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Relationship Dissatisfaction, Emotion Regulation, and Physical Intimate Partner Aggression in Heavy-Drinking, Conflict-Prone Couples: A Dyadic Analysis

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Abstract

Relationship dissatisfaction is a known risk factor for intimate partner aggression (IPA). However, the possible effect of weak emotion regulation skills on this association is unclear, particularly in couples at risk for violence who drink alcohol heavily. This study examined the moderating effect of emotion regulation on the association between relationship dissatisfaction and physical IPA perpetration within a dyadic framework. Participants were 583 heavy drinking couples ($N = 1,166$) with a recent history of psychological and/or physical IPA recruited from two metropolitan cities in the United States. Multilevel models were used to examine effects within an actor–partner interdependence framework. Gender, Actor dissatisfaction, and Actor and Partner emotion regulation were associated with greater physical IPA perpetration. Actor relationship dissatisfaction predicted significantly greater physical IPA perpetration in Actors characterized by weak versus strong emotion regulation. Furthermore, partner relationship dissatisfaction predicted significantly increased physical IPA perpetration in Actors reporting weak, versus strong, emotion regulation. Gender did not significantly interact with model variables. Utilizing the I³ metatheoretical model of IPA within a dyadic framework, results provide insight into the interactive effects of relationship dissatisfaction and emotion regulation deficits on physical IPA perpetration, particularly in those individuals already at risk for perpetration.

Keywords

intimate partner aggression; relationship satisfaction; emotion regulation; couples; actor–partner model

Intimate partner aggression (IPA) is a pervasive and global public health problem that includes physical, sexual, and emotional acts of aggression by a current or former intimate partner (Devries et al., 2013; Kiss, Schraiber, Hossain, Watts, & Zimmerman, 2015). Nearly half of all men and women in the United States have experienced an act of psychological

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aggression by an intimate partner, with 24.2% of women and 13.9% of men reporting severe physical violence victimization by an intimate partner (Smith et al., 2017). Thus, identification of the factors and processes that contribute to IPA perpetration is critically important for the development of etiological models that serve as the basis for intervention development. The present study sought to address this need by examining two person-level predictors of IPA perpetration within a relational context: relationship dissatisfaction (Lawrence & Bradbury, 2007; Llorens, Salis, O'Leary, & Hayward, 2016; Ulloa & Hammett, 2015) and emotion regulation (Harper, Austin, Cercone, & Arias, 2005; Shorey, Brasfield, Febres, & Stuart, 2011).

Modeling IPA Perpetration Etiology Within the I³ Metatheoretical Framework

The I³ metatheoretical model organizes how specific risk and protective factors interact to predict the likelihood of IPA perpetration (Finkel, 2014; Finkel & Eckhardt, 2013). At its core, the I³ Model proposes that IPA perpetration is best understood by considering the balance of forces that facilitate aggression relative to those forces that inhibit the inclination to be aggressive. *Instigating* influences are those factors that normatively produce an urge to behave aggressively (e.g., provocation, relationship conflict). *Impelling* influences are those factors that alone may not cause aggression, but when an individual is faced with a relevant instigating influence, increase the likelihood of an aggressive urge (e.g., negative affect, anger). *Inhibiting* influences are those that increase the likelihood that someone will successfully resist an urge to aggress (e.g., self-regulatory capacity). The I³ Model serves as the foundation for “perfect storm theory,” which posits that aggressive behavior is most likely to occur when instigatory and impellance processes are strong and inhibitory processes are weak. Ample evidence exists to support perfect storm theory as well as hypotheses derived from two (i.e., impelling and inhibiting) of the model's three core processes (Finkel, 2014; Finkel & Eckhardt, 2013).

Impellance: Relationship Dissatisfaction

Extant literature supports a robust positive association between relationship dissatisfaction and physical, psychological, and sexual IPA perpetration (Lawrence & Bradbury, 2007; Llorens et al., 2016; Stith, Green, Smith, & Ward, 2008; Ulloa & Hammett, 2015); however, the underlying processes that explain this effect are not fully established. Previous literature suggests that relationship dissatisfaction functions as an impellor of IPA perpetration, likely because it facilitates the experience of anger or other strong negative emotions in response to instigatory cues. Indeed, individuals may attribute their relationship dissatisfaction to their partner (Berkowitz, 2008; Slotter & Finkel, 2011), which, in turn, increases the likelihood of relationship distress and partner-directed anger (Kubany, Bauer, Muraoka, Richard, & Read, 1995; Renshaw, Blais, & Smith, 2010). Therefore, individuals dissatisfied in their relationships are more likely to respond to partner conflict with heightened anger, which is a well-established and robust proximal predictor of IPA perpetration (Birkley & Eckhardt, 2015; Capaldi, Knoble, Shortt, & Kim, 2012).

