

# Emotion Dysregulation as a Correlate of Intimate Partner Violence Among Women Arrested for Domestic Violence

Hannah L. Grigorian, BA  
Alisa Garner, MA  
Autumn Rae Florimbio, MA  
Meagan J. Brem, MA  
Caitlin Wolford-Clevenger, MS  
JoAnna M. Elmquist, MA  
Ryan C. Shorey, PhD  
Gregory L. Stuart, PhD  
*University of Tennessee, Knoxville*

Intimate partner violence (IPV) is a serious public health problem. Research and theory suggests that emotion dysregulation is an important correlate of IPV and thus may be a fruitful target of intervention efforts. However, examination of emotion dysregulation among women arrested for domestic violence, an understudied population, is nonexistent. The current study extended prior research by examining what components of emotion dysregulation related to IPV perpetration while controlling for substance misuse and antisocial traits, two robust correlates of IPV, in women arrested for domestic violence and court-ordered to batterer intervention programs ( $N = 71$ ). In the current study, the emotion dysregulation component of Impulse Control Difficulties was significantly associated with the perpetration of physical IPV. Findings suggest a link between impulse control during negative emotional experiences and the perpetration of IPV among women arrested for domestic violence. Implications regarding findings and future research and intervention applications are discussed.

**KEYWORDS:** emotion dysregulation; intimate partner violence; women arrested for domestic violence; psychological aggression; physical violence

Intimate partner violence (IPV) is a serious public health problem in the United States occurring with alarming frequency (Black et al., 2011). Although past research

frequently conceptualized IPV as being solely perpetrated by men, research has increasingly shown that this does not accurately depict many forms of IPV (Straus, 2011). Specifically, rates of physical and psychological IPV perpetration are similar for men and women (Straus, 2011). In addition, overall lifetime victimization rates of psychological and physical IPV are consistent across genders, with 48.4% of women and 48.8% of men reporting experiences of psychological aggression and 30.3% of women and 25.7% of men reporting experiences of physical aggression (Black et al., 2011). Such victimization rates have been argued as not representative due to female-perpetrated violence presenting differently than male-perpetrated violence. For instance, national samples show men who perpetrate violence are more likely to inflict serious injury than women (Whitaker, Haileyesus, Swahn, & Saltzman, 2007). Further, much of the discrepancy within reports of gender symmetry in IPV is thought to be a result of poor measurement (Hamby, 2009). Despite the current disagreement in the field as to the symmetry of IPV across gender, consequences of such violence remain consistent and concerning. Like women, men who are victimized by IPV experience a myriad of long-term health outcomes including the development of chronic mental illness and disease, poorer physical health functioning, and substance use (Kamimura, Christensen, Tabler, Ashby, & Olson, 2014).

However, despite accruing evidence of IPV perpetrated by women and the resulting physical and psychological harm for male victims, efforts to reduce women's perpetration are hindered by the paucity of research investigating related risk factors within this population. In order to address this deficit within the field, researchers have begun to examine the characteristics, dynamics, and risk factors for female perpetrators. Arrested women are more likely than arrested men to commit suicide or have histrionic or borderline personality symptomology (Henning, Jones, & Holdford, 2003). Antisocial personality traits were also evidenced in a sample of women arrested for domestic violence (e.g., Shorey et al., 2012; Stuart, Moore, et al., 2006). Such traits are believed to have a direct link to IPV perpetration. Theoretical and empirical research has also demonstrated that substance use is a robust risk factor for IPV in this population (Stuart, Meehan, et al., 2006). In a sample of female perpetrators of IPV, half of the sample met criteria for hazardous drinking and one quarter met criteria for a drug-related diagnosis (Stuart, Moore, Kahler, & Ramsey, 2003). Additionally, research shows that women who perpetrate violence are not only more likely to be hazardous drinkers but that alcohol use is temporally related to the perpetration of IPV (Stuart et al., 2003, 2013). Further investigation of potential risk factors for female-perpetrated IPV will identify targetable areas for intervention efforts. Thus, the purpose of the present study was to investigate emotion dysregulation as one such risk factor for IPV within a sample of women arrested for domestic violence and court-ordered to attend batterer intervention programs (BIPs).

Emotion dysregulation is considered to be a multidimensional construct in both conceptual and empirical work (Gratz & Roemer, 2004). Therefore, emotion dysregulation in the current study will be defined as deficits within the following areas characterized by Gratz and Roemer (2004):

(a) awareness and understanding of emotions, (b) acceptance of emotions, (c) ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and (d) ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals and situational demands. (pp. 42–43)

