predict cyber aggression.

With regards to partner-aggressive inclinations, emotion dysregulation emerged as the only significant predictor of increased partner-aggressive inclinations over time, as measured by the VDT. Partner aggressive inclinations increased following provocation when the inhibitory process of emotion regulation was low. Specifically, emotion dysregulation predicted the increase in VDT pins following instigation (an anger induction). These findings are consistent with existing research that demonstrates that emotion dysregulation is a significant predictor of dating aggression (Neilson et al., 2021). Surprisingly, experiential avoidance did not appear to serve as an impelling factor in predicting increased partner-aggressive inclinations. However, the main effects of experiential avoidance and state negative affect were associated with increased partner-aggressive inclinations over time. Although these exploratory findings align with previous studies demonstrating that experiential avoidance and state negative affect increase the risk for partner aggression (Berkout et al., 2019; Birkley & Eckhardt, 2015), they are inconsistent with I³ Theory, which

argues that the risk for aggression is greatest when instigation and impelling cues are high and inhibitory processes are low (Finkel & Eckhardt, 2013).

Trait emotion dysregulation and state negative affect are well established risk factors for use of IPV (Birkley & Eckhardt, 2015; Shorey et al., 2015), though recent findings suggest that type of emotion regulation strategy employed during periods of dysregulation may modulate the proximal risk for IPV and dating aggression (Maldonado et al., 2015). Specifically, participants instructed to employ emotional suppression demonstrated *increased* verbal aggression, particularly among those with a history of dating aggression (Maldonado et al., 2015) and who endorsed high levels of trait anger (Birkley & Eckhardt, 2019). When provoked, one's tendency to engage in rumination when intoxicated is associated with greater use of aggression (Watkins et al., 2015). In contrast, trait cognitive reappraisal and distraction emotion regulation strategies were protective against unprovoked aggression, even when participants were intoxicated and instructed to ruminate (Birkley & Eckhardt, 2019; Watkins et al., 2015). These findings suggest that rumination and emotional suppression increase the risk for dating aggression and IPV, whereas cognitive reappraisal and distraction strategies are protective against dating aggression and IPV. Given these findings, it may be that the relations between experiential avoidance and emotion dysregulation in predicting aggression depend on type of emotion regulation strategy employed.

Secondary Aims

The secondary study aims, which examined whether the relations between experiential avoidance and use of physical, psychological, and cyber aggression varied based on level of emotion dysregulation, exhibited a similar pattern of results.

Emotion dysregulation was a significant predictor of dating aggression in analyses in which experiential avoidance was measured using the CompACT (Francis et al., 2016). Specifically, higher levels of emotion dysregulation was predictive of all three forms of dating aggression. Contrary to expectation, experiential avoidance was only a significant predictor of using cyber aggression. A different pattern of results emerged when experiential avoidance was measured by the AAQ-II (Bond et al., 2011). Specifically, experiential avoidance significantly predicted using psychological aggression, replacing emotion dysregulation from the previous analysis. There was a significant interaction between experiential avoidance and emotion dysregulation when predicting cyber aggression, with follow-up analyses revealing that experiential avoidance was associated with using cyber aggression for participants endorsing low levels of emotion dysregulation (see Figure 1). This effect was marginal for participants endorsing high levels of emotion dysregulation. This is surprising given that previous research and I³ Theory would argue that experiential avoidance would predict cyber aggression at high levels of emotion dysregulation, *not* at low levels. Upon examination of the graph, it becomes clear that when both are at high levels, experiential avoidance and emotion dysregulation do not exert differential effects on cyber aggression. Whereas at low levels of emotion dysregulation, experiential avoidance exhibits a stronger influence on use of cyber aggression.

Measurement Error as a Possible Contributor

Although existing research indicates that experiential avoidance is associated with greater use of dating aggression and IPV (Bell & Higgins, 2015; Grom et al., 2021b; Reddy et al., 2011; Shorey et al., 2015), many of these studies have measured

experiential avoidance using the AAQ-II. Recent literature has criticized the AAQ-II for having poor construct validity, arguing that it measures psychological distress rather than experiential avoidance (Francis et al., 2016). Further evidence suggests that the AAQ-II exhibits poor discriminant validity, as several items appear to confound the process of acceptance/experiential avoidance with the outcomes many aim to assess (Wolgast, 2014). While the current study's conflicting findings across measures may be due the result of overlapping constructs and potentially the presence of multicollinearity, collinearity diagnostics did not find evidence for the presence of multicollinearity. Though not conclusive, it is notable that the correlation between the M-DERS (i.e., emotion dysregulation) and the AAQ-II was higher ($r = .71$) than correlation between the M-DERS and the CompACT ($r = .58$).