Inhibition: Emotion Regulation

Emotion regulation is broadly defined as a person's attempt to alter the experience of an emotion (Gross & Thompson, 2007). Research has shown that individuals with weak emotion regulation skills perpetrate more IPA than individuals with strong emotion regulation skills, and this robust finding has been evidenced by both cross-sectional and daily diary methods (McNulty & Hellmuth, 2008; Parrott, Swartout, Eckhardt, & Subramani, 2017; Shorey et al., 2011; Watkins, DiLillo, & Maldonado, 2015). Furthermore, research supports the inhibiting effect of strong emotion regulation on the association between proximal negative affect (e.g., anger) and IPA perpetration (Shorey, McNulty, Moore, & Stuart, 2015). Specifically, when individuals with strong emotion regulation skills experience negative affect, they are less likely to perpetrate IPA than those individuals with weak regulation skills. As such, we conceptualize strong emotion regulation skills as an inhibitory factor of IPA perpetration.

Gender as a Moderator

Previous studies have produced mixed findings regarding gender differences in IPA. Many studies have not found significant gender differences in IPA perpetration and conclude that both males and females mutually perpetrate IPA (Straus, 2011). A recent literature review by Jose and O'Leary (2009) reported no significant gender differences in aggression perpetrated against a romantic partner with reported rates of male-to-female aggression from 36.3% to 58% and female-to-male aggression from 36.4% to 57%. Indeed, when risk factors for perpetrating physical IPA were examined, only three out of 60 established risk factors were moderated by gender (Spencer, Cafferky, & Stith, 2016). Conversely, many studies *have* found gender differences in IPA perpetration; women may be more likely to use physical aggression but men were more likely to inflict severe aggression resulting in injury (Archer, 2000).

Pertinent to the present study, a paucity of literature addresses the effect of gender on the association between relationship dissatisfaction and IPA. Baker and Stith (2008) found that men's IPA perpetration was significantly associated with their partner's high relationship dissatisfaction. However, relationship dissatisfaction was not a significant correlate of women's IPA perpetration. Relatedly, Stith et al.'s (2008) meta-analysis found that marital dissatisfaction is a stronger correlate of IPA perpetration for men than for women. A similar lacunae in the literature is apparent with respect to the effect of gender on the association between emotion regulation and IPA perpetration. Only two studies, to our knowledge, have examined the moderating effect of gender on the associations between facets of emotion regulation and IPA perpetration (Bliton et al., 2016; Shorey et al., 2011). Consistent with the broader literature, findings were mixed. One facet of emotion regulation (i.e., lack of emotional awareness) was more positively associated with women's, relative to men's, IPA perpetration (Bliton et al., 2016), whereas other facets of emotion regulation (i.e., difficulty engaging in goal-directed behavior when experiencing negative affect, impulse control difficulties) were more positively associated with men's, relative to women's, IPA perpetration. Given these limited findings, the current project sought to clarify possible gender differences in physical IPA perpetration and to examine gender's influence on the

associations between relationship dissatisfaction, emotion regulation, and physical IPA perpetration within a dyadic framework.

Dyadic Framework

IPA is the result of an interpersonal process, and extant literature indicates that a large proportion of IPA is bidirectional (Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012; Madsen, Stith, Thomsen, & McCollum, 2012). Unfortunately, studies of IPA perpetration typically rely on a single respondent to report their own and/or their partner's perpetration, which limits the validity of measurement and, consequently, generalizability. Thus, it is critical to assess self-reported IPA perpetration from both members of a couple. By obtaining multi-respondent data, IPA perpetration risk can be more accurately modeled via an actor-partner interdependence model (APIM) framework (Cook & Kenny, 2005). This approach provides the unique opportunity to examine the effects of both partners' risk and protective factors on either partner's IPA perpetration while accounting for the other partner's risk and protective factors and IPA perpetration. As indicated above, relationship dissatisfaction and emotion regulation are consistent predictors of IPA perpetration; however, this approach allows for investigation of the dyadic interplay between these factors and thus can provide new insight into the net effect these factors have on IPA perpetration. No studies to our knowledge have previously examined these factors within an APIM framework.