As a risk factor for violence perpetration, this definition of emotion dysregulation fits well into current theoretical conceptualizations. In particular, I<sup>3</sup> theory considers the complexity and interrelated nature of risk factors for violence perpetration (Finkel, 2014). This theory states that violence perpetration is more likely to occur when inhibition is lowered or when dispositional or situational factors result in a tendency toward aggression (Finkel, 2014). The multiple dimensions of emotion dysregulation can be conceptualized as a means of disinhibition, increasing the likelihood of aggression (e.g., DeWall, Finkel, & Denson, 2011). Further examination of such subcategories of emotion dysregulation will inform the conceptualization of how emotion dysregulation fits into I<sup>3</sup> theory within the context of IPV. Deficits within these areas can increase risk for harm via the experienced type, intensity, and duration of emotions (Gross & Thompson, 2007). This risk is clearly defined in existing research that has shown emotion dysregulation to be a risk factor for externalizing behaviors such as the perpetration of IPV (Shorey, Brasfield, Febres, & Stuart, 2011a). This is further consistent with findings within samples of women arrested for domestic violence in which borderline personality symptoms were associated with IPV as some conceptualize these symptoms to be characteristic of emotion dysregulation (Hughes, Stuart, Gordon, & Moore, 2007; Skodol et al., 2002). Additionally, researchers found that IPV may be perpetrated as a means of regulating emotions (Ross, 2011; Stuart, Moore, et al., 2006). This is supported by results of a study examining motivations for female-perpetrated IPV in a sample of women arrested for domestic violence in which the expression of negative emotions was significant (Elmquist et al., 2014). Additionally, within a similar sample, arrested women also cited factors such as the expression of feelings not able to be put into words and not knowing what else to do with feelings as reasons behind their IPV perpetration, which both have a foundation in the mismanagement of emotions, or emotion dysregulation (Stuart, Moore, et al., 2006).

In college samples, emotion dysregulation was found to be a significant correlate of IPV among both men and women (Lilly & Mercer, 2014; Shorey et al., 2011a). However, as Gratz and Roemer (2004) specify, emotion dysregulation isn't merely a total score but the combination of a number of heterogeneous subcategories (2014). As such, it is not merely the total dysregulation that should be examined but the additive facets. Few studies have explored what specific components of emotion dysregulation may relate to IPV among women and none have explored such components in a sample of women arrested for domestic violence. Results of one such study among college women indicated that Impulse Control Difficulties, Lack of Emotional Clarity, Nonacceptance of Emotional Responses, and Difficulty Engaging in Goal-Directed Behavior positively correlated with psychological and physical IPV (Bliton et al.,

2016). Although the aforementioned study linked various facets of emotion dysregulation to IPV perpetrated by college women, these findings may not generalize to women arrested for domestic violence. Furthermore, the aforementioned study by Bliton et al. (2016) tested these associations at the bivariate level without controlling for the relations of other facets of emotion dysregulation.

Prior research neglected to control for other known predictors of IPV, such as substance use and antisocial traits, which limits the ability to parse out the variance solely attributed to emotion dysregulation (Shorey et al., 2011a). Controlling for substance use and antisocial traits is particularly important as both have been linked to increased physical and psychological IPV perpetration in samples of women arrested for domestic violence (Stuart, Meehan, et al., 2006).

## PURPOSE AND HYPOTHESES

The current study examined the association between different facets of emotion dysregulation and psychological and physical IPV perpetration in a sample of women arrested for domestic violence and court-ordered to BIPs. We further assessed these associations while controlling for substance use and antisocial traits. Prior research within a college population of women conducted by Bliton et al. indicated significant bivariate correlations between physical and psychological IPV and Impulse Control Difficulties, Lack of Emotional Clarity, Nonacceptance of Emotional Responses, and Difficulty Engaging in Goal-Directed Behavior. As such, we hypothesized that Impulse Control Difficulties, Lack of Emotional Clarity, Nonacceptance of Emotional Responses, and Difficulty Engaging in Goal-Directed Behavior, but not Lack of Emotional Awareness or Limited Access to Emotion Regulation strategies, would significantly associate with both physical and psychological IPV.

## METHOD

### Participants

A sample of 71 women who were arrested for domestic violence and court-ordered to attend BIPs was recruited as part of a larger study. Participants' mean age was 30.43 ( $SD = 10.73$ ) years. The majority of the sample self-identified as White/Non-Hispanic (73.2%), followed by Hispanic/Latino (9.9%), Black/Non-Hispanic (5.6%), "Other" (4.2%), and American Indian or Alaskan Native (2.8%); 4.2% of the sample did not report race/ethnicity. Employment status was distributed as follows: employed (35.2%), unemployed and looking for work (32.4%), unable to work (14.1%), unemployed but not currently looking for work (2.8%), homemaker (4.2%), and student (1.4%); 9.9% of the sample did not report employment status. Participants reported having 11.99 ( $SD = 1.73$ ) years of education and 1.52 children ( $SD = 1.31$ ). Participants reported 1.21 ( $SD = 1.26$ ) arrests related to domestic violence, 0.57 ( $SD = .95$ ) arrests for violence toward nonintimates, and 0.71 ( $SD = 1.51$ ) nonviolent arrests. Prior to data collection, participants had attended an average of 9.94 ( $SD = 7.40$ ) BIP sessions.

## Procedure

The Institutional Review Board approved all procedures for the current study. Research assistants attended regularly scheduled BIP groups and requested voluntary participation on the survey from the attendees. Participants provided informed consent prior to completion of the questionnaires. The questionnaires were completed in small groups during a regularly scheduled session of the BIP. No compensation was provided for the study, and participation was completely voluntary. All participant responses were kept confidential and were not shared with BIP facilitators or criminal justice personnel. Questionnaires were administered in the order with which they are presented.