Despite potential measurement problems, there remains compelling evidence that experiential avoidance as a construct is related to anger, aggression, and partner aggression (Berkout et al., 2019; Grom et al., 2021). Recent research indicates that psychological flexibility, the opposite of experiential avoidance, and the core mechanism of change underlying Acceptance and Commitment Therapy (ACT), is associated with decreased IPV (Grom et al., 2021; Zarling, Bannon, & Berta, 2019). Indeed ACT-based interventions appear to be some of the first evidenced-based psychotherapies for IPV (Zarling & Russell, 2022). In the current study, experiential avoidance (measured using the CompACT) significantly predicted the use of cyber aggression. When exploratory analyses examined experiential avoidance and proximal negative affect as predictors of partner-aggressive inclinations from time 1 to time 2, experiential avoidance was marginally significant. The limited findings for

experiential avoidance is surprising given that previous studies have found associations between experiential avoidance and physical, psychological, and sexual aggression among college, clinical, and veteran samples (Shorey et al., 2015; Tull et al., 2007).

The Impact of Gender on Experiential Avoidance

Although the current study revealed no significant gender effects for emotion dysregulation and experiential avoidance, over 80% of the sample consisted of women, decreasing the likelihood of detecting gender effects. While not conclusive, women ($M = 20.85$, $SD = 10.12$) reported slightly higher levels of experiential avoidance than men ($M = 18.21$, $SD = 8.81$). Experiential avoidance may exert differential effects among men and women depending on the type of IPV and dating aggression measured. A review of the extant literature suggests that experiential avoidance is a consistent predictor of IPV and dating aggression among *men but not women* (Grom et al., 2021; Reddy et al., 2011; Zamir et al., 2018). College women comprised over 85% of this sample, whereas the majority of studies providing evidence for experiential avoidance as a risk factor for partner aggression have been among all male samples (LaMotte, 2020; Shorey et al., 2015; Zarling et al., 2015). Couples' studies employing dyadic data analysis have found that *men's* experiential avoidance influences their own use of physical aggression, but *women's* experiential avoidance is not associated with their own or their partner's use of physical aggression (Reddy et al., 2011; Zamir et al., 2018). Additionally, men's experiential avoidance was predictive of their observed negative communication, which is a well-known risk factor of IPV and often serves as a proxy for psychological aggression (Sommer et al.,

2019; Zamir et al., 2018). A recent study found that women engaged in more sexually coercive behaviors when they reported *low* levels of experiential avoidance (i.e., greater psychological flexibility) (Grom et al., 2021).

Cyber Aggression

To my knowledge, this the first study linking experiential avoidance to the perpetration of cyber aggression. Surprisingly, when experiential avoidance was measured by the CompACT, it was not associated with use of physical or psychological aggression but was associated with cyber abuse. Examination of the most frequently endorsed cyber abuse items may provide some clarity, as the top three most endorsed items were: 1) “I intentionally ignored my partner’s calls/texts to hurt my partner,” 2) “I checked my partner’s phone without permission,” and 3) “I kept tabs on my partner using social media.” Avoidance of unwanted internal experiences often provides temporary relief from painful emotions (Hayes & Wilson, 2003). In comparison to other types of cyber aggression and in-person forms of abuse, these items represent avoidance behaviors that also violate the boundaries of others. Given the varied measures of cyber aggression (Kim & Ferrarresso, 2022) future research should replicate these findings using the same measure and others.

