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INTIMATE PARTNER VIOLENCE PERPETRATION, POSTTRAUMATIC STRESS

DISORDER, AND GUILT:

THE MODERATING ROLE OF PARENTING STATUS

A Thesis in

Psychology

by

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## ABSTRACT

Research with military veterans has long recognized the role of perpetrating violence on subsequent PTSD and guilt, particularly with regard to moral injury. In the context of intimate partner violence (IPV), mental health consequences of perpetration have been minimally examined and cross-sectional associations have been interpreted to mean that PTSD and shame (a construct closely related to guilt) precipitate perpetration. However, theory and research regarding moral injury, as well as the dyadic nature of IPV, suggest that the opposite directionality may also exist. In the absence of sufficient longitudinal data, I examined differential associations between IPV perpetration and PTSD/guilt for parents and non-parents. Parenting status was examined as a moderator because it was thought that parents would be more susceptible to moral injury due to a greater multitude of potential consequences of IPV perpetration (e.g., child witnessing perpetration). I conducted multilevel regression analyses to examine PTSD and self-reported guilt related to physical IPV perpetration among 64 heterosexual community couples ( $N = 128$  individuals). IPV perpetration was significantly associated with PTSD symptom severity, but not guilt. Parenting status moderated the relationship between IPV perpetration and overall guilt, state guilt, and trait guilt, such that *non-parents* who perpetrated more IPV experienced higher levels of guilt while parents did not. Parenting status did not moderate the relationships between IPV victimization and PTSD or guilt, suggesting the pattern of results is specific to IPV perpetration. Findings did not necessarily support or disconfirm the proposed theory regarding the emotional consequences of perpetration. Interestingly, however, results suggest that parents may exhibit a muted guilt response in relation to their perpetration that warrants future investigation.

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## Background

Intimate partner violence (IPV) is highly prevalent in the United States (Schafer, Caetano, & Clark, 1998), and IPV victimization is associated with a range of mental health problems (Lawrence, Orengo-Aguayo, Langer, & Brock, 2012). Posttraumatic stress disorder (PTSD) is one of the most common mental health correlates. Although it is a dimensional disorder in which all trauma survivors can experience some degree of symptoms, studies estimate that 31-84% of individuals who experience IPV victimization meet PTSD diagnostic criteria (Golding, 1999). IPV victimization is also frequently associated with broader mental health effects that commonly co-occur with PTSD, including guilt (Ansara & Hindin, 2011). Importantly, men and women perpetrate IPV at similar rates (Archer, 2000), and in violent relationships bidirectional violence is the most prevalent pattern (49-70%; Langhinrichsen-Rohling, Misra, Selwyn, & Rohling, 2012). Moreover, there is evidence that physically aggressive couples interact by reciprocally escalating negative behaviors (Burman, Margolin, & John, 1993), which is thought to include violent behaviors. Traditionally, PTSD and guilt have been viewed as consequences of IPV victimization and/or predictors of IPV perpetration, but existing evidence for the dyadic nature of IPV raises the question of whether IPV perpetration may also contribute to elevated guilt and PTSD symptoms. This has not previously been examined.

In other areas of violence research, PTSD and guilt (defined as a negative emotional response to self-reflection of one's transgressions or failures; Jones, Schratte, & Kugler, 2000; Tangney, Miller, Flicker, & Barlow, 1996) have been examined as potential consequences of violence perpetration. Specifically, research among military veterans suggests that service members involved in perpetrating atrocities exhibit elevated guilt and PTSD severity, more so

than combat exposure alone (Dennis et al., 2017; Macnair, 2002). War atrocities are particularly cruel acts, such as injuring or killing those who are not posing an immediate risk (e.g., civilians, children, elders). Recent work has identified that these actions may facilitate PTSD when they represent violations of an individual's moral standards, a phenomenon termed "moral injury." Drescher and colleagues (2011) define moral injury as resulting from witnessing, perpetrating, or failing to intervene upon immoral acts that then disrupts the individual's certainty about the capacity for moral behavior on the part of oneself or others. Several authors have proposed that guilt may play a mechanistic role in moral injury (Frankfurt & Frazier, 2016; Litz et al., 2009). As proposed in the social-cognitive model of moral injury described by Dennis and colleagues (2017), guilt onset following moral transgressions may confer risk for PTSD if an individual employs avoidant coping in response to the guilt. In addition, they suggest that additional PTSD symptoms may arise upon failure to integrate their understanding of their behavior within their schemas.

Comparable to war-related violence, perpetrating violence toward one's partner may represent a moral violation of the commitment of love and affection that is typical of an intimate relationship. Broadly speaking, war-related violence differs from partner violence in that it is traditionally government-sanctioned, often perpetrated along with others, and may often be ordered by superiors. According to Litz and colleagues (2009), individuals may more readily integrate their violent behavior into their schemas by attributing their transgressive behaviors to the broader context in which it occurred. Given the context of war-related violence, this integration may have more potential to occur for war-related violence than for IPV, which does not share a similarly institutional nature and is generally condemned by society. If this were true, it would be cause for concern given that some hypothesize that the failed integration of violent



behavior into the individual's core schemas may contribute to the relationship observed between perpetration of atrocities and greater hostility and aggression perpetration (Dennis et al., 2017). Thus, this may perpetuate additional engagement in violent behavior. That is, failure of the individual to adequately process their morally transgressive violent behavior may heighten their risk for subsequent violence perpetration.