## Measures

***Alcohol Use and Problems.*** The Alcohol Use Disorders Identification Test (AUDIT) is a 10-item self-report screening instrument administered to assess for alcohol use and problems during the past year (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993). This instrument determines the quantity and frequency of drinking, drinking intensity, symptoms of dependence and tolerance, and alcohol-related consequences. AUDIT scores range from 0 to 40 (Saunders et al., 1993). This instrument has been demonstrated to be reliable and valid (Saunders et al., 1993). The internal consistency for the AUDIT in the current study ( $\alpha = .90$ ) was good.

***Drug Use and Problems.*** The Drug Use Disorder Identification Test (DUDIT) is a 14-item self-report questionnaire administered to assess drug use and related problems in the past year across the following seven drug classifications: cannabis, cocaine, hallucinogens, stimulants, sedatives/hypnotics/anxiolytics, opiates, and other substances (e.g., steroids, inhalants; Stuart et al., 2003; Stuart, Moore, from Ramsey, & Kahler, 2004). Each item is scored on a 5-point Likert scale ranging from 0 to 4 and summed to a total score from 0 to 56. This instrument has demonstrated good reliability in a number of studies (Stuart et al., 2004, 2008) and also evidenced good internal consistency ( $\alpha = .91$ ) in the current study.

***Physical and Psychological IPV Perpetration.*** In order to assess physical and psychological IPV perpetration in the 12 months prior to BIP entry, participants completed the 20 perpetration items of the psychological aggression and physical assault subscales of the Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003). Participants rated each item on a 0–7 scale. Ratings 0–6 corresponded to the frequency with which they had perpetrated the act (0 = not at all; 6 = more than 20 times). A score of 7 indicated that the behavior had occurred but not in the past year. All scores of 7 were recoded to 0, as we were interested in IPV in the prior 12 months. Total scores for each subscale were calculated by adding the midpoint for each item response (e.g., a 4 for the response 3–5 times), with higher scores representing more frequent IPV perpetration (Straus et al., 2003). The CTS2 is a commonly used measure of IPV perpetration. Psychological aggression ( $\alpha = .82$ ) and physical assault ( $\alpha = .88$ ) subscales demonstrated demonstrated good internal consistency in the present study. This is consistent with previous study findings, which indicate the CTS2 to be a reliable and

valid measure of IPV (Straus et al., 1996; Straus et al., 2003). (Straus et al., 1996; Straus et al., 2003).

***Antisocial Traits.*** The Personality Diagnostic Questionnaire-4's Antisocial Personality Disorder (PDQ-4-ASPD) Scale assessed ASPD traits using 22 self-reported, true–false items (Hyler, 2004). While this instrument can be used diagnostically, assessing the dimensionality of ASPD traits was important to the current study and scores were therefore computed to be continuous instead of categorical. Continuous scores were calculated by summing item responses resulting in a continuum where higher scores indicate high ASPD traits reported by the participant. Of the 22 items, 14 assessed the presence of conduct disorder and were not used in the summed calculations. As such, possible scores ranged from 0 to 8. The PDQ-4-ASPD subscale is considered a reliable and valid measure of antisocial traits with good psychometric properties in offender populations (Guy, Poythress, Douglas, Skeem, & Edens, 2008; Hyler et al., 1988). The subscale demonstrated good internal consistency in the present sample ( $\alpha = .90$ ).

***Emotion Dysregulation.*** The Difficulties in Emotion Regulation Scale (DERS) is a 36-item self-report measure that assesses emotion dysregulation as a total score as well as within the following six specified domains: Nonacceptance of Emotional Responses; Difficulty Engaging in Goal-Directed Behavior; Impulse Control Difficulties; Lack of Emotional Awareness; Limited Access to Emotion Regulation Strategies; and Lack of Emotional Clarity (Gratz & Roemer, 2004). Participants rated each item on a 0 to 5 scale (0 = “almost never”; 5 = “almost always”). Items on each subscale were summed to calculate each domain of difficulties in emotion regulation with higher scores representing greater levels of dysregulation (Gratz & Roemer, 2004). The DERS is a frequently utilized measure of emotion dysregulation with good construct and predictive validity, and good test–retest reliability (Gratz & Roemer, 2004). The subscales of the DERS demonstrated adequate internal consistency in the current study. The Cronbach's internal consistency coefficients were as follows: Nonacceptance of Emotional Responses ( $\alpha = .90$ ); Difficulty Engaging in Goal-Directed Behavior ( $\alpha = .86$ ); Impulse Control Difficulties ( $\alpha = .86$ ); Lack of Emotional Awareness ( $\alpha = .83$ ); Limited Access to Emotion Regulation Strategies ( $\alpha = .89$ ); and Lack of Emotional Clarity ( $\alpha = .73$ ).