The Present Study

We examined the independent and interactive effects of relationship dissatisfaction and emotion regulation on perpetration of physical IPA within a dyadic framework. These effects were examined in heterosexual couples considered to be at high risk for IPA, as they are most likely to benefit from interventions. High-risk couples were characterized by a history of relationship conflict (i.e., instigating influence), wherein at least one partner was a heavy drinker with a 1-year history of psychological and/or physical IPA perpetration. Guided by the I³ framework, we investigated the *impelling* force of relationship dissatisfaction on physical IPA perpetration and whether this force is *inhibited* by strong emotion regulation.

Based on the reviewed literature, three hypotheses were advanced as follows.

Hypothesis 1: Actor relationship dissatisfaction would be positively associated with Actor physical IPA perpetration.

Hypothesis 2: Strong Actor emotion regulation skills would be negatively associated with Actor physical IPA perpetration.

Hypothesis 3: Actor emotion regulation would moderate the association between Actor relationship dissatisfaction and Actor physical IPA perpetration.

Specifically, those individuals who are dissatisfied would be more likely to perpetrate IPA; however, this association would be weaker for those with stronger emotion regulation skills. Given limited research regarding how gender may influence the proposed effects, formal hypotheses of gender differences were not advanced.

Method

The distinct set of hypotheses tested herein utilized data that were drawn from a larger investigation on the effects of acute alcohol intoxication on IPA. Although the focus of the present study did not examine effects of acute alcohol intoxication, couples were required to meet eligibility criteria for an alcohol administration study (see below). The present hypotheses are novel and have not been tested previously within the parent project.

Participants

Participants were 616 heterosexual couples ($N = 1,232$) recruited from two metropolitan U.S. cities through advertisements placed in online/social media sites, community newspapers, and public transportation. Couples were initially screened separately by telephone to assess eligibility, which was then verified in a more comprehensive in-person laboratory assessment. To be eligible, couples had to be dating for at least 1 month, be at least 21 years of age, and identify English as their native language. Couples were excluded if either partner reported serious head injuries, a condition in which alcohol consumption is medically contraindicated, or a desire to seek treatment for alcohol use. At least one partner was required to meet two additional eligibility criteria. First, this individual had to report a mean consumption of at least five (for men) or four (for women) alcoholic beverages per occasion at least twice per month during the past year. Second, this individual had to be identified as perpetrating psychological or physical IPA toward their current partner via self- or partner-report on the Revised Conflict Tactics Scale (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996).

Upon arrival to the laboratory, inclusion criteria were reassessed to determine eligibility for the parent project. However, for the present study, same-sex couples ($n = 3$) were excluded. In addition, at least one member of 30 couples failed to provide alcohol use data or were missing data on outcome variables. These couples were also excluded from the analyses. Removal of these 33 couples resulted in final sample of 583 couples ($n = 1,166$). Most participants self-identified as African American (63.9%) or Caucasian (26.7%). Site 1 and Site 2 enrolled 680 (58.2%) and 486 (41.8%) participants, respectively. Participants were compensated US\$10 per hour. This study was approved by each university's Institutional Review Board.

Materials

Demographic questionnaire.—This form obtains information such as age, self-identified sexual orientation, race, relationship status, years of education, and yearly family income.

The CTS-2.—The CTS-2 is a 78-item self-report instrument that measures a range of behaviors that occur during disagreements within intimate relationships (Straus et al., 1996). Participants are instructed to indicate on a 7-point scale how many times they have engaged in these behaviors over the past year; responses range from 0 (*never*) to 6 (*more than 20 times*). The total number of endorsed items on the 12-item Physical Assault subscale served as the primary outcome of interest in all analyses. This approach is commonly known as the

“sum scoring” method (Shorey, Brasfield, Febres, Cornelius, & Stuart, 2012). This scoring approach is advantageous as it (a) tends to be less skewed; (b) places equal weight on less frequent, but more severe forms of IPA, and more frequent, but less severe forms of IPA; and (c) is more reliable because of the relative ease to recall whether an act occurred compared with its frequency. Thus, physical aggression scores could range from 0 to 12. Sample items include “I have thrown something at my partner that could hurt” and “I choked my partner.” In the current study, the Physical Assault subscale demonstrated strong reliability ($\alpha = .91$).