Numerous cross-sectional studies have demonstrated associations between PTSD symptoms and IPV perpetration (Taft, Watkins, Stafford, Street, & Monson, 2011), but associations between guilt and IPV perpetration have not been examined to date. Shame, a construct closely related to guilt but differing in terms of greater emphasis on how others perceive one's actions and greater emotional intensity (Tangney et al., 1996), has been associated with IPV perpetration (e.g., Hundt & Holohan, 2012; Lawrence & Taft, 2013; Sippel & Marshall, 2011). These associations have typically been interpreted to indicate that PTSD and shame are precipitants to perpetrating aggression. However, literature on the effects of perpetrating atrocities and moral injury in veterans suggests that the opposite directionality may also exist (Dennis et al., 2017; Litz et al., 2009).

Few longitudinal studies have examined whether trauma-related symptoms prospectively lead to perpetration of IPV (Marshall et al., 2019; Shorey et al., 2018; Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004), and two of these studies only examined if PTSD symptoms lead to IPV perpetration but did not examine the opposite directionality (Marshall et al., 2019; Wolfe et al., 2004). Shorey and colleagues (2018) did examine the bi-directional relationship over time, but several limitations of the study preclude strong conclusions. Namely, the study was conducted among high school students who had not necessarily been exposed to potentially traumatic events and PTSD symptoms were measured with only a 4-item self-report measure.

Additionally, they found that PTSD longitudinally predicts perpetration at only one of the six timepoints examined. Although perpetration of physical IPV was not associated with increased PTSD symptoms, perpetration of psychological IPV was associated with increased PTSD at two of the six examined timepoints. This study did not include measurement of guilt. Thus, overall, sufficient longitudinal data including measurement of change in IPV, PTSD symptoms, and guilt over time, has not been available to address this question of directionality. In the absence of such data, a broader theoretical model can be examined to lend support to a directional model. In particular, consideration of individual difference factors that might lead some people to respond to IPV perpetration with PTSD and guilt more so than others can be informative.

### **Parenting, PTSD, and Guilt in the Context of IPV**

Those serving in a parenting role may be especially prone to guilt-related responses following IPV perpetration due to awareness that their violent actions not only influence their partners' well-being, but also the well-being of the children for whom they are responsible. Children who witness IPV often experience a range of negative outcomes (Artz et al., 2014), including mental health and behavioral challenges (El-Sheikh, Cummings, Kouros, Elmore-Staton, & Buckhalt, 2008; English et al., 2009; Kilpatrick & Williams, 1997; Ybarra, Wilkens, & Lieberman, 2007), physical health problems (e.g., Saltzman, Holden, & Holahan, 2005), cognitive impairments (e.g., Ybarra et al., 2007), and academic difficulties (e.g., Margolin, Vickerman, & Oliver, & Gordis, 2010). These negative outcomes have been found to occur regardless of whether violence is perpetrated primarily by one's father or mother (e.g., El-Sheikh et al., 2008). Observable consequences for children may provide parents with salient and affectively charged reminders of the problematic nature of their partner interactions that could, in turn, contribute to their guilt and PTSD. Some pediatric health research supports this notion,

suggesting that parents may develop PTSD symptoms as a result of witnessing their children suffering (Balluffi et al., 2004; Nelson & Gold, 2012). Thus, perpetrating IPV may not only represent a moral violation towards one's partner, but also a moral violation of the commitment to protect and serve as a role model for one's child.

PTSD and guilt following IPV perpetration may also arise because tending to children's needs following IPV perpetration may deplete individuals' capacities to engage in appropriate emotional processing of their actions. This is consistent with the model of stress proposed by Conservation of Resources (COR) theory (Hobfoll, 1989). This theory suggests that stressors are situations that are perceived to threaten individuals' resources of instrumental or personal value. IPV perpetration may create perceived threats to many fundamental resources, such as the quality and support of the relationship (e.g., separation, emotional distance), economic stability (e.g., legal repercussions), and sense of self (e.g., actions that violated moral beliefs). This theory also suggests that accumulation of stressors may increase likelihood of resources being depleted (Hobfoll, 1989; Hobfoll, 2001), with this accumulation typically being true of violent relationships whereby aggressive incidents occur repeatedly (Marshall, Feinberg, Jones, & Chote, 2017). Parents in IPV relationships may experience even greater accumulation of stress due to the general responsibilities of parenting, navigating their children's challenges after witnessing IPV, and their own response to the morality of their actions. As such, being a parent who perpetrates IPV may pose unique threats to resources that, in turn, may contribute to distress responses (i.e., PTSD and guilt). Although no prior studies have included application of this theory to the perpetration of IPV, this theory has been applied to the understanding of PTSD following war-related trauma (e.g., Vinokur, Pierce, Lewandowski-romps, & Galea, 2011; Vogt et al., 2011), which is similarly characterized by engagement in violence. These studies found

support for COR theory such that accumulation of stressors increased risk for posttraumatic stress symptoms (Vogt et al., 2011) and posttraumatic stress symptoms predicted additional resource loss (Vinokur et al., 2011).