Future Research Directions

Given the recent findings from the I³ Theory literature demonstrating that specific emotion regulation strategies modulate the risk for IPV and dating aggression, future research might examine how various strategies interact with experiential avoidance to predict dating aggression and IPV. In addition, although low power prevented examination of demographic differences in the current study, there were

significant differences in both experiential avoidance and emotion dysregulation among racial/ethnic groups. As limited research exists regarding the efficacy of empirically supported treatments for culturally diverse samples (Bernal & Scharron-del-Rio, 2001; La Roche & Christopher, 2009), it would be important to examine the interaction between experiential avoidance and emotion regulation strategies in a large, culturally diverse sample. This would allow for greater precision in understanding which strategies modulate risk for IPV among various non-White groups and subsequently allow for culturally-responsive tailoring of existing evidenced-based IPV treatment programs.

Clinical Implications

Achieving Change Through Values-Based Behavior (ACTV) is an ACT-based intervention that reduces IPV by increasing psychological flexibility (Zarling et al., 2017). Studies examining the efficacy of ACTV have found that reductions in both experiential avoidance and emotion dysregulation partially accounted for the reductions in IPV among a sample of treatment-seeking adults and a court-mandated sample (Zarling et al., 2019; Zarling et al., 2017; Zarling, Lawrence, & Marchman, 2015). The findings from this study provide initial evidence that rates of cyber aggression may also benefit from IPV intervention strategies aimed at reducing experiential avoidance and emotion dysregulation. Furthermore, given that some studies suggest rates of cyber aggression among young adult populations range from 63 to 93% (Leisring & Giumetti, 2014), it may be important for IPV prevention programs to target experiential avoidance and emotion dysregulation in order to reduce incident rates of cyber aggression.

Study Limitations

As with all studies, this study has a number of limitations. Due to concerns regarding limited power to detect a three-way interaction within a between-subjects design, this study was changed to a within-subjects design. Repeated-measures designs have greater statistical power because they are able to control for random error variance, thereby reducing the amount of error within a statistical model, and increasing the likelihood of detecting an effect (Greenwald, 1976). However, repeated-measures designs are subject to order or carryover effects, whereby participants' responses to a particular condition are related to the order that the conditions are presented, rather than the conditions themselves (Pollatsek & Well, 1995). The two audio scenarios were not counterbalanced because the neutral scenario was not thought to contaminate the subsequent jealousy-inducing scenario, whereas presenting them in the reverse order would cause carry over effects. While possible that the observed increase in aggressive inclinations on the VDT are partially a result of order effects, it is unlikely that the observed increase is completely attributable to order effects, given the reported increase in negative affect purportedly caused by the jealousy induction.

Though the ATSS is a well-validated anger-induction paradigm (Barbour et al., 1998), its external validity is limited by the use of fictitious dating scenarios to induce anger. Indeed, a small number of participants indicated that the scripted scenarios were not particularly salient for them. Despite this, participants reported a significant increase in negative affect following the second scenario, which suggests the jealousy scenario was sufficiently provoking. The VDT is similarly limited in that participants

must imagine that the doll represents their partner. The VDT also does not measure partner-aggression, but rather individuals' *inclinations towards partner aggression*. Some researchers have instructed participants to recall an intense argument with their partners as an alternative anger induction (Watkins et al., 2015; Slotter et al., 2020). If the VDT were coupled with a similar provocation task, it could further validate the VDT as a measure of partner aggressive inclinations.

This study also relied on self-report data regarding participants' use of physical, psychological, and cyber dating abuse, which is subject to recall bias (Waterman et al., 2021). Research also suggests that participants underreport their use of partner aggression (Follingstad & Rogers, 2013). This study was originally planned to include data from a larger lab-based study in which data would be recruited from both partners, followed by a brief conflict discussion, and a lab-based measure of aggressive behavior. Due to the COVID-19 pandemic, this plan was not feasible for a dissertation. The audio scenarios and the VDT were chosen to accommodate the need for online data collection while also behaviorally measuring dating aggression in an ethical manner.

Due to the cross-sectional nature of this study, causal relations between use of partner aggression and emotion dysregulation interest cannot be inferred. Future studies could examine these variables using a daily-diary study, which would allow researchers to infer causality and to examine the interplay of these variables in a real-world context rather than in the lab. This study's focus on dating aggression in a sample of convenience is limited in its ability to generalize to community and court-mandated populations. Despite this, young adult and college-aged populations are an

important demographic to study, as research suggests that dating rates of partner aggression are highest during in young adulthood (O’Leary, 1999). The U. S. News & World Report also recognized UH as the second-most diverse public research university in the United States (University of Houston, 2016). This study is one of the few to examine these variables using a racially and ethnically diverse sample measuring college-dating aggression.

