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ABSTRACT

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TRAUMA, POSTTRAUMATIC STRESS DISORDER SYMPTOMS, AND DISSOCIATIVE EXPERIENCES DURING INTIMATE PARTNER VIOLENCE PERPETRATION

Adam Douglas LaMotte, M.A., 2016

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Research with intimate partner violence (IPV) perpetrators has found that a subset of this population reports dissociative experiences during their violence (e.g., inability to remember violence [despite admission that it had occurred]; flashbacks during violence). However, to date, the literature examining this phenomenon has been primarily limited to clinical observations and case studies, and there is a need for more thorough empirical investigation regarding the prevalence and correlates of dissociative violence among individuals in IPV intervention programs. The large research base indicating a connection between trauma, posttraumatic stress disorder (PTSD) symptoms, and general dissociative experiences during IPV perpetration. The primary aims of this study were: (1) to provide descriptive information about the rates of endorsement of dissociative experiences during IPV perpetration, (2) to extend prior research on the validity of a questionnaire designed to assess dissociative IPV experiences via novel correlations with alcohol and drug use, (3) to examine bivariate associations between trauma exposure

history, the severity of PTSD symptoms, and dissociative IPV experiences, and (4) to test a mediation model in which PTSD symptom severity accounts for the association between trauma exposure history and dissociative IPV experiences. Participants were 302 men presenting for services at a community-based IPV intervention program. Results indicated that 22.2% of participants reported one or more dissociative experiences during partner violence perpetration. Dissociative IPV perpetration was not significantly correlated with alcohol use, but showed a significant positive correlation, in the small range of magnitude, with drug use frequency. Additionally, dissociative IPV perpetration showed significant positive correlations with the total number of trauma experiences reported and PTSD symptoms, with effect sizes in the small and medium ranges of magnitude, respectively. Finally, PTSD symptoms significantly mediated the relationship between total number of trauma experiences reported and dissociative IPV perpetration. Findings indicate a potentially meaningful relationship between trauma, PTSD symptoms, and dissociative experiences during IPV perpetration. Trauma, Posttraumatic Stress Disorder Symptoms, and Dissociative Experiences during

Intimate Partner Violence Perpetration

by

Adam Douglas LaMotte

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Introduction

Research with clinical samples of intimate partner violence (IPV) perpetrators has found that a subset of this population reports dissociative experiences during their violence (Cuartas, 2001; Dutton, Fehr, & McEwen, 1982; Simoneti, Scott, & Murphy, 2000). Dissociation, broadly defined by the *Diagnostic and Statistical Manual for Mental Disorders–Fifth Edition* (DSM–V; American Psychiatric Association [APA], 2013, p. 291), involves, "a disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior." Cardeña and Carlson (2011) more specifically indicate that dissociative symptoms are characterized by

(a) a loss of continuity in subjective experience with accompanying involuntary and unwanted intrusions into awareness and behavior [...], (b) an inability to access information or control mental functions or behaviors [...] that are normally amenable to such access/control [...], and/or (c) a sense of experiential disconnectedness that may include perceptual distortions about the self or the environment. (pp. 251-252)

Dissociative experiences during IPV perpetration may include depersonalization (e.g., seeing oneself from a distance during IPV episodes), derealization (e.g., aspects of the environment or situation seem unreal during IPV episodes), flashbacks of violent victimization, and amnesia for violent episodes. The primary goal of the current project is to better understand the connection between trauma, posttraumatic stress disorder (PTSD) symptoms, and dissociative experiences during IPV perpetration.

In an early paper describing this phenomenon, Dutton and colleagues (1982) reported from clinical observations that some partner-violent men remembered the events leading up to and following their violence, but were not able to remember the violence itself. This lack of memory persisted even after spending enough time in treatment for the shame and embarrassment of admitting to the violence to subside. These authors also reported that some men, during severe and potentially dissociative IPV episodes, were unresponsive to pleading from the victim and continued to the point of exhaustion. From this description, it is possible that dissociation interferes with information processing such that cues that normally prompt the perpetrator to end the violence fail to do so. Although Dutton and colleagues (1982) described this phenomenon through the lens of Zimbardo's (1969) model of deindividuated violence, several characteristics of their description, including lack of memory and unresponsiveness to external cues, are also consistent with the concept of dissociation.

Finley, Baker, Pugh, and Peterson (2010) described dissociative IPV in a qualitative study among combat veterans with PTSD and their intimate partners. One spouse reported that her husband had been pacing the house and muttering to himself before a violent incident. As she described:

I would catch him off guard and he'd start choking me. And then all of a sudden, just out of nowhere, you'd see him do this... [she mimed eyes opening wide and awareness dawning] Like he had just snapped back into reality. (Finley et al., 2010, p. 740) Although such accounts may represent very severe instances of dissociative experiences during IPV perpetration, clinical observations and qualitative research offer essential descriptive information about this construct.