In the current study I aimed to begin addressing the gaps in this literature by examining potential differences between parents and non-parents in the relations among IPV perpetration, PTSD, and guilt to inform this larger theoretical model. I focus on physical IPV given that behaviors must represent life threat to be considered a criterion A traumatic event. The primary hypotheses are 1) perpetration of physical IPV will be positively associated with severity of PTSD and guilt, and 2) parenting status will moderate this association such that IPV perpetration will be more strongly associated with PTSD and guilt among parents than non-parents. First, analyses will be conducted without parenting status as a moderator to examine the effects of both IPV perpetration and victimization on PTSD and guilt. Stronger associations for IPV perpetration will be interpreted to lend support to the theorized model. Second, models will be re-examined with parenting status included as a moderator to inform the theory as to how IPV perpetration may contribute to PTSD and guilt differentially for parents and non-parents. For both moderated and unmoderated analyses, I will separately examine overall guilt, as well as subscales capturing recent guilt, persistent guilt, and moral standards that may influence guilt. Subscales will be examined to provide information as to how the guilt temporally relates to the IPV perpetration. That is, persistent guilt is longstanding and may occur prior to perpetration, whereas recent guilt is more likely to have occurred after perpetration. Examination of moral guilt will allow us to infer potential moral attributions made in response to one's actions.

## **Method**

## Participants and Procedures

Data for the current study are drawn from an existing study including a sample of 64 heterosexual couples who were recruited from rural or semi-rural Pennsylvania communities between 2008 and 2010. To be included in the study, partners needed to be cohabitating, over the age of 18, and at least one partner in each couple had to meet screening criteria for PTSD. Couples with a combined annual income greater than \$100,000 or a partner with six or more years of post-high school education were excluded to avoid inclusion of university faculty and others who may not be representative of the larger community. Each member of the couple completed questionnaires and were formally assessed for symptoms of PTSD via diagnostic interview during an in-person lab session. Some questionnaires were completed at home and returned at the second laboratory session or via mail. Participants provided informed consent and received \$175 for completion of the full protocol, including procedures not included herein.

The majority of participants identified as White or Caucasian (85.9%), and 6.3% identified as African American, 3.9% as Hispanic/Latino, and 3.9% as bi-racial/multi-racial. The average age of participants was 37.16 years ( $SD = 12.64$ ). Participants had a mean monthly income of \$1,733.00 ( $SD = \$1,529.00$ ) with the majority of participants being employed (68.6%). The average education level in the sample was 14.31 ( $SD = 2.31$ ) years of education. Most couples were married (72%) and the average relationship length was 11 years and 11 months ( $SD = 11$  years, 10 months). In addition, 62% of participants reported being in a parenting role. Among 48 couples, one partner met full or subthreshold criteria for PTSD according to DSM-IV diagnostic criteria, and both partners met criteria in 8 additional couples. There were another 8 couples in which one or both partners had experienced trauma but did not experience PTSD symptoms reaching diagnostic or subthreshold criteria.

## Measures

**Demographics.** Parenting status was assessed by asking participants to report 1) the number of children they have had or adopted with their current partner, 2) number of children from other relationships, and 3) number of other children living in their home. A dichotomous parenting status variable was created, such that those who indicated being responsible for any children were considered to be a parent, and anyone who indicated that they were not responsible for any children were treated as non-parents. Information about the child(ren)'s residential status was not available, so it is possible that not all parents had children living in the home.

**Revised Conflict Tactics Scale.** Intimate partner violence experienced and perpetrated during the past year was assessed using the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The CTS2 measures behaviors representing negotiation, psychological aggression, physical aggression, sexual coercion, and injury, with 39 items assessing perpetration and 39 items assessing victimization. There is evidence to support the internal consistency reliability (Straus et al., 1996), test-retest reliability (Vega & O'Leary, 2007), convergent validity (Slep & O'Leary, 2005), and discriminant validity (Straus et al., 1996) of the CTS2. For the current study, we focused on the 12-item physical aggression scale. Participants rated how often they and their partner engaged in each act of aggression within the past year (ranging from "Did not happen in last year" to "Occurred more than 20 times in past year"). Example behaviors include kicking, slapping, and beating up. Per recommendations by Moffitt and colleagues (1997), I used a "variety score" that indicates how many different acts of physical aggression occurred. This scoring method is favored because it reduces potential problems with the reliability of the response format as a consequence of number of occurrences over the past year being more difficult for participants to report than whether the act occurred

(Moffitt et al., 1997). For cases in which partners disagreed about whether a violent behavior was perpetrated, I applied either the individual's self-report of their own perpetration or the partner's report of their own victimization, depending on which partner endorsed the behavior occurring (Slep & Leary, 2005). This subscale demonstrated adequate internal consistency for both men ( $\alpha = 0.66$ ) and women ( $\alpha = 0.67$ ). A logarithmic transformation was applied to help normalize the distribution.