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Table 1

Bivariate correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9
1. Experiential Avoidance	-								
2. Emotion Dysregulation	.58**	-							
3. Physical Assault ¹	.08	.12*	-						
4. Psychological Abuse ¹	.18**	.23**	.66**	-					
5. Cyber Aggression ²	.24**	.22**	.73**	.60**	-				
6. Neutral scenario VDT ³	.10	.14*	.21**	.16**	.32**	-			
7. Jealousy scenario VDT ³	.14*	.16**	-.01	-.02	-.01	.21**	-		
8. Age	-.27**	-.24**	-.04	-.08	-.11	-.07	-.13*	-	
9. Relationship length	-.09	-.15*	-.05	-.02	-.06	-.04	-.10	.65**	-
<i>M (SD)</i>	58.00 (20.50)	61.24 (25.24)	2.30 (14.07)	6.73 (13.75)	1.32 (2.53)	2.06 (7.03)	19.42 (21.08)	22.62 (5.61)	38.85 (42.37)

Notes: * $p < .05$, ** $p < .01$

¹CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman 1996) Physical and Psychological IPV scales were modified to reflect physical assault and psychological abuse frequencies in the previous 6 months.

²Cyber Aggression in Relationships Scale (CARS; Watkins et al., 2018)

³Reflects mean number of pins inserted to virtual Voodoo Doll Task (VDT).

Table 2

Main and Interactive Effects of Experiential Avoidance Measured using the CompACT and Emotion Dysregulation in Predicting an Increase in Aggressive Inclinations and Self-reported Partner Aggression

	<i>B</i>	<i>SE</i>	<i>Likelihood Ratio X²</i>	<i>p</i>	<i>Exp(B)</i>	<i>Exp(B) Confidence Interval</i>	
Aggressive Inclinations¹							
Experiential Avoidance	.004	.004	.70	.404	1.00	.995	1.01
Emotion Dysregulation	.007	.003	3.70	.055	1.01	1.00	1.01
Experiential Avoidance X Emotion Dysregulation	.0000	.0001	.09	.770	1.00	1.00	1.00
Physical Assault²							
Experiential Avoidance	-.01	.03	.11	.736	.99	.94	1.04
Emotion Dysregulation	.05*	.02	5.76	.016	1.05	1.01	1.09
Experiential Avoidance X Emotion Dysregulation	.00	.001	.24	.628	1.00	.998	1.00
Psych Abuse²							
Experiential Avoidance	.003	.008	.13	.714	1.00	.987	1.02
Emotion Dysregulation	.021**	.008	7.28	.007	1.02	1.01	1.04
Experiential Avoidance X Emotion Dysregulation	.0000	.0002	.16	.692	1.00	.999	1.00
Cyber Aggression³							
Experiential Avoidance	.017**	.007	6.51	.011	1.02	1.00	1.03
Emotion Dysregulation	.014*	.006	4.67	.031	1.01	1.00	1.03
Experiential Avoidance X Emotion Dysregulation	.000	.0002	1.37	.242	1.00	.99	1.00

Notes: * $p < .05$, ** $p < .01$

¹Behavioral/observed measure of state partner-aggressive tendencies as measured by the change in number of pins inserted to virtual Voodoo Doll Task (VDT) across conditions.

²CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman 1996) Physical and Psychological IPV scales were modified to reflect physical assault and psychological abuse frequencies in the previous 6 months. ³Cyber Aggression in Relationships Scale (CARS; Watkins et al., 2018)

Table 3

Main and Interactive Effects of Experiential Avoidance Measured using the AAQ-II and Emotion Dysregulation in Predicting an Increase in Aggressive Inclinations and Self-reported Partner Aggression