Dissociation during IPV perpetration constitutes an issue of significant clinical concern for a number of reasons. Cuartas (2001) found that perpetrators reporting more dissociation during IPV also tended to be classified as more dangerous using a typology developed by Groetsch (1996) that considers aggression history, access to weapons, empathy and remorse, and the nature and duration of the abuse. As previously mentioned, dissociation during an IPV incident may make the perpetrator unresponsive to external cues that would otherwise prompt him to end the violence (Dutton et al., 1982). Additionally, it is likely that dissociative experiences, for the portion of IPV perpetrators who report them, represent a significant impediment to successful treatment. For example, some IPV intervention programs impart cognitive strategies that promote selfmonitoring during conflict situations (Murphy & Eckhardt, 2005), but perpetrators who dissociate during their violence may lack the cognitive control necessary to use these strategies. Despite its importance, the literature on this phenomenon has largely been limited to clinical observations and case studies (Dutton et al., 1982; Finley et al., 2010), and there is a need for more thorough empirical investigation regarding the prevalence and correlates of dissociative violence among individuals in IPV intervention programs.

A search of the literature revealed only three empirical studies that have directly assessed dissociative experiences during IPV perpetration. A dissertation by Cuartas (2001) examined both IPV-specific and general dissociative experiences in a sample of 46 male perpetrators in an IPV intervention program or a probation diversion program. Dissociative experiences during IPV were assessed via a 10-item self-report questionnaire developed for the study. Among this sample, approximately 35% endorsed infrequent dissociative experiences during IPV, while approximately 11% endorsed occasional or frequent dissociative experiences during IPV. Cuartas (2001) also found a strong association (r = .58) between general and IPV-specific dissociative experiences. This study provided relatively limited information otherwise, because the main focus was on predicting general dissociative experiences among this population.

A study by Simoneti and colleagues (2000) used a clinician interview to assess dissociative IPV experiences among a sample of 47 men in an IPV intervention program. They found that 33% of the sample endorsed at least one of the eight items, with 10% endorsing one or more items that represented unequivocally strange experiences during IPV episodes (i.e., blackouts not related to substance use, flashbacks of violent victimization, depersonalization, or derealization), and 4% reporting dissociative violence that was extensive and pervasive. Consistent with Cuartas (2001), Simoneti and colleagues (2000) found a large positive relationship (r = .54) between dissociative experiences during IPV and general dissociative experiences while controlling for impression management. Additionally, they compared differences in dissociative IPV experiences between those exposed and not exposed to three forms of childhood trauma (sexual abuse, physical abuse, and interparental abuse) while controlling for impression management. Of these three comparisons, only exposure to interparental abuse was significantly related to greater dissociative IPV experiences. However, statistical power was limited to detect these associations in light of the modest overall sample size.

Most recently, a Master's thesis by Mantakos (2008) assessed dissociation during

IPV episodes using the same self-report scale as the current project. This study found that perpetrators reporting instances of dissociative IPV also had histories of more severe acts of physical IPV and more partner injuries than did those not reporting instances of dissociative IPV. The primary focus of Mantakos's (2008) study was to examine the psychometric properties of the *Dissociative Partner Violence Scale*, and its findings will be discussed further in the Measures section.

Trauma exposure is a key variable to consider when investigating the nature of dissociative experiences during IPV perpetration. In the general dissociation literature, there is a large body of research indicating a connection between exposure to traumatic events and dissociative experiences. For example, peritraumatic dissociation (i.e., dissociation that occurs during or immediately following a traumatic event) may function to regulate exposure to distressing external cues of the traumatic event as it unfolds (Wagner & Linehan, 1998), and has been shown to predict subsequent posttraumatic stress symptomatology (Kumpula, Orcutt, Bardeen, & Varkovitzky, 2011). Numerous studies have also demonstrated a relationship between trauma exposure and dissociative experiences that occur after one has been removed from the traumatic situation (for a review, see Carlson, Dalenberg, & McDade-Montez, 2012). Researchers critically evaluating this literature have suggested that the relationship found between trauma and dissociation may be inflated, as dissociation is positively correlated with fantasy proneness and suggestibility, which may then lead to false reports of traumatic experiences, in particular recollections of childhood traumas (Giesbrecht, Lynn, Lilienfeld, & Merckelbach, 2008; Lynn et al., 2014). However, these researchers still acknowledge that trauma likely does play an etiological role in dissociative symptoms

(Lynn et al., 2014).