### **Data Analytic Strategy**

All analyses were conducted using SPSS Version 23.0. Prior to analyses, psychological and physical IPV scores were log transformed to reduce positive skewness. We ran an analysis of the kurtosis and skew of the transformed outcome variables of psychological IPV and physical IPV. Skew decreased from 1.37 to  $-.54$  for psychological IPV and from 3.99 to  $.31$  for physical IPV. Kurtosis was also adequately decreased from 2.16 to  $-.43$  for psychological IPV and from 19.65 to  $-.78$  for physical IPV. As values for asymmetry and kurtosis between  $-2$  and  $+2$  are considered acceptable

in order to show normal univariate distribution, the transformation was adequate (George, 2011). Next, we examined bivariate correlations among study variables and determined that collinearity of variables was within normal limits. Next, two separate hierarchical multiple linear regression analyses were conducted, first with the psychological IPV subscale and then the physical IPV subscale of the CTS2 as the dependent variable. Consistent with the results of our bivariate analyses presented in Table 1, AUDIT and PDQ-4-ASPD total scores were entered at step 1 in our first analysis examining psychological IPV and only the PDQ-4-ASPD total scores were entered at step 1 while examining physical IPV. In both analyses, the six subscales of the DERS were entered at step 2. Missing data were removed via listwise deletion.

## RESULTS

Bivariate correlations were calculated for all study variables. The Impulse Control Difficulties and Lack of Emotional Clarity subscales of the DERS were positively associated with psychological IPV perpetration. The Impulse Control Difficulties, Lack of Emotional Clarity, Difficulty Engaging in Goal-Directed Behavior, and Limited Access to Emotion Regulation Strategies subscales of the DERS were positively associated with physical IPV perpetration. Alcohol Use and Problems and Drug Use and Problems were both positively associated with psychological IPV perpetration. Anti-social Traits were positively associated with physical IPV perpetration. We examined whether primary variables of interest were associated with the number of BIP sessions attended. Number of BIP sessions was not associated with these variables and therefore was not included as a covariate in analyses. Means, standard deviations, and correlations of study variables are presented in Table 1.

### Psychological Violence Perpetration

We conducted a hierarchical linear analysis to examine the association between different facets of emotion dysregulation and psychological IPV perpetration. The overall model fit for the regression predicting psychological IPV was significant:  $R^2 = .35$ ,  $F(8,45) = 3.04$ ,  $p = .008$ . While controlling for AUDIT and PDQ-4-ASPD total scores, none of the DERS subscales were positively and significantly associated with psychological IPV perpetration. See Table 2 for regression results.

### Physical Violence Perpetration

We conducted a hierarchical linear analysis to examine the association between different facets of emotion dysregulation and physical IPV perpetration. The overall model fit for the regression predicting physical IPV perpetration was significant:  $R^2 = .31$ ,  $F(7, 48) = 5.81$ ,  $p = .019$ . While controlling for the PDQ-4-ASPD total scores, the Impulse Control Difficulties subscale of the DERS was positively associated with physical IPV perpetration scores,  $\beta = .62$ ,  $t(48) = 3.30$ ,  $p = .002$ . See Table 3 for regression results.

TABLE 1. Bivariate Correlations and Descriptive Statistics for Study Measures

	1	2	3	4	5	6	7	8	9	10	11	12
1. BIP Sessions	–											
2. Nonacceptance of Emotional Responses	-.14	–										
3. Difficulty Engaging in Goal-Directed Behavior	-.09	.60**	–									
4. Impulse Control Difficulties	-.04	.69***	.69**	–								
5. Lack of Emotional Awareness	-.01	.07	.23	.21	–							
6. Limited Access to Emotion Regulation Strategies	-.18	.79**	.71**	.77**	.25*	–						
7. Lack of Emotional Clarity	-.14	.44**	.40**	.58**	.57**	.61**	–					
8. Psychological Aggression Perpetration	.50	.09	.27	.36**	.18	.14	.34**	–				
9. Physical Assault Perpetration	-.04	.21	.32*	.46**	.18	.35*	.37*	.60**	–			
10. Drug Use and Problems	.31*	.04	-.00	.22	.11	.05	.22	.40**	.01	–		
11. Alcohol Use and Problems	.25	.13	.16	.28*	.05	.24	.24	.29*	.02	.40**	–	
12. Antisocial Traits	-.01	.13	.28*	.30*	.18	.27*	.37**	.47**	.32*	.37**	.56**	–
Mean	9.94	12.93	14.31	14.03	16.99	17.78	10.78	3.36	2.22	8.26	8.80	2.39
SD	7.41	6.00	5.23	5.71	3.98	7.57	3.75	1.17	1.44	13.31	8.98	2.44

*Notes.* \* $p < .05$ , \*\* $p < .01$  (two-tailed).



**TABLE 2. Results of Hierarchical Regression Predicting Psychological IPV Perpetration**

Variable	Psychological IPV Perpetration				
	<i>B</i>	$\beta$	<i>t</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
Step 1				.19**	
Alcohol Use and Problems	.01	.05	.36		
Antisocial Traits	.17	.40	2.67**		
Step 2				.35**	.16
Alcohol Use and Problems	.00	.03	.22		
Antisocial Traits	.11	.26	1.62		
Nonacceptance of Emotional Responses	.01	.06	.30		
Difficulty Engaging in Goal-Directed Behavior	.04	.19	1.05		
Impulse Control Difficulties	.07	.38	1.90		
Lack of Emotional Awareness	-.04	-.15	-1.00		
Limited Access to Emotion Regulation Strategies	-.07	-.46	-1.81		
Lack of Emotional Clarity	.09	.29	1.55		

Notes. \**p* < .05, \*\**p* < .01.