	<i>B</i>	<i>SE</i>	<i>Likelihood Ratio X²</i>	<i>p</i>	<i>Exp(B)</i>	<i>Exp(B) Confidence Interval</i>	
Aggressive Inclinations¹							
Experiential Avoidance	-.012	.009	1.58	.209	.988	.970	1.01
Emotion Dysregulation	.011**	.003	11.59	<.001	1.01	1.01	1.02
EA X Dysregulation	.000	.0002	.02	.888	1.00	1.00	1.00
Aggressive Inclinations¹							
Experiential Avoidance	.007	.004	3.49	.062	1.01	1.00	1.01
State Negative Affect	.041**	.006	40.88	<.001	1.04	1.03	1.06
EA X Negative Affect	.000	.0003	1.36	.244	1.00	.99	1.00
Physical Assault²							
Experiential Avoidance	-.076	.052	2.18	.140	.93	.84	1.03
Emotion Dysregulation	.073**	.025	8.59	.003	1.08	1.02	1.13
EA X Dysregulation	.001	.002	.394	.530	1.00	1.00	1.00
Psych Abuse²							
Experiential Avoidance	.040*	.018	5.12	.024	1.04	1.01	1.08
Emotion Dysregulation	.009	.008	1.24	.265	1.01	.99	1.03
EA X Dysregulation	.000	.0004	.21	.645	1.00	1.00	1.00
Cyber Aggression³							
Experiential Avoidance	.050**	.014	12.98	<.001	1.05	1.02	1.08
Emotion Dysregulation	.011*	.006	3.89	.049	1.01	1.00	1.02
EA X Dysregulation	-.001**	.0004	6.60	.010	.999	.998	1.00

Notes: * $p < .05$, ** $p < .01$

¹Behavioral/observed measure of state partner-aggressive tendencies as measured by the change in number of pins inserted to virtual Voodoo Doll Task (VDT) across conditions.

²CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman 1996) Physical and Psychological IPV scales were modified to reflect physical assault and psychological abuse frequencies in the previous 6 months.

³Cyber Aggression in Relationships Scale (CARS; Watkins et al., 2018)

Figure 1

Simple Slopes Analysis of Experiential Avoidance Predicting Use of Cyber Aggression at Low and High Levels of Emotion Dysregulation