**The Clinician Administered PTSD Scale.** The Clinician Administered PTSD Scale (CAPS; Blake et al., 1995) was used to assess past month frequency and severity of posttraumatic stress disorder symptoms according to DSM-IV criteria. Ratings were provided using a 5-point scale for both frequency and severity of each symptom. Scores were summed such that higher scores indicate greater PTSD symptom severity. The CAPS is a reliable and valid measure of PTSD, with high interrater reliability and internal consistency across studies, and convergent validity with other measures of PTSD (Weathers, Keane, & Davidson, 2001). Coefficient  $\alpha$  in the current sample was .95 for men and .89 for women. Interrater reliability was  $r = .93$  for total PTSD symptoms among 10% of the interviews.

**Traumatic Life Events Questionnaire.** The Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000) assesses exposure to 22 types of potentially traumatic events and the number of times respondents have experienced each event. The TLEQ also assesses fear, helplessness, horror, and the trauma that causes the most distress. The TLEQ demonstrates good test-retest reliability and content validity (Kubany et al., 2000). The TLEQ was used in the current study to determine the primary trauma to be assessed during the CAPS interview for PTSD symptoms.

**Guilt Inventory.** The Guilt Inventory (Jones et al., 2000) includes 45-items comprising three subscales for state guilt, trait guilt, and moral standards. All items were rated on a 5-point Likert scale ranging from 1 (*Strongly Agree*) to 5 (*Strongly Disagree*). The state and trait guilt subscales capture unique time-based information about the guilt response, while the moral standards subscale captures relatively stable moral beliefs. The 10-item State Guilt scale assesses experiences of guilt due to recent behavior. Example items include “I have recently done something that I deeply regret” and “I would give anything if, somehow, I could go back and rectify some things I have recently done wrong.” The Trait Guilt subscale consists of 20 items and assesses experiences of guilt related to past events. Example items include “I have made a lot of mistakes in my life,” and “There is something in my past that I deeply regret.” The Moral Standards subscale consists of 15 items and assesses moral beliefs. Example items include “I believe in a strict interpretation of right and wrong” and “I feel a strong need to live up to my moral values.” In the current study, the overall guilt scale demonstrated strong internal consistency reliability ( $\alpha = .88$ ), as did the state ( $\alpha = .75$ ), trait ( $\alpha = .89$ ), and moral ( $\alpha = .74$ ) subscales.

### **Analyses**

Missing data occurred only on the Guilt Inventory. The Guilt Inventory, which was completed by participants at home, was completed and returned by 103 participants (48 men, 55 women). There were no statistically significant differences between those who completed the Guilt Inventory and those who did not with regard to key demographic variables (all  $p$  values > 0.213). Those with fully missing data on the Guilt Inventory were excluded from analyses. Additionally, missing data due to participants failing to respond to up to 20% of items on a single measure were addressed via mean replacement when scoring. Thus, one participant was excluded



from analyses due to more than 20% missing data for the overall Guilt Inventory and for each subscale. Finally, one additional participant had more than 20% missing data for the moral guilt subscale and was excluded from analyses involving this subscale.

Because men and women are nested within couples, descriptive and correlational analyses were run separately for men and women to avoid potential problems related to dependency within couples. Next, multilevel regression analyses were conducted using the lme4 package available through R statistical software (Bates, Machler, Bolker, & Walker, 2014). Two-level models were specified with individuals nested in couples such that the couple level error term accounts for systematic variability stemming from partners being nested within couples. To examine the amount of variance attributed to the person and the amount of variance attributed to the couple, for each outcome (i.e., PTSD symptom severity, total guilt, and each guilt subscale), a variance decomposition null model was calculated including no predictors at Level 1 (individuals) or Level 2 (couples). Another model was then created including only the Level 1 predictor of IPV perpetration/victimization. These regression analyses were conducted again with the main effect of parenting status, its interaction with IPV perpetration/victimization, and covariates included as additional Level 1 predictors. Because gender was a significant predictor of PTSD symptom severity, it was included as a covariate in all models. In all models, I controlled for parent age given that older parents are less likely to have children living in the home. Supplemental models were examined to test whether there was a three-way interaction between gender, parenting status, and IPV perpetration. In these supplemental models, age was included as a covariate, and gender was included as a moderator.

## Results

### Descriptive Analyses

In the current sample 61% of women and 63% of men reported being parents. Parents and non-parents significantly differed with regard to age, such that parents ( $M = 41$ ) were older than non-parents ( $M = 31$ ;  $t = 2.51, p = .014$ ) but there were no significant differences for parents ( $M = 83.46$  months) and non-parents ( $M = 174.47$  months) with regard to relationship length ( $t = 0.94, p = .351$ ). Of participants, 31% (38% of women; 23% of men) perpetrated at least one act of physical IPV in the past year. There were 35 couples in which neither partner perpetrated IPV. Among those who perpetrated IPV, the average number of physically aggressive acts perpetrated was 2.66 ( $SD = 1.48$ ) out of twelve possible acts of physical aggression assessed. Among male perpetrators, the average number of physically aggressive acts was 3.02 ( $SD = 1.52$ ) compared to 2.43 ( $SD = 1.44$ ) among female perpetrators. There were no significant differences in men and women's IPV perpetration ( $t = -1.35, p = .181, d = 0.24$ ) or victimization ( $t = -1.35, p = .181, d = 0.24$ ). Perpetration and victimization of IPV were highly correlated among both men ( $r = .70$ ) and women ( $r = .70$ ). The average severity of PTSD symptoms in the current sample was 36.11 ( $SD = 24.49$ ), corresponding to a moderate severity. PTSD severity was higher among women ( $M = 46.16$ ;  $SD = 20.30$ ) than men ( $M = 26.06$ ;  $SD = 24.33$ ),  $t = -5.07, p < .001, d = 0.90$ . The average overall guilt score in the current sample was 130.66 ( $SD = 19.29$ ) out of a possible 225, with women ( $M = 127.26$ ;  $SD = 18.66$ ) experiencing similar levels of guilt as men ( $M = 134.41$ ;  $SD = 19.48$ ),  $t = 1.88, p = .107, d = 0.37$ ).