The Investment Model Scale (IMS).—The IMS is a 40-item self-report instrument that measures relationship commitment at both facet- and global-levels on three observed indicators: relationship satisfaction, quality of alternatives, and investment size (Rusbult, Martz, & Agnew, 1998). Participants rate items on a 0 (*do not agree at all*) to 8 (*completely agree*) scale. This investigation utilized the five-item global satisfaction level as a measure of relationship dissatisfaction. A sample item is “I feel satisfied with our relationship.” Per-item means for relationship dissatisfaction were computed (range 0–8), such that higher scores indicated more relationship dissatisfaction. This subscale has demonstrated alphas above .80 (Rusbult, 1980; Rusbult et al., 1998), which was consistent with the present study ($\alpha = .83$).

Behavior Rating Inventory of Executive Function—Adult Version (BRIEF-A).—This 75-item self-report inventory assesses a variety of executive functions used in everyday life (Roth, Isquith, & Gioia, 2005). Participants are instructed to indicate on a 3-point Likert-type scale (1 = *never*; 2 = *sometimes*; 3 = *often*) the extent to which they have experienced problems with various behaviors related to executive functioning in the past month. Consistent with the BRIEF designed for children and adolescents (Egeland & Fallmyr, 2010), recent exploratory and confirmatory factor analyses with adult samples support a three-factor structure comprised of a metacognition factor, a behavioral regulation factor, and an emotional regulation factor (Donders & Strong, 2016; Roth, Lance, Isquith, Fischer, & Giancola, 2013). Emotion regulation was operationalized by the 16-item emotion regulation factor, which reflects one’s ability to regulate emotional responses, think flexibly, and adjust to changes in the social environment. Higher scores indicate weaker emotion regulation skills. The validity of the BRIEF-A has been well-documented in healthy (Roth et al., 2013) and clinical populations (Donders & Strong, 2016). Internal consistency for the major scales ranges from .93 to .96 (Roth et al., 2005). In the present sample, alpha reliability for the Emotional Regulation factor was .96.

The Alcohol Use Disorder Identification Test (AUDIT).—The AUDIT is a 10-item Likert-type scale that assesses hazardous and harmful patterns of alcohol consumption (Babor, Biddle-Higgins, Saunders, & Monteiro, 2001). Given that couples were characterized by at least one partner who was a heavy drinker, participants’ AUDIT scores were included as a covariate in all analyses. Participants rate items on a 0 to 4 scale, with higher scores indicative of greater problematic drinking. Sample items include “How often during the past year have you failed to do what was normally expected of you because of drinking” and “How often do you have a drink containing alcohol.” The AUDIT has high

internal consistency across a range of samples (Babor et al., 2001), which is consistent with the current sample ($\alpha = .85$).

Procedures

Upon the couple's arrival to the laboratory, each participant was led to a private testing room. After providing informed consent, participants completed the questionnaire battery on a computer using MediaLab version 2014 software (Jarvis, 2014), which included other measures not pertinent to the current analysis. The experimenter provided instructions on how to operate the computer program and was available to answer questions during the session. After completion of questionnaires, participants were debriefed, compensated, and released.

Analytic Plan

To examine the independent and joint effects of Actor and Partner relationship dissatisfaction, emotion regulation, and gender on physical IPA perpetration, we estimated parallel multilevel models in which individuals at Level 1 were nested under couples at Level 2 (Laurenceau & Bolger, 2005) within the APIM framework (Cook & Kenny, 2005; Kenny, Kashy, & Cook, 2006) using Mplus v7.3 (Muthén & Muthén 1998–2010). APIM assumes that each participant's outcome may be influenced by the participant's own behavior (Actor) as well as his or her partner's behavior (Partner) and is, therefore, uniquely well suited for nonindependent dyadic data. Initial analyses revealed a significant difference in the average number of physical IPA acts reported by participants at the two sites. As a result, site was effect coded and entered as a control variable in all models. With highly skewed and overdispersed IPA perpetration data, models were estimated using a negative binomial distribution with a logit link function. A full model, including all Actor $\times$ Actor 2-way and 3-way interactions, both Actor–Partner Relationship Dissatisfaction $\times$ Emotion Regulation 2-way interactions, and the Partner Relationship Dissatisfaction $\times$ Actor Emotion Regulation interaction, was computed first and trimmed for the purposes of parsimony, model stability, and hypothesis testing. Interactions between (a) Actor Relationship Dissatisfaction and Actor Emotion Regulation and (b) Partner Relationship Dissatisfaction and Actor Emotion Regulation were significant in the final model and interpreted using simple slopes analyses with extreme values of continuous variables set at 1 *SD* above and below the mean (Aiken & West, 1991). Fixed effects were used to model all predictors. Intercepts and error components were allowed to vary randomly. Results are reported as incidence rate ratios (IRR; i.e., exponentiated coefficients) and may be interpreted as the factor change in physical IPA perpetration for each unit increase in the predictor variable.