**TABLE 3. Results of Hierarchical Regression Predicting Physical IPV Perpetration**

Variable	Physical IPV Perpetration				
	<i>B</i>	$\beta$	<i>t</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
Step 1				.10*	
Antisocial Traits	.20	.31	2.41*		
Step 2				.40**	.30
Antisocial Traits	.06	.09	.72		
Nonacceptance of Emotional Responses	-.03	-.13	-.69		
Difficulty Engaging in Goal-Directed Behavior	.02	.09	.49		
Impulse Control Difficulties	.16	.62	3.30**		
Lack of Emotional Awareness	-.03	-.08	-.54		
Limited Access to Emotion Regulation Strategies	-.03	-.17	-.70		
Lack of Emotional Clarity	.08	.20	1.08		

Notes. \**p* < .05, \*\**p* < .01.

## DISCUSSION

The current study extended past research by examining the associations between different facets of emotion dysregulation and psychological and physical IPV perpetration among women arrested for domestic violence. Based on past research, we hypothesized that Impulse Control Difficulties, Lack of Emotional Clarity, Nonacceptance of Emotional Responses, and Difficulty Engaging in Goal-Directed Behavior would positively associate with both physical and psychological IPV perpetration. Initial bivariate correlation analyses partially supported our hypothesis. Lack of Emotional Clarity and Impulse Control Difficulties associated with psychological IPV perpetration; Lack of Emotional Clarity, Limited Access to Emotion Regulation Strategies, Difficulty Engaging in Goal-Directed Behavior, and Impulse Control Difficulties associated with physical IPV. Multivariate analyses revealed fewer associations, showing that Impulse Control Difficulties was the only component of emotion dysregulation to associate with physical IPV; none of the emotion dysregulation subscales associated with psychological IPV after controlling for antisocial personality traits and alcohol use and problems.

Contrary to prior research, emotion dysregulation was not positively associated with psychological IPV perpetration in the final regression model. This lack of findings for emotional dysregulation and psychological aggression could be attributable to our failure to assess other key mediators (e.g., trait anger). Prior research has indicated that, in similar samples of women arrested for domestic violence, trait anger mediated the relationship between impulsivity and psychological IPV perpetration (Shorey, Brasfield, Febres, & Stuart 2011b). Future work should include other possible mediators of the relationship between emotional dysregulation and psychological aggression prior to drawing any firm conclusions about their association.

Alternately, the Impulse Control Difficulties subscale was found to be positively associated with physical IPV perpetration. It is important to note that Impulse Control Difficulties, as assessed in the current study, differ conceptually from impulsivity. Impulse Control Difficulties as defined by the DERS focus on level of ability to inhibit impulses during the experience of negative emotions. Other measures of impulsivity do not stipulate the emotional state a person is in when they engage in impulsive behavior and simply examine the frequency of that behavior. Therefore, this subscale of the DERS allows for a measure of impulsive behavior when an individual should be exercising emotion regulation. However, overall the constructs of impulsivity and Impulse Control Difficulties as stipulated by the DERS are highly connected in their lack of behavioral control. As such, while past research has not defined Impulse Control Difficulties as a correlate of IPV, the findings in the current study that Impulse Control Difficulties was positively associated with physical IPV, is nevertheless consistent with literature regarding the salient role of general impulsivity in the perpetration of IPV by women (Shorey et al., 2011b).

However, it is this direct connection with the lack of behavioral control that also separates Impulse Control Difficulties as a construct from other facets of emotion dysregulation potentially accounting for more variance in the multivariate model.

Impulse Control Difficulties is the only subscale that centers around the instigation of behavior in the presence of negative emotions. Difficulty Engaging in Goal-Directed Behavior addresses issues with concentration and the halt of productive behavior and all of the other facets included in the DERS focus on the internal modulation of emotions alone. The Impulse Control Difficulties subscale is the only one to address the lack of inhibition resulting in the instigation of behavior. This behavioral disinhibition as a proximal risk factor for impulsive behavior is a prominent risk factor for IPV perpetration supported by empirical and theoretical work (Finkel, 2014; Finkel, DeWall, Slotter, Oaten, & Foshee, 2009).

The positive association between Impulse Control Difficulties and physical IPV perpetration fits well into current theories regarding violence. In the development of causal models of IPV perpetration, a prominent focus has been placed on how dispositional or situational factors interact to cause IPV (Bell & Naugle, 2008). One respected model in extant IPV literature is the I<sup>3</sup> theory (Finkel, 2014). The I<sup>3</sup> theory states that individuals are most likely to perpetrate violence when instigative cues are present, when they are prone to aggression through situational or dispositional factors, and when they have low inhibition to prevent themselves from perpetrating violence (Finkel, 2014). Our finding of Impulse Control Difficulties, in which individuals lack behavioral control when experiencing negative emotion, significantly associating with IPV perpetration is suggestive of the I<sup>3</sup> theory. Although interactions were not directly addressed within the current study, it is possible that individuals with poor emotion regulation, when facing impellance and instigation, may be at increased risk for IPV perpetration when their inhibition is low.