Table 1 presents descriptive statistics among study variables. Examination of bivariate associations suggested that IPV perpetration was significantly correlated with PTSD among men but not women. IPV perpetration was not significantly correlated with overall guilt or any of the

guilt subscales for either men or women. For both men and women, PTSD was significantly correlated with overall guilt, state guilt, and trait guilt. However, PTSD was not significantly correlated with moral guilt for either men or women. State and trait guilt are highly correlated among men and women. Moral guilt was not significantly correlated with either state or trait guilt.

### Multilevel Regression Analyses

Examination of null models indicated that sufficient variance existed in each outcome to be predicted (all  $p$  values  $< .001$ ) and that accounting for nesting within couples was necessary. In initial multilevel models that did not include parenting status, but did include age and gender as covariates, IPV perpetration was significantly associated with PTSD symptom severity ( $B = 5.66$ ,  $SE = 2.10$ ,  $t = 2.69$ ,  $p = .008$ ). In separate models, IPV perpetration was not significantly associated with overall guilt ( $B = 2.66$ ,  $SE = 2.32$ ,  $t = 1.15$ ,  $p = .254$ ), state guilt ( $B = 0.26$ ,  $SE = 0.77$ ,  $t = 0.34$ ,  $p = .738$ ), trait guilt ( $B = 0.56$ ,  $SE = 1.50$ ,  $t = 0.38$ ,  $p = .709$ ), or moral guilt ( $B = 1.68$ ,  $SE = 0.86$ ,  $t = 1.94$ ,  $p = .055$ ). Similar models were conducted with IPV victimization as the predictor. IPV victimization was significantly associated with PTSD symptom severity ( $B = 4.27$ ,  $SE = 2.15$ ,  $t = 1.99$ ,  $p = .049$ ). IPV victimization was not significantly associated with overall guilt ( $B = 3.78$ ,  $SE = 2.26$ ,  $t = 1.67$ ,  $p = .098$ ), state guilt ( $B = 0.67$ ,  $SE = 0.75$ ,  $t = 0.88$ ,  $p = .380$ ), trait guilt ( $B = 1.56$ ,  $SE = 1.46$ ,  $t = 1.06$ ,  $p = .290$ ), or moral guilt ( $B = 1.19$ ,  $SE = 0.85$ ,  $t = 1.40$ ,  $p = .166$ ).

Next, I examined parenting status as a potential moderator of the associations between physical IPV perpetration (Table 2) and the outcome variables. Age and gender were included as covariates in all models; age did not predict any of the outcome variables and gender only predicted PTSD symptom severity. When predicting PTSD symptom severity, the interaction

between parenting status and physical IPV perpetration was statistically nonsignificant. However, the interaction between parenting status and physical IPV perpetration significantly predicted overall guilt, state guilt, and trait guilt (see Figure 1). Simple slopes analyses indicated that non-parents who have perpetrated a greater variety of IPV behaviors experienced significantly more overall ( $B = 9.08, SE = 3.64, t = 2.50, p = 0.017$ ), state ( $B = 2.81, SE = 1.19, t = 2.36, p = 0.023$ ), and trait ( $B = 4.76, SE = 2.04, t = 2.50, p = 0.048$ ) guilt. Among parents, however, simple slope analyses revealed that each form of guilt was not significantly associated with the variety of IPV behaviors perpetrated. The two-way interaction was statistically nonsignificant when predicting moral guilt.

I similarly examined parenting status as a potential moderator of the effect of physical IPV victimization on the outcome variables (Table 3). Age and gender were again included as covariates in all models; age did not predict any of the outcome variables and gender only predicted PTSD symptom severity. The interaction of parenting status and physical IPV victimization was not significantly associated with PTSD severity, overall guilt, or any of the guilt subscales.

Two supplemental models were conducted to examine whether the observed effects differed according to gender. That is, similar models were conducted that included the three-way interaction of parenting status, gender, and either physical IPV perpetration or victimization on the respective outcomes while accounting for the effect of age. There was a significant three-way interaction among parenting status, gender, and IPV victimization predicting moral guilt ( $B = 1.51, SE = 0.71, t = 2.12, p = .038$ ), such that men who are parents and all non-parents experience similar moral guilt with greater aggression victimization. However, women who are parents experience greater moral guilt with greater victimization. Results did not yield significant

effects for any of the other three-way interactions examined, including either victimization or perpetration.