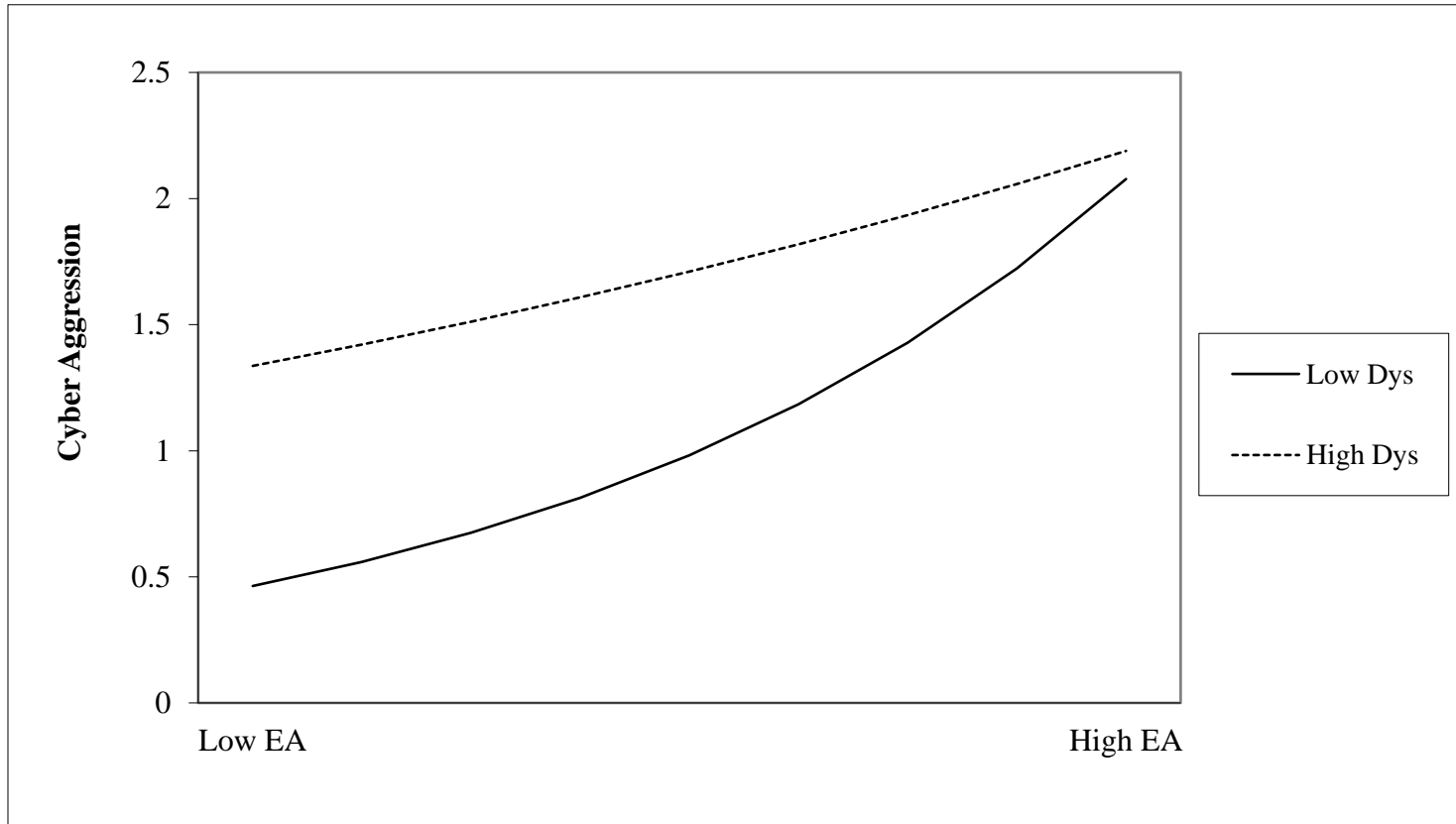
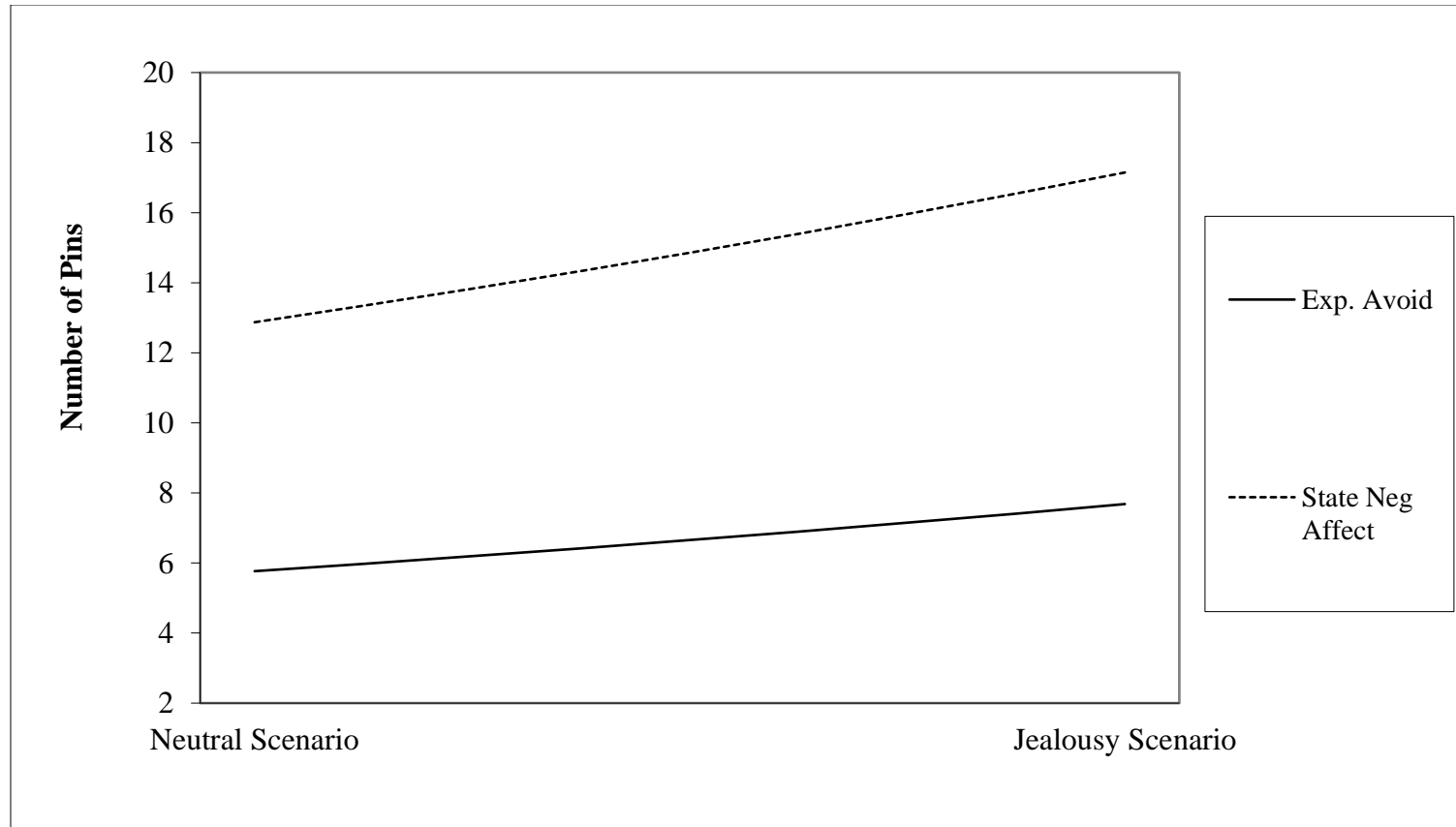