Results

APIM Analyses

Descriptive statistics for pertinent study variables were computed and are displayed in Table 1. The final model controlled for Site, Gender, Actor drinking, and Partner drinking, and estimated the effects of Actor relationship dissatisfaction, Partner relationship dissatisfaction, Actor emotion regulation, Partner emotion regulation, the Actor Relationship

Dissatisfaction $\times$ Actor Emotion Regulation interaction, and the Partner Relationship Dissatisfaction $\times$ Actor Emotion Regulation interaction (see Table 2).

Conditional main effects.—Significant conditional main effects were detected for gender, Actor relationship dissatisfaction, Actor and Partner emotion regulation, and Actor and Partner problematic drinking, indicating that (a) males reported significantly more physical IPA perpetration than females, (b) Actor relationship dissatisfaction was significantly and positively associated with Actor IPA perpetration, (c) Actor and Partner emotion regulation were significantly and positively associated with Actor IPA perpetration, and (d) Actor and Partner problematic drinking were significantly and positively associated with Actor IPA perpetration. Conditional main effects of Actor and Partner problematic drinking did not interact significantly with other study variables. Other conditional main effects were qualified by two higher order interaction terms.

Actor Relationship Dissatisfaction $\times$ Actor Emotion Regulation.—Interpretation of this interaction using simple slopes analysis revealed that Actor relationship dissatisfaction was significantly and positively associated with Actor physical IPA perpetration among Actors who reported weak emotion regulation skills ($b = .87$, $IRR = 2.38$, $SE_{IRR} = 1.14$, $p < .001$). This association was still significant, albeit weaker, among Actors who reported stronger emotion regulation skills ($b = .51$, $IRR = 1.66$, $SE_{IRR} = 1.08$, $p < .001$). As depicted in Figure 1 (top panel), this interaction was largely driven by individuals who endorsed lower levels of relationship satisfaction. Among these participants, those who reported weaker emotion regulation skills endorsed significantly higher levels of physical IPA perpetration compared with those who reported stronger emotion regulation skills.

Partner Relationship Dissatisfaction $\times$ Actor Emotion Regulation.—Using simple slopes analysis, Partner relationship dissatisfaction was significantly and positively associated with Actor physical IPA among Actors who reported weaker emotion regulation skills ($b = .18$, $IRR = 1.20$, $SE_{IRR} = 1.08$, $p = .015$). This association was not significant among Actors who reported stronger emotion regulation skills ($b = -.10$, $IRR = .90$, $SE_{IRR} = 1.12$, $p = .378$). This interaction was largely driven by individuals whose partners endorsed lower levels of relationship satisfaction (see Figure 1). Among these participants, those who reported weaker emotion regulation skills endorsed significantly higher levels of physical IPA perpetration compared with those who reported stronger emotion regulation skills.

Discussion

The present study was the first to investigate the effects of relationship dissatisfaction and emotion regulation on physical IPA perpetration within a dyadic framework. Consistent with Hypothesis 1, Actor relationship dissatisfaction was significantly and positively associated with Actor IPA perpetration and mirrors previous findings (Lawrence & Bradbury, 2007; Llorens et al., 2016). Consistent with Hypothesis 2 and supported by literature (Shorey et al., 2011; Stuart et al., 2006), strong Actor emotion regulation skills were significantly and negatively associated with Actor IPA perpetration. In support of Hypothesis 3, Actor relationship dissatisfaction was significantly and positively associated with Actor physical