### **Discussion**

To date, the study of intimate partner violence (IPV) and its emotional aftermath has predominantly focused on the consequences of being victimized by a partner and has neglected the consequences for the perpetrator. Literature that has addressed the emotional experiences of perpetrators has primarily considered PTSD and shame as predictors of IPV perpetration (e.g., Lawrence & Taft, 2013; Taft et al., 2011) and other forms of aggression (e.g., Van Voorhees et al., 2016), rather than possible consequences of perpetration. However, for many reasons, the potential emotional consequences of perpetration should also be of concern to mental health researchers and practitioners. In particular, emotional consequences of perpetration may maintain or exacerbate perpetration over time, thus representing a potentially useful target for intervention. This study was designed to provide a novel theoretical framework and initial evidence of whether IPV perpetration may result in elevated PTSD symptom severity and guilt responses.

The theory proposed herein suggests that perpetrators of IPV may experience elevated PTSD symptom severity and guilt in response to their behavior. To inform this theory, I hypothesized that PTSD and guilt responses would be stronger among parents who perpetrate IPV than among non-parents, due to the greater salience of their behavior, greater potential for moral injury, and a greater perceived threat to their resources (Hobfoll, 1989; Hobfoll, 2001). This hypothesis was not supported. Instead, the relationship between IPV perpetration and guilt was stronger among non-parents than among parents. That is, in the current study, non-parents demonstrated a pattern consistent with this prior literature and appeared to have greater total

guilt, state guilt, and trait guilt with more IPV perpetrated. While substantial literature suggests that there is a positive association between IPV perpetration and constructs closely related to guilt (e.g., shame; Lawrence & Taft, 2013), this does not appear to generalize to parents. In contrast, parents did not appear to have elevated guilt in association with greater IPV perpetration.

It is unclear why parents' levels of guilt are not associated with their IPV perpetration. In accordance with Conservation of Resources Theory (Hobfoll, 1989; Hobfoll, 2001), we hypothesized that parents may feel more guilt because they have greater resources that may be threatened by their violent behavior. An alternative interpretation of this theory may be that parenthood strains appropriate emotional and cognitive resources to process one's own behavior. Indeed, prior literature suggests that with parenthood comes increased stress (Cowan & Cowan, 2000), decreased relationship satisfaction (Lawrence, Rothman, Cobb, Rothman, & Bradbury, 2008), and greater conflict (Doss, Rhoades, Stanley, & Markman, 2009). Rates of IPV also increase during the transition to parenthood and peak during the early years of parenthood (Gustafsson & Cox, 2016). It may be that parents are reacting to this heightened stress and perceive their violent behavior to be situationally justified. This is supported by research suggesting that high stress leads to less rational, less utilitarian, and more emotionally driven moral-decision making processes (Youssef et al., 2012). Further, attributing transgressive acts to a broader situation is thought to reduce moral emotions, such as guilt (Litz et al., 2009). While this likely increases resilience following traumatic events that one is not responsible for (e.g., being hit by a drunk driver), these types of attributions may be problematic when applied to maladaptive behaviors (e.g., perpetrating violence). Therefore, due to parents' heightened stress,

they may be more prone to violent relationship behavior because they fail to consider the morality of their behavior, which could also inhibit their guilt response.

Another possibility is that current guilt related to violence perpetration may become attenuated among parents due to greater relational turbulence. Relational Turbulence Theory (Solomon, Knobloch, Theiss, & McLaren, 2016) proposes that relational transitions (either positive or negative) can create instability that requires navigating changing roles and identities within new relationship circumstances. Further, turbulence can exist through repeated transitions that promote distorted cognitions and heightened emotional responses. As one potential consequence, Solomon and colleagues (2016) propose that individuals who perceive their relationship to be high in turbulence are less able to consider future negative circumstances and place greater focus on motives rather than means, instead defaulting to more concrete instrumental thought processes. Applying this theory to the current results, it may be that parenthood makes individuals more likely to experience ongoing relational transitions as the child ages. This, in turn, may make parents more likely to focus on the instrumental aspects of their aggression (e.g., reducing the conflict) and ignore the long-term consequences (e.g., causing injury, potential separation). In sum, parenthood may make individuals more vulnerable to relational turmoil that reduces global cognitive processing likely to lead to emotions such as guilt.

Further, parenthood may instill greater emotional and instrumental commitment between partners. Evidence from biological and evolutionary studies suggests that pregnancy and post-pregnancy are periods in which both men and women have evolved to experience synchronous hormonal changes that enhance pair-bonding, investment, and commitment (e.g., Quinlan & Quinlan, 2008; Saxbe et al., 2017), which suggests the potential for greater emotional

commitment among parents. Despite rates of conflict (Doss et al., 2009) and IPV (Gustafsson & Cox, 2016) peaking with parenthood, parenthood may reduce likelihood of divorce or separation (White & Booth, 1985). Taken together, this suggests that parents may experience greater instrumental commitment to one another. Guilt responses may be subdued for parents because they perceive mutual emotional and instrumental dependency in the relationship, creating a sense that their relationship status will not be threatened regardless of their violent behavior.