Figure 2

Main Effects of Experiential Avoidance and State Negative Affect Predicting Change in Number of VDT Pins Across Conditions



Appendix A

ATSS TRANSCRIPTS

CONTROL TAPE – (BOTH GENDERS)

Narrator: You are meeting your partner at a restaurant for dinner and are seated before they arrive. While you are waiting for your partner, you notice you can hear the couple at the table next to you having a conversation. You decide to listen to what they are talking about while waiting. Listen now as a couple you do not know are talking.

Segment 1

Male: What do you feel like doing this weekend?

Female: I'm not sure, what's the weather going to be like. Have you heard?

Male: I think I heard this morning that it's supposed to be sunny all weekend with a chance of rain on Sunday.

Female: Great, because I heard that on Saturday there's a concert in the park.

Segment 2

Male: Is it in the afternoon or the evening? I have to work till 2:00, but I have the rest of the day free.

Female: I don't think it's till late afternoon and it runs all evening.

Male: Great! What time should I pick you up?

Segment 3

Female: How about around 5, I'll pack a picnic.

Male: That sounds great! Hey, do you want to see a movie on Sunday?

Female: Sure, what do you feel like seeing?

Male: I don't know, how about a comedy?

Female: That sounds great.

Segment 4

Male: Hey this place is great. How's your food?

Female: It's really good, I'm glad you picked this restaurant. Didn't we see an email about it last week?

Male: No, actually my roommate told me about it.

Segment 5

Female: Do you want some coffee or should we just get the check?

Male: Why don't we just get the check, I'm pretty full.

Female: Yeah, it's getting kind of late, we should go.

JEALOUSY SCENARIO – MALE

Narrator: It's Friday and you have just gotten out of class. Usually on Friday night you go out after class with the guys, and don't get home until late at night. Tonight, however, you're not really up to going out and you decide to go to your girlfriend's apartment instead. As you get there, you notice a strange car in the driveway. Entering her apartment quietly, you hear your girlfriend talking to a guy you know in the living room. They are sitting next to each other on the sofa. They didn't hear you come in, and don't know that you are in the next room. You decide to keep yourself hidden and just listen to their conversation. Listen now as your girlfriend talks to a guy you know on the sofa. Remember, you have decided to just listen to your girlfriend and this guy, and not interrupt their conversation.

Segment 1

Girlfriend: I'm so glad you came over tonight!

Man: Me too. So what would you like to do tonight? Go get something to eat? See a movie?

Girlfriend: You know what I was thinking? It would be *so* much better if we could just stay in tonight. OK?

Segment 2

Man: It's really nice of you to invite me over for dinner tonight.

Girlfriend: I love to cook for someone who appreciates good food.

Man: This is really great.

Girlfriend: And I've got a "SPECIAL" dessert planned for you too!

Segment 3

Girlfriend: Man, my classes were really rough today. My chem class is killing me!