IPA perpetration among Actors with weak emotion regulation skills. However, this association was significantly attenuated among Actors who reported stronger emotion regulation skills. Upon closer examination, we found that this interaction was largely driven by individuals who endorsed higher levels of relationship dissatisfaction and weak emotion regulation skills, as would be expected by literature supporting these factors as predictors of IPA perpetration (e.g., Bliton et al., 2016; Lawrence & Bradbury, 2007; Shorey et al., 2011; Ulloa & Hammett, 2015). Although we were not able to make a priori hypotheses for Actor-Partner interaction effects, we found that Partner relationship dissatisfaction was significantly and positively associated with Actor IPA perpetration among Actors who reported weak, but not strong, emotion regulation skills. Importantly, the unique impelling influence of Actor relationship dissatisfaction over and above Partner relationship dissatisfaction warrants commentary. Actor relationship dissatisfaction significantly predicted physical IPA perpetration regardless of Actor emotion regulation; however, Partner relationship dissatisfaction only predicted Actor physical IPA perpetration among Actors with weak emotion regulation. Thus, the Actor's relationship dissatisfaction is a particularly strong impeller and prevents even those Actors with strong emotion regulation skills from inhibiting the impulse to perpetrate IPA.

Interpreted within the I³ framework (Finkel, 2014), in these high-risk couples, individuals who are dissatisfied in their relationships likely experience more anger within the relationship context (Kubany et al., 1995; Renshaw et al., 2010). Furthermore, individuals are likely to experience more anger within the relationship to the extent that their dissatisfied partners engage in behaviors that are perceived to be instigatory. This anger likely exacerbates relationship conflict and increases the likelihood of IPA perpetration. However, this effect is especially pronounced among perpetrators who possess weak emotion regulation skills. Indeed, given the heightened anger within the immediate relationship conflict, these individuals are less equipped to regulate that anger and, as a result, IPA perpetration is more likely. Essentially, these individuals' inhibitory control is weak and they cannot overcome the instigatory influence of proximal conflict and the impelling force of relationship dissatisfaction (and its related automatic anger arousal). Indeed, to the extent that Actor or Partner relationship dissatisfaction leads to Actor anger, individuals who cannot adaptively regulate their emotions may be at even greater risk of perpetrating IPA (e.g., Shorey et al., 2011).

These findings suggest potential in-roads for the reduction of IPA risk by identifying relational dissatisfaction and emotion regulation difficulties as key targets of intervention (Kirby & Baucom, 2007; Maldonado, DiLillo, & Hoffman, 2015). However, because the present study measured emotion regulation as a unitary construct, future research and avenues for intervention may be more informative and effective, respectively, when emotion regulation is conceptualized as the manipulation of either emotion antecedents or one or more emotion response components (i.e., behavioral, subjective, physiological; Gross & Muñoz, 1995). Emotion antecedents are those processes that attempt to change the internal or external environments associated with a given emotion (e.g., attentional deployment/distracton, cognitive reappraisal). Emotion response components are specific strategies that are engaged once the emotion has already been activated (e.g., suppression). Considering this more nuanced understanding of emotion regulation, effective regulation processes and

techniques that may mitigate the association between relationship dissatisfaction and IPA are likely those that promote appropriate negative affect regulation (e.g., anger) and emotional awareness. Prevention programming may especially focus on anger management training (Del Vecchio & O'Leary, 2004) along with individualized cognitive-behavioral interventions (Murphy & Eckhardt, 2005) that are tailored to specific emotion regulation difficulties found in perpetrators of IPA (e.g., impulse control difficulties, difficulty engaging in goal-directed behavior when experiencing negative affect; Shorey et al., 2011; lack of emotional awareness; Bliton et al., 2016). Our study also revealed that relationship dissatisfaction, particularly for the perpetrator, was an important impeller of IPA, even in those with strong emotion regulation skills. This suggests that focusing on fostering and maintaining relationship satisfaction, particularly in men (Stith et al., 2008), is vital for decreasing IPA perpetration rates in intact couples.