PTSD is a particular reaction to trauma that may help explain the connection between trauma and dissociative experiences. PTSD involves a range of symptoms, such as intrusive and distressing memories of the traumatic event, attempts to avoid reminders of the traumatic event, negative alterations in cognition and mood, and hypervigilance for threat cues in the environment (APA, 2013). Notably, the current diagnostic criteria for PTSD include two symptoms that are explicitly dissociative: "Dissociative reactions (e.g. flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring [...]," and "Inability to remember an important aspect of the traumatic events(s)" (APA, 2013, p. 271). In addition, the most recent update to the DSM (APA, 2013) includes a dissociative subtype of PTSD characterized by experiences of depersonalization and/or derealization.

In the review by Carlson and colleagues (2012), most studies comparing people with PTSD to trauma-exposed people without PTSD have found significantly greater dissociative experiences in the PTSD group. Thus, PTSD is linked to dissociation beyond its relationship with trauma exposure. Further indicating this connection, a study of psychiatric outpatients undergoing individual, psychopharmalogical, and/or group treatment at a trauma clinic found that changes in PTSD symptoms and dissociation co-occurred over the course of treatment (Lynch, Forman, Mendelsohn, & Herman, 2008). The exact nature of the connection between PTSD and dissociation is still an area of considerable debate. Flashbacks and intrusive memories in PTSD are often triggered by external stimuli and may result from a generalization of fear to cues loosely associated with the traumatic event (Ehlers, Hackmann, & Michael, 2004). Others (e.g., Holmes et

al., 2005) suggest that the dissociative experiences of depersonalization and derealization may represent regulatory strategies that are activated in response to threat and emotional arousal. Overall, research demonstrating a connection between PTSD symptoms and general dissociation signifies the importance of considering such symptoms when investigating the nature of IPV-specific dissociative experiences.

Additionally, research with men presenting to an IPV intervention program indicates that trauma exposure and PTSD symptoms are relevant constructs to consider among this population. For example, a study among a clinical sample of 295 IPV perpetrators found that 77% reported exposure to at least one traumatic event, 62% reported exposure to multiple traumatic events, 11% screened positive for a probable diagnosis of PTSD, and that PTSD symptoms were significantly associated with greater frequency of IPV perpetration (Semiatin, Torres, LaMotte, Portnoy, & Murphy, 2016). Similarly, among a sample of men in an IPV intervention program, Maguire and colleagues (2015) found that 94% reported exposure to at least one traumatic event and that PTSD symptoms were significantly associated with greater frequency of IPV perpetration. This research indicates that clinical samples of IPV perpetrators tend to report high rates of trauma exposure and PTSD symptoms that are associated with their use of violence. In combination with prior research on general dissociative experiences, these studies support the idea of examining trauma exposure and PTSD symptoms as they relate to dissociative IPV experiences among this population.

The overarching goal of the current project is to contribute to the limited literature on dissociative experiences during IPV perpetration through empirical examination of this construct among a sample of men enrolled in an IPV intervention program. Specifically, I have four central aims: (1) to provide descriptive information about the rates of endorsement of dissociative experiences during IPV perpetration, (2) to extend prior research on the validity of the questionnaire used to assess dissociative IPV experiences (Mantakos, 2008) via novel correlations with alcohol and drug use, (3) to examine bivariate associations between trauma exposure history, the severity of PTSD symptoms, and dissociative IPV experiences, and (4) to test a mediation model in which PTSD symptom severity accounts for the association between trauma exposure history and dissociative IPV experiences.

For Aim 1, I hypothesize that roughly one-third of the sample will report one or more dissociative experiences during IPV perpetration, with a smaller percentage reporting higher levels indicative of a more severe clinical problem. This hypothesis is consistent with the findings of Cuartas (2001) and Simoneti and colleagues (2000). For Aim 2, I will examine correlations between dissociative IPV experiences and alcohol and drug use. If the measure of dissociative IPV experiences were valid, one would expect non-significant, negative, or small positive correlations with alcohol and drug use (indicating that blackouts and other dissociative violence experiences are not merely a result of heavy alcohol or drug use). For Aim 3, it is expected that trauma history and PTSD symptoms will be significantly positively correlated with dissociative IPV experiences at the bivariate level. For Aim 4, it is expected that PTSD symptoms will significantly mediate the association between trauma exposure and dissociative IPV experiences.

Method

Participants and Procedure

The current study uses archival data. All participants for the study were drawn from a pool of men presenting for services at a suburban community-based IPV intervention program in the Baltimore-Washington, D.C., area between 2004 and 2008. Data collection occurred during the intake process of the intervention program, and consisted of written questionnaires and interviews conducted by trained graduate student clinicians. Of the 361 men who completed the intake process, 34 (9.4%) did not consent to have their routine assessment and treatment data used for research or evaluation. An additional 25 men (6.9%) did not complete the *Dissociative Partner Violence Scale*, which was the primary measure of interest for the study. Thus, the final sample included 302 participants.