Man: Awww.. Can I give you a backrub?

Girlfriend: Oh yeah.. that feels so good. Right there! I haven't felt this relaxed in a long time.

Segment 4

Girlfriend: Damn! I can't figure out what's wrong with this stupid Xbox!

Man: Here let me take a look at it. (man fixes it). There we go, all set!

Girlfriend: I swear, I've asked my boyfriend at least ten times to fix this thing. Thank God you're here tonight. Let's see what's on Netflix. Will you hand me the controller?

Man: Yeah sure. So what should we watch tonight? How about a nice romantic movie?

Girlfriend: A romantic movie? What would YOU know about romance?

Man: I think I know a few things about that area.

Girlfriend: Oh really!

Segment 5

Girlfriend: Can I get you something to drink? Beer, wine, soda, anything?

Man: Beer sounds good.

Girlfriend: Here you go. (Hands him a beer)

Man: Thanks a lot. Boy, I wouldn't mind this kind of attention everyday!

Girlfriend: Yeah? The way my relationship is going who knows what will happen.

JEALOUSY TAPE – FEMALE

Narrator: It's Friday and you have just gotten out of class. Usually on Friday night you go out after class with the girls and don't get home until late at night. Tonight, however, you're not really up to going out and you decide to go to your boyfriend's apartment instead. As you get there, you notice a strange car in the driveway. Entering his house quietly, you hear your boyfriend talking to a girl you know in the living room. They are sitting next to each other on the sofa. They didn't hear you come in, and don't know that you are in the next room. You decide to keep yourself hidden and just listen to their conversation. Listen now as your boyfriend talks to a girl you know on the sofa. Remember, you have decided to just listen to your boyfriend and this girl, and not interrupt their conversation.

Segment 1

Boyfriend: I'm so glad you came over tonight!

Woman: Me too. So what would you like to do tonight? Go get something to eat? See a movie?

Boyfriend: You know what I was thinking? It would be so much better if we could just stay in tonight. OK?

Segment 2

Woman: It's really nice of you to invite me over for dinner tonight.

Boyfriend: I love to cook for someone who appreciates good food.

Woman: This is really great.

Boyfriend: And I've got a "SPECIAL" dessert planned for you too!

Segment 3

Boyfriend: Man, my classes were really rough today. My chem class is killing me!

Woman: Awww.. Can I give you a backrub?

Boyfriend: Oh yeah.. that feels so good. Right there! I haven't felt this relaxed in a long time.

Segment 4

Boyfriend: Damn! I can't find the batteries for this stupid controller!

Woman: I think I've got extra batteries in my bag. (woman checks bag) Yeah, I do! Let me see what kind of batteries it takes. (woman looks at it). Yeah, here we go, all set!

Boyfriend: I swear, I've asked my girlfriend at least ten times to get new batteries for this thing. Thank God you're here tonight. Let's see what's on Netflix. Oh, hey, will you hand me the controller now?

Woman: Yeah sure. What should we watch tonight? How about a nice romantic movie?

Boyfriend: A romantic movie? What would YOU know about romance?

Woman: I think I know a few things about that area.

Boyfriend: Oh really!

Segment 5

Boyfriend: Can I get you something to drink? Beer, wine, soda, anything?

Woman: Wine would be nice.

Boyfriend: Here you go. (Hands her a glass of wine)

Woman: Thanks a lot. Boy, I wouldn't mind this kind of attention everyday!

Boyfriend: Yeah? The way my relationship is going who knows what will happen.

Appendix B

Below is an image of a doll. **This doll represents YOUR PARTNER.** Please take a moment to look at the doll and imagine it as your partner.



In a few moments, you will get to choose how many sharp pins you would like to stab into the doll that represents your partner, from 0 pins all the way to a maximum of 51 pins.

Here is the doll that represents **WHEN YOU FEEL
A GREAT AMOUNT OF ANGER TOWARD
YOUR PARTNER** with the maximum of 51 pins
stabbed into it.



Now, indicate the number of pins you wish to stab into the doll that represents **YOUR PARTNER**



0 5 10 15 20 25 30 35 40 45 51

Number of pins to stab into the doll

Are you sure this is the number of pins you want to stab into the doll that represents this person?