The dyadic analysis of heterosexual couples also allowed for the examination of gender effects, which addresses a key gap in the literature. In the current study, gender did not significantly interact with model variables in the prediction of physical IPA perpetration, and thus these interactions were removed from the final model. It is noteworthy that these findings were robust across both male and female participants. However, previous studies have detected gender differences in the association between emotion regulation and IPA perpetration when emotion regulation is broken down into its individual facets. Only two studies, to our knowledge, have examined the moderating effect of gender on the associations between facets of emotion regulation and IPA perpetration (Bliton et al., 2016; Shorey et al., 2011), though these interactions are not yet clearly understood. Both studies provide support that difficulties with emotion regulation may differentially influence IPA perpetration in men and women. Bliton et al. (2016) found that only one facet of emotion regulation (i.e., lack of emotional awareness) was more positively associated with IPA perpetration by women relative to men. However, this effect disappeared in multivariate analyses. Shorey et al. (2011) found that though the association between total emotion regulation skills and IPA perpetration was negative for both genders, among perpetrators, men had significantly more difficulty engaging in goal-directed behavior when experiencing negative affect and impulse control difficulties compared with women. Together, these preliminary findings suggest that gender differences in the relation between emotion regulation and IPA perpetration may operate at a more nuanced level of analysis that accounts for the series of complex set of responses, processes, and strategies inherent to emotion regulation. This area clearly requires further research.

Several limitations warrant discussion. First, because of the cross-sectional design of the study, temporal or causal conclusions about the variables under investigation cannot be confirmed and should be considered tentative. It is unknown whether relationship dissatisfaction elicited state anger and whether that subsequent anger was an antecedent to IPA perpetration. Relatedly, relationship dissatisfaction may not only impel IPA, but it is also possible that IPA increases relationship dissatisfaction. For instance, studies indicate that IPA predicts decreased relationship satisfaction over time (Shortt, Capaldi, Kim, & Laurent, 2010; Ulloa & Hammett, 2015). Methods which can more precisely assess these temporal associations, such as laboratory or longitudinal daily diary designs, are better equipped to examine how conflicts develop over time and the directionality of whether these

correlates lead to IPA, or vice versa. Second, future research is also needed to further disentangle the direct and indirect effects of specific affective states, particularly the regulation of negative affect, as this proximal force may strongly influence IPA perpetration. Measuring and considering the effect of state anger and its interplay with emotion regulation may provide greater understanding of the role negative affect plays in this complex interaction. Furthermore, emotion regulation was measured as a unitary construct in the present investigation. Future work that disentangles the complex responses and skills that comprise a person's ability to regulate their emotions may provide much needed insight into its association with IPA perpetration. Third, although a high-risk sample was recruited, individuals reported low levels of relationship dissatisfaction with little variation, which was unexpected. Similar to the highly skewed IPA perpetration data, high relationship dissatisfaction was rarely reported in the present study. Future work in this area would do well to use analytical approaches, such as those utilized in the present study, to account for this. Finally, the present study did not examine the extent to which problematic drinking moderated the observed effects, because doing so would increase the complexity of data interpretation (e.g., three-way dyadic interactions). That stated, when possible, it is critical for future research on IPA etiology to examine the effect of problematic and heavy alcohol use, which is a contributing cause of IPA perpetration (Leonard, 2005; Parrott & Eckhardt, 2018). Doing so is consistent with calls for research to identify "the critical and most potent instigating and inhibiting factors" (Leonard & Quigley, 2017, p. 8) of the alcohol-IPA association so that interventions can be directed at these fundamental determinants. Furthermore, it is important for future work examining the influence of problematic drinking and alcohol use in their associations with IPA to also consider the influence of alcohol use discrepancies between members of a couple. Indeed, emerging research utilizing APIM has begun to examine the role of alcohol use discrepancy in IPA (Woodin, Caldeira, Sotskova, Galaugher, & Lu, 2014).

Finally, a strength of the present investigation was the examination of actor-partner effects within heterosexual couples characterized by high relationship conflict. However, it remains to be seen whether the present findings generalize to lower risk couples (e.g., lower conflict). In particular, this point is important when considering the applicability of these findings for diverse samples, particularly same-sex couples. While relationship dissatisfaction and emotion regulation are likely common risk factors to all couples (Edwards, Sylaska, & Neal, 2015), it is likely that other risk factors, such as sexual minority stress, are unique to same-sex couples (Longobardi & Badenes-Ribera, 2017). As such, when conceptualizing and testing etiological models of IPA, it is important for future research to consider the diversity of relationships and the factors relevant to the individuals in those relationships.

Despite its limitations, the current study has important implications for IPA research and treatment as it contributes to the understanding of how actor and partner relationship dissatisfaction and emotion regulation interact dyadically in the emergence of physical IPA perpetration in heterosexual couples at high risk for conflict. These results bring attention to the importance of understanding how relationship context may influence the escalation of conflict into physical IPA. From a prevention programming standpoint, these findings highlight the need for IPA treatment programs that focus on building both partners' positive

perception of the relationship and skills in regulating their emotions when experiencing dissatisfaction.