The average age of the sample was 35.96 years (SD = 10.98, range = 18 to 72). Participants had completed an average of 13.2 (SD = 2.59, range = 4 to 20) years of formal education. The majority of participants (68.8%) were employed full time, while 4.7% were employed part time, 18.3% were unemployed, and 8.1% reported other employment situations (e.g., homemaker, retired). With regard to race/ethnicity, 47.3%identified as African American, 40.0% as non-Hispanic Caucasian, 5.7% as Hispanic, 3.7% as Asian American, 1.3% as Native American, and 2.0% as "other." Most participants (77.5%) were mandated to attend treatment as an outcome of a partner abuserelated court case, 10.4% had a partner abuse-related court case pending at the time of intake, and 12.1% had no partner abuse-related court involvement at the time of intake.

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Measures

Dissociative experiences during IPV perpetration. Dissociative experiences during IPV perpetration were assessed in the current study using the 8-item *Dissociative* Partner Violence Scale (DPVS). This measure was adapted from the severe items of the Dissociative Violence Interview (DVI; Simoneti et al., 2000) to be administered as a selfreport questionnaire. Given its central importance to the current project, the full measure is presented in Appendix A. Participants are asked to report the number of times they have had each experience while being physically aggressive with a relationship partner over the span of their life. Sample items include "You were told that you were violent with a partner but don't remember this happening," and "You felt that you could see yourself from a distance aggressing against this individual." Response options are consistent with those of the *Revised Conflict Tactics Scales* (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996): never, once, twice, 3 to 5 times, 6 to 10 times, 11 to 20 times, and more than 20 times. Responses are recoded to reflect the estimated frequency of each experience by assigning the midpoints of the response categories (e.g., 3 to 5 times received a score of 4 and 11 to 20 times received a score of 15), with a response of more than 20 recoded as 25 (Straus et al., 1996).

Simoneti and colleagues (2000) found the original version of this measure (the DVI) to have adequate internal consistency (Cronbach's alpha = .76), although it was administered as a clinician interview and had different response options than the DPVS. Additionally, they found a significant correlation between dissociative IPV experiences and general dissociative experiences (r = .54; Simoneti et al., 2000). Cuartas (2001) developed a similar self-report scale for dissociation during IPV perpetration called the

Dissociative Experiences During Aggression Scale (DEDA), and found that the measure had a one-week test-retest reliability of r = .80 among 16 male perpetrators in an IPV intervention program.

A previous Master's thesis by Mantakos (2008) examined the psychometric properties of the DPVS. This thesis found the scale to show acceptable internal consistency (Cronbach's alpha = .78), and Confirmatory Factor Analysis supported a 1factor model. The convergent validity of the DPVS was assessed via a correlation with the Dissociative Experiences Scale, a measure of general dissociation (r = .41). The discriminant validity of the DPVS was assessed via correlations with indicators of response bias from the Millon Clinical Multiaxial Inventory, Third Edition (MCMI-III; Millon, Davis, & Millon, 1997) and the Personality Assessment Inventory (Morey, 1991). Of six correlations run, only a correlation between positive impression management and the DPVS (r = .19) was significant. Additionally, Mantakos (2008) examined responses from follow-up interviews with 31 partner-violent men who endorsed one or more item on the DPVS. This follow-up interview data yielded 17 instances of dissociation during IPV that appeared valid, and 27 apparent false positives.

While this qualitative finding is concerning, some caveats should be noted in its interpretation. Some of the clients' denials of dissociative violence after positive endorsements on the DPVS may have resulted from the demand characteristics of the interview that were not present when filling out the questionnaire. This risk may have been especially pronounced if respondents felt that the validity of their reports was being questioned or deemed not credible by the interviewer. Some of the interviewers appeared to use a tone that may have appeared inadvertently confrontational, and thus may have

invoked a defensive response or denial of the report (Mantakos, 2008). Additionally, as this is not a commonly used method of scale validation, the extent to which clients may deny their endorsement of items on other traditionally validated scales assessing unusual or socially undesirable behaviors and experiences remains unclear. Despite the challenges of assessing dissociative IPV among this population, Mantakos's (2008) quantitative findings, including a significant medium-sized correlation with general dissociation, suggest that this measure captures valid incidents of dissociation during IPV episodes, albeit with some measure error. Cronbach's alpha for the DPVS in the current sample was .81. Aim 2 of the current project is to contribute quantitative findings on the validity of the DPVS by examining its associations with alcohol and drug use.

Substance Use. Three items from the *Alcohol Use Disorders Identification Test* (AUDIT; Saunders, Aasland, Babor, De la Fuente, & Grant, 1993) were used to examine the quantity and frequency of alcohol use. The first item is "How often do you have a drink containing