Interestingly, parenting status moderated the associations between IPV perpetration and guilt, but not the association with PTSD. This may be because guilt is a more direct cognitive and emotional response to perpetration, whereas perpetration may not directly affect the range of other symptoms that influence PTSD severity. In the current sample, those who perpetrated IPV engaged in three types of behaviors per year on average, suggesting that the behaviors likely did not frequently represent life threat, which is thought to be a requirement for the development of many PTSD symptoms. In light of research suggesting that avoided guilt may be a pathway through which moral-injury contributes to PTSD symptoms (e.g., Dennis et al., 2017), these findings may suggest that IPV perpetrators who are parents may be more at risk for PTSD symptoms in the future. That is, perhaps parents demonstrate muted guilt responses due to greater experiential avoidance, which can prevent normal trauma recovery and heighten PTSD symptoms (Seligowski, Lee, Bardeen, & Orcutt, 2015). The lack of appropriate emotional responses to perpetration may also create barriers to motivating and establishing behavior change for parents within intervention programs. Building on previous work suggesting that prior to the transition to parenthood is an especially useful time to implement family-based interventions (e.g., Feinberg, 2002), the elevated guilt associated with IPV perpetration observed among non-parents in the current study may suggest a fruitful target for intervention programs. Further



research on the emotional consequences associated with IPV perpetration for different sub-groups could help inform these efforts.

Prior research has emphasized that PTSD and shame (a construct similar to guilt) are precipitants to IPV perpetration (Lawrence & Taft, 2013; Taft et al., 2011). Although theoretical justification for an alternative relationship exists, as described herein, the current study findings are unable to provide empirical support to either support or disprove either theory. It is likely that the relationship between IPV perpetration and mental health outcomes is bi-directional, such that PTSD heightens risk for violence perpetration, which, in turn, increases PTSD symptom severity, thus maintaining violent behavior over time. In situations of IPV perpetration, the perceived moral injury may be impacted by whether the individual focuses on the morality of the action itself (i.e., committing a violent act) or the outcomes of the action (i.e., harm caused; Crockett, 2013). For example, it may be that the perpetrator does not recognize their behavior as problematic until witnessing the pain and suffering they inflicted. While this idea about bi-directionality is relatively novel and in need of empirical support, it is important that future research studies explore both conceptualizations and key mechanisms (e.g., moral injury) that may inform these relationships more broadly.

There are several other areas that future research on these topics should explore to better address the theory originally proposed. Development of measures of moral injury that can be applied to non-warzone violence will be important for this work. To date, one measure has been developed to assess distress associated with perpetration among civilians (Steinmetz, Gray, & Clapp, 2019). However, this measure focuses specifically on distressing emotions related to perpetrated behavior, rather than morally-related cognitive attributions of the behavior. Some existing measures for assessing attitudes toward IPV may be able to inform moral beliefs (e.g.,

Smith, Thompson, Tomaka, & Buchanan, 2005), but additional measures that more clearly differentiate actions perpetrated vs. experienced and perceived morality of actions vs. consequences may need to be developed. I focused on guilt because it reflects a personal assessment of the individual's own behavior and was thought to be more closely related to moral beliefs. Future studies may also consider other constructs, such as shame. Further, some research demonstrates that perpetration of violence can be traumatic for many, but that this may vary based on the individual's perceptions of violence and their tendencies toward appetitive aggression (i.e., perception of aggression as fascinating and appealing) in particular (Hecker et al., 2013). Additional research may build upon the theory proposed herein by examining how these constructs relate to moral beliefs.

Several limitations of this study bear note. First and foremost, the study design would be greatly improved if I were able to longitudinally address the proposed research questions. With the current data, there are also several measurement considerations that may have influenced results. First, as described, I was not able to directly measure the concept of moral injury related to IPV perpetration. I used guilt as a proxy to address this question given its relevance to moral injury. Specifically, the moral guilt subscale does not ask the individual how morally transgressive they think their behavior was, but rather asks about their overall moral beliefs (e.g., having a strong sense of right and wrong). Indeed, the moral guilt subscale was not correlated with the state and trait subscales for both genders, which suggests that this scale is measuring a unique construct. Second, I was not able to assess the ages and cohabitating status of children within the study participants, thus likely adding a degree of error to the models, particularly for parents. That is, the parents group may include individuals with adult children, thus making them more closely resemble the non-parent group. Consequently, this pattern of error occurred in a

manner that likely makes our test of group differences more conservative than the true difference. Third, PTSD was not assessed specifically in relation to individuals' IPV perpetration or victimization. While this does not represent a limitation for assessing whether perpetration may heighten existing PTSD symptom severity, we are unable to assess whether perpetration itself may cause PTSD symptoms. Further methodological limitations of the study include the sample size potentially leading to insufficient power to address some of the research questions and the data having been collected among a rural to semi-rural sample such that results may not generalize to urban or treatment-seeking couples.

In conclusion, this study was designed to provide important theoretical consideration for the emotional consequences of IPV perpetration. Results from this study lacked adequate empirical evidence to either confirm or disconfirm this theory at the current time. Additional research is needed to inform the original theory proposed. However, the results of this study did suggest that parents and non-parents may experience unique guilt processes in relation to their perpetration of intimate partner violence, such that parents do not exhibit the expected elevations of guilt in association with greater IPV perpetration while non-parents do. While it is unclear why parents display muted guilt responses, I suggest that this may be due to accumulation of stress impacting their emotional and cognitive capacity to rationally assess the morality of their behavior. The emotional experiences among parents and non-parents related to IPV perpetration have not been studied to date. The findings presented herein warrant further theoretical and empirical development to understand these processes, as they may have important implications to inform future intervention efforts.