### **Treatment Implications**

Although there is limited research on BIP efficacy for women arrested for domestic violence, men enrolled in these programs show extremely high rates of IPV recidivism (Feder & Wilson, 2005). Thus, many researchers have called for the development of programs that address prevalent risk factors (Shorey, Cornelius, & Bell, 2008). This is particularly important within BIPs for female perpetrators, as they are an understudied population. Prior research indicated that violence perpetration is often closely linked to an individual's attempt to deal with negative emotions (Shorey et al., 2011a). Indeed, IPV perpetrators endorsed regulation of negative emotions as a common motivator for the perpetration of violence (Elmquist et al., 2014; Stuart, Moore, et al., 2006). The current study emphasized the particular salience of Impulse Control Difficulties in emotion dysregulation. Overall, past and present findings suggest the need for interventions to incorporate emotion regulation training into their programming with particular consideration for impulse control. Among college students, emotional regulation strategies incorporated into aggression paradigms decreased the perpetration of partner-based psychological aggression (Maldonado, DiLillo, & Hoffman, 2015). Future treatment-based studies should examine the incorporation of skills regulating impulse control, particularly if this research can be replicated in larger samples of arrested women.

### **Limitations and Future Directions**

This study should be interpreted in light of several limitations. First, generalizability of findings is limited due to the majority of the sample identifying as White/non-Hispanic. Unfortunately, data are not available regarding the refusal rate among those approached for recruitment, which further hinders conclusions regarding the generalizability of the findings. In addition, cross-sectional data were utilized for analysis; thus, directionality cannot be determined with regard to causal influence. Longitudinal methodology as well as the incorporation of more diverse samples should therefore be a focus of future research. Third, the sample size was relatively small; however, this population is severely understudied and difficult to recruit. Furthermore, there is evidence to suggest that, just as emotion dysregulation is multidimensional, Impulse Control Difficulty is made up of a cluster of lower-order traits (Dick et al., 2010). Future research should seek to expand findings by examining Impulse Control Difficulty as a multidimensional construct. Additionally, the current study is limited by the use of the CTS2 as a measure of IPV. The CTS2 has been criticized for generally lacking measurement of context, motivations, and consequences as well as broad language and definitions (Hamby, 2009). Although the present study controlled for antisocial traits and substance use and problems as frequently cited predictors of IPV perpetration, other factors should be included as controls in future studies. For instance, trait anger has been found to be a mediating variable between impulsivity and IPV perpetration in past studies and should be included in a more integrated model in future research related to emotion dysregulation (Shorey et al., 2011b; Stuart & Holtzworth-Munroe, 2005). Similarly, past research evidenced Impulse Control Difficulty as a salient risk factor for substance use and maintenance of substance misuse (Moeller & Dougherty, 2002; Stuart & Holtzworth-Munroe, 2005). Consistent with these findings, research found the role of substance use to be a mediating variable between total emotion dysregulation and the perpetration of psychological and then physical violence (Ortiz, Shorey, & Cornelius, 2015). Therefore, substance use as a mediating variable between Impulse Control Difficulties and the perpetration of IPV should be considered in future research.

Finally, a limitation of this study that should be considered is the complexity of violence perpetration. Other variables that may have accounted for more of the variance could include factors related to the context in which violence occurs or relationship dynamics. In fact, perpetrators of violence frequently cite dynamic factors such as self-defense or retaliation as motivation for perpetration (Elmquist et al., 2014). Additionally, while controlling for substance use and antisocial traits is helpful to examine the impact of emotion dysregulation, such variables frequently co-occur in perpetrators of violence (Stuart et al., 2003) and thus may be difficult to disentangle when assessing and treating IPV in clinical settings. Future research should aim to determine how emotion regulation training can ultimately be incorporated in treatment where individuals experience the interplay of such risk factors.

## CONCLUSION

Findings from the current study indicated that Impulse Control Difficulties may play a role in the perpetration of physical IPV among women arrested for domestic violence. As female-perpetrated IPV is largely understudied in the field, and certain facets of emotion dysregulation have shown to be more salient correlates of female-perpetrated IPV than others, emotion dysregulation should continue to be examined within this population. This research could have a particular focus on testing the efficacy of emotion regulation skills training in reducing IPV.