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Ruschelle M. Leone, MA, is a doctoral student in clinical psychology at Georgia State University, Atlanta. She is interested in identifying risk and protective factors to reduce alcohol-related aggression, with a particular focus on bystander intervention. Much of her work has focused on dispositional (e.g., adherence to traditional masculinity) and situational (e.g., peer norms) factors that interact with alcohol to predict violence against women, sexual minorities, and intimate partners. She is the recipient of an F31 Ruth L. Kirschstein National Research Service Award from the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

Dominic J. Parrott, PhD, is a professor of psychology (clinical) and director of the Center for Research on Interpersonal Violence at Georgia State University. His research uses laboratory and survey methods to examine risk factors and mechanisms for aggression perpetration, with a particular emphasis on the effects of alcohol on intimate partner violence (IPV), aggression toward sexual minorities, and sexual aggression. An end goal of his research program is to inform directly the development of interventions that prevent or reduce alcohol-related violence.

Christopher I. Eckhardt, PhD, is a professor of psychological sciences and director of Clinical Training at Purdue University in West Lafayette, Indiana. His research examines the cognitive and affective correlates of IPV, the effects of alcohol on these processes, and how risk factor research may inform interventions for IPV offenders.

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Figure 1.

Moderating effect of Actor emotion regulation on the association between Actor (top panel) and Partner (bottom panel) relationship dissatisfaction and frequency of Actor physical IPA perpetration.

Note. IPA = intimate partner aggression.

Table 1.Descriptive Relationships Among Male and Female Couple Members in the Full Sample ($N = 1,166$).

	Men ($n = 583$)		Women ($n = 583$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Physical IPA (acts) *	1.03	1.81	1.33	2.11
2. Age *	33.26	10.54	31.51	9.97
3. Income * (USD)	22,054.01	16,960.52	18,780.69	17,450.94
4. Relationship length (months)	52.52	57.79	51.63	55.88
5. Drinking frequency *	2.78	2.03	2.21	1.90
6. Drinking quantity *	5.74	4.00	4.63	3.45
7. AUDIT * (total score ^a)	9.27	6.36	7.64	5.93
8. Relationship dissatisfaction (per-item mean ^b)	1.40	1.69	1.20	1.83
9. Emotion regulation * (per-item mean ^c)	1.39	0.35	1.51	0.42

Note. IPA = intimate partner aggression perpetration; relationship length = months; drinking frequency = drinking days per week; drinking quantity = standard drinks per drinking day; AUDIT = Alcohol Use Disorder Identification Test.

^a 0 (low problematic drinking) to 40 (high problematic drinking).

^b 0 (low relationship dissatisfaction) to 8 (high relationship dissatisfaction).

^c 1 (strong emotion regulation) to 3 (weak emotion regulation).

* Significant gender difference ($p < .05$).

Table 2.

Results for Multilevel Models Predicting Actor Physical IPA Perpetration.

	<i>b</i>	IRR	<i>SE</i> _{IRR}	<i>p</i>
Site	−0.30 [†]	.74	1.18	.078
A. Problematic Drinking	0.06 ^{**}	1.06	1.01	<.001
P. Problematic Drinking	0.03 [*]	1.03	1.01	.017
Gender ^a	0.29 [*]	1.33	1.14	.032
A. Relationship Dissatisfaction	0.69 ^{**}	1.99	1.08	<.001
P. Relationship Dissatisfaction	0.04	1.04	1.08	.577
A. Emotion Regulation ^b	0.58 ^{**}	1.78	1.10	<.001
P. Emotion Regulation	0.22 ^{**}	1.25	1.08	.003
A. Relationship Dissatisfaction × A. Emotion Regulation	−0.18 ^{**}	.84	1.07	.009
P. Relationship Dissatisfaction × A. Emotion Regulation	0.14 [*]	1.15	1.07	.024

Note. Models were estimated using a negative binomial distribution with a logit link function. IPA = intimate partner aggression; IRR = incidence rate ratio, representing the percentage of change in actor physical IPA perpetration associated with each one unit increase in the specified independent variable; A = Actor; P = Partner.

^aGender dummy coded with male = 0 and female = 1.

^bHigher scores indicate weaker emotion regulation skills.

[†]*p* < .10.

^{*}*p* < .05.

^{**}*p* < .01.