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## Appendix

**Table 1.** Descriptive Statistics and Intercorrelations Among Study Variables

Variable	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>	<i>n</i>	Range
1. IPV Perpetrated	-	.70**	.16	.12	.11	.09	.04	1.00	1.51	64	6.00
2. IPV Victimized	.70**	-	.18	.24	.10	.19	.19	0.73	1.46	64	6.00
3. PTSD severity	.28*	.14	-	.45**	.36**	.38**	.19	46.16	20.30	64	93.00
4. Overall guilt	.17	.15	.61**	-	.79**	.88**	.34*	144.44	19.27	54	86.73
5. State guilt	.07	.15	.42**	.85**	-	.74**	-.10	29.26	6.48	54	29.00
6. Trait guilt	.08	.10	.71**	.94**	.79**	-	-.09	63.72	12.73	54	52.00
7. Moral guilt	.30*	.12	.08	.41**	.06	.14	-	51.53	8.41	53	37.07
8. <i>M</i>	0.73	1.00	26.06	138.08	26.67	60.34	50.09	-			
9. <i>SD</i>	1.46	1.51	24.33	20.23	6.63	12.86	6.63		-		
10. <i>n</i>	64	64	64	48	48	48	48			-	
11. Range	6.00	6.00	102.00	75.00	24.00	51.00	24.00				-

*Notes:* Women's correlations and descriptive statistics presented above the diagonal; men's correlations and descriptive statistics presented below the diagonal. Correlations include log transformed IPV variables, while descriptive statistics include non-transformed IPV variables. Maximum possible scores were 136 for PTSD, 225 for overall guilt, 50 for state guilt, 100 for trait guilt, and 75 for moral guilt. For each of these scales, higher numbers reflect greater PTSD symptom severity or guilt. \*  $p < .05$ , \*\*  $p < .01$

**Table 2.** Multilevel regression models of IPV perpetration and parenting status on PTSD symptom severity and guilt.

Outcome variable	Predictor variable	B	SE	t
PTSD Severity	Intercept	35.90	1.94	18.53***
	Parenting status	-4.54	2.11	-2.15*
	IPV Perpetration	4.95	2.10	2.36*
	IPV Perpetration X Parenting status	-2.88	1.95	-1.48
Overall Guilt	Intercept	141.43	1.99	71.17***
	Parenting status	-1.67	2.18	-0.76
	IPV Perpetration	2.86	2.29	1.25
	IPV Perpetration X Parenting status	-4.92	2.20	-2.24*
State Guilt	Intercept	28.37	0.65	43.57***
	Parenting status	0.24	0.72	0.33
	IPV Perpetration	0.28	0.75	0.38
	IPV Perpetration X Parenting status	-2.00	0.72	-2.78**
Trait Guilt	Intercept	61.94	1.28	48.50***
	Parenting status	-1.66	1.40	-1.18
	IPV Perpetration	0.73	1.47	0.49
	IPV Perpetration X Parenting status	-3.19	1.41	-2.26*
Moral Guilt	Intercept	51.05	0.85	60.01***
	Parenting status	-0.08	0.90	-0.09
	IPV Perpetration	1.67	0.87	1.91
	IPV Perpetration X Parenting status	0.10	0.84	0.12

*Notes.* Participants' age and gender included as covariates in all models. Parenting status coded as non-parents = 1 and parents = 2. *B* = unstandardized coefficient. *SE* = standard error.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Table 3.** Multilevel regression models of IPV victimization and parenting status on PTSD

symptom severity and guilt

Outcome variable	Predictor variable	B	SE	t
PTSD Severity	Intercept	35.98	1.98	18.16***
	Parenting status	-4.60	2.16	-2.13*
	IPV Victimization	3.68	2.17	1.70
	IPV Victimization X Parenting status	-1.59	1.97	-0.81
Overall Guilt	Intercept	141.62	2.01	70.58***
	Parenting status	-1.58	2.21	-0.72
	IPV Victimization	3.76	2.27	1.65
	IPV Victimization X Parenting status	-2.23	2.15	-1.04
State Guilt	Intercept	28.44	0.66	42.88***
	Parenting status	0.26	0.73	0.36
	IPV Victimization	0.59	0.75	0.78
	IPV Victimization X Parenting status	-1.20	0.71	-1.69
Trait Guilt	Intercept	62.08	1.29	48.23***
	Parenting status	-1.64	1.42	-1.16
	IPV Victimization	1.56	1.46	1.07
	IPV Victimization X Parenting status	-1.91	1.38	-1.38
Moral Guilt	Intercept	51.06	0.85	60.12***
	Parenting status	-0.05	0.90	-0.06
	IPV Victimization	1.19	0.86	1.39
	IPV Victimization X Parenting status	1.09	0.81	1.35

*Notes.* Participants' age and gender included as covariates in all models. Parenting status coded as non-parents = 1 and parents = 2. *B* = unstandardized coefficient. *SE* = standard error.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .



**Figure 1.** Interaction graphs for parenting status and IPV perpetration significantly predicting total guilt (A), state guilt (B), and trait guilt (C).