## REFERENCES

- Bell, K. M., & Naugle, A. E. (2008). Intimate partner violence theoretical considerations: Moving towards a contextual framework. *Clinical Psychology Review, 28*(7), 1096–1107. doi:10.1016/j.cpr.2008.03.003
- Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., . . . Stevens, M. R. (2011). *The national intimate partner and sexual violence survey (NISVS): 2010 summary report* (p. 25). Atlanta GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Bliton, C. F., Wolford-Clevenger, C., Zapor, H., Elmquist, J., Brem, M. J., Shorey, R. C., & Stuart, G. L. (2016). Emotion dysregulation, gender, and intimate partner violence perpetration: An exploratory study in college students. *Journal of Family Violence, 31*(3), 371–377. doi:10.1007/s10896-015-9772-0
- DeWall, C. N., Finkel, E. J., & Denson, T. F. (2011). Self-control inhibits aggression. *Social and Personality Psychology Compass, 5*(7), 458–472.
- Dick, D. M., Smith, G., Olausson, P., Mitchell, S. H., Leeman, R. F., O'Malley, S. S., & Sher, K. (2010). Understanding the construct of impulsivity and its relationship to alcohol use disorders. *Addiction Biology, 15*, 217–226. doi:10.1111/j.1369-1600.2009.00190.x
- Elmquist, J., Hamel, J., Shorey, R. C., Labrecque, L., Ninnemann, A., & Stuart, G. L. (2014). Motivations for intimate partner violence in men and women arrested for domestic violence and court referred to batterer intervention programs. *Partner Abuse, 5*(4), 359–374. doi:10.1891/1946-6560.5.4.359
- Feder, L., & Wilson, D. B. (2005). A meta-analytic review of court-mandated batterer intervention programs: Can courts affect abusers' behavior? *Journal of Experimental Criminology, 1*(2), 239–262. doi:10.1007/s11292-005-1179-0
- Finkel, E. J. (2014). The I3 model: Metatheory, theory, and evidence. *Advances in Experimental Social Psychology, 49*, 1–104. doi:10.1016/B978-0-12-800052-6.00001-9
- Finkel, E. J., DeWall, C. N., Slotter, E. B., Oaten, M., & Foshee, V. A. (2009). Self-regulatory failure and intimate partner violence perpetration. *Journal of Personality and Social Psychology, 97*(3), 483. doi:10.1037/a0015433
- George, D. (2011). *SPSS for windows step by step: A simple study guide and reference, 17.0 update (10th ed.)*. Delhi, India: Pearson Education India.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26*(1), 41–54. doi:10.1023/B:JOBA.0000007455.08539.94

- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (p. 324). New York, NY: Guilford Press.
- Guy, L. S., Poythress, N. G., Douglas, K. S., Skeem, J. L., & Edens, J. F. (2008). Correspondence between self-report and interview-based assessments of antisocial personality disorder. *Psychological Assessment, 20*(1), 47. doi:10.1037/1040-3590.20.1.47
- Hamby, S. (2009). The gender debate about intimate partner violence: Solutions and dead ends. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*(1), 24.
- Henning, K., Jones, A., & Holdford, R. (2003). Treatment needs of women arrested for domestic violence: A comparison with male offenders. *Journal of Interpersonal Violence, 18*(8), 839–856.
- Hughes, F. M., Stuart, G. L., Gordon, K. C., & Moore, T. M. (2007). Predicting the use of aggressive conflict tactics in a sample of women arrested for domestic violence. *Journal of Social and Personal Relationships, 24*, 155–176. doi:10.1177/0265407507075406
- Hyler, S. E. (2004). *The personality diagnostic questionnaire 4*. New York, NY: New York State Psychiatric Institute.
- Hyler, S. E., Rieder, R. O., Williams, J. B., Spitzer, R. L., Hendler, J., & Lyons, M. (1988). The Personality diagnostic questionnaire: Development and preliminary results. *Journal of Personality Disorders, 2*(3), 229–237. doi:10.1521/pedi.1988.2.3.229
- Kamimura, A., Christensen, N., Tabler, J., Ashby, J., & Olson, L. M. (2014). Prevalence of intimate partner violence and its impact on health: Female and male patients using a free clinic. *Journal of Health Care for the Poor and Underserved, 25*(2), 731–745. doi:10.1353/hpu.2014.0105
- Lilly, M. M., & Mercer, M. C. (2014). The interaction of emotion regulation and world assumptions in predicting female intimate partner violence perpetration. *Partner Abuse, 5*(4), 439–457. doi:10.1891/1946-6560.5.4.439
- Maldonado, R. C., DiLillo, D., & Hoffman, L. (2015). Can college students use emotion regulation strategies to alter intimate partner aggression-risk behaviors? An examination using I<sup>3</sup> theory. *Psychology of Violence, 5*(1), 46–55. doi:10.1037/a0035454
- Moeller, F. G., & Dougherty, D. M. (2002). Impulsivity and substance abuse: What is the connection? *Addictive Disorders & Their Treatment, 1*(1), 3–10. doi:10.1097/00132576-200205000-00002
- Ortiz, E., Shorey, R. C., & Cornelius, T. L. (2015). An examination of emotion regulation and alcohol use as risk factors for female-perpetrated dating violence. *Violence and Victims, 30*(3), 417–431. doi:10.1891/0886-6708.VV-D-13-00173
- Ross, J. M. (2011). Personality and situational correlates of self-reported reasons for intimate partner violence among women versus men referred for batterers' intervention. *Behavioral Sciences & The Law, 29*(5), 711–727. doi:10.1002/bsl.1004
- Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption. II. *Addiction, 88*(6), 791–804. doi:10.1111/j.1360-0443.1993.tb02093.x
- Shorey, R. C., Brasfield, H., Febres, J., & Stuart, G. L. (2011a). An examination of the association between difficulties with emotion regulation and dating violence perpetration. *Journal of Aggression, Maltreatment & Trauma, 20*(8), 870–885. doi:10.1080/10926771.2011.629342

- Shorey, R. C., Brasfield, H., Febres, J., & Stuart, G. L. (2011b). The association between impulsivity, trait anger, and the perpetration of intimate partner and general violence among women arrested for domestic violence. *Journal of Interpersonal Violence, 26*(13), 2681–2697. doi:10.1177/0886260510388289
- Shorey, R. C., Brasfield, H., Febres, J., & Stuart, G. L. (2011). An examination of the association between difficulties with emotion regulation and dating violence perpetration. *Journal of Aggression, Maltreatment & Trauma, 20*(8), 870–885. doi:10.1080/10926771.2011.629342
- Shorey, R. C., Cornelius, T. L., & Bell, K. M. (2008). Behavioral theory and dating violence: A framework for prevention programming. *The Journal of Behavior Analysis of Offender and Victim Treatment and Prevention, 1*(4), 1. doi:10.1037/h0100452
- Shorey, R. C., Elmquist, J., Ninnemann, A., Brasfield, H., Febres, J., Rothman, E. F., ... Stuart, G. L. (2012). The association between intimate partner violence perpetration, victimization, and mental health among women arrested for domestic violence. *Partner Abuse, 3*(1), 3.
- Skodol, A. E., Gunderson, J. G., Pföhl, B., Widiger, T. A., Livesley, W. J., & Siever, L. J. (2002). The borderline diagnosis I: Psychopathology, comorbidity, and personality structure. *Biological Psychiatry, 51*(12), 936–950. doi:10.1016/S0006-3223(02)01324-0
- Straus, M. A. (2011). Gender symmetry and mutuality in perpetration of clinical-level partner violence: Empirical evidence and implications for prevention and treatment. *Aggression and Violent Behavior, 16*(4), 279–288. doi:10.1016/j.avb.2011.04.010
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues, 17*(3), 283–316. doi:10.1177/019251396017003001
- Straus, M. A., Hamby, S. L., & Warren, W. L. (2003). *The conflict tactics scales handbook*. (Vol. 19), Los Angeles, CA: Western Psychological Services.
- Stuart, G. L., & Holtzworth-Munroe, A. (2005). Testing a theoretical model of the relationship between impulsivity, mediating variables, and marital violence. *Journal of Family Violence, 20*, 291–303. doi:10.1007/s10896-005-6605-6
- Stuart, G. L., Meehan, J. C., Moore, T. M., Morean, M., Hellmuth, J., & Follansbee, K. (2006). Examining a conceptual framework of intimate partner violence in Men and Women arrested for domestic violence. *Journal of Studies on Alcohol, 67*(1), 102–112. doi:10.15288/jsa.2006.67.102
- Stuart, G. L., Moore, T. M., Elkins, S. R., O'Farrell, T. J., Temple, J. R., Ramsey, S. E., & Shorey, R. C. (2013). The temporal association between substance use and intimate partner violence among women arrested for domestic violence. *Journal of Consulting and Clinical Psychology, 81*(4), 681–690. doi:10.1037/a0032876
- Stuart, G. L., Moore, T. M., Gordon, K. C., Hellmuth, J. C., Ramsey, S. E., & Kahler, C. W. (2006). Reasons for intimate partner violence perpetration among arrested women. *Violence Against Women, 12*, 609–621. doi:10.1177/1077801206290173
- Stuart, G. L., Moore, T. M., Kahler, C. W., & Ramsey, S. E. (2003). Substance abuse and relationship violence among men court-referred to batterers' intervention programs. *Substance Abuse, 24*(2), 107–122. doi:10.1080/08897070309511539
- Stuart, G. L., Moore, T. M., Ramsey, S. E., & Kahler, C. W. (2004). Hazardous drinking and relationship violence perpetration and victimization in women arrested for domestic violence. *Journal of Studies on Alcohol, 65*(1), 46–53. doi:10.15288/jsa.2004.65.46

- Stuart, G. L., Temple, J. R., Follansbee, K. W., Bucossi, M. M., Hellmuth, J. C., & Moore, T. M. (2008). The role of drug use in a conceptual model of intimate partner violence in men and women arrested for domestic violence. *Psychology of Addictive Behaviors*, 22(1), 12–24. doi:10.1037/0893-164X.22.1.12
- Whitaker, D. J., Haileyesus, T., Swahn, M., & Saltzman, L. S. (2007). Differences in frequency of violence and reported injury between relationships with reciprocal and nonreciprocal intimate partner violence. *American Journal of Public Health*, 97(5), 941–947. doi:10.2105/AJPH.2005.079020

**Disclosure.** The authors have no relevant financial interest or affiliations with any commercial interests related to the subjects discussed within this article.

Correspondence regarding this article should be directed to Hannah Grigorian, University of Tennessee Knoxville. E-mail: hgrigori@vols.utk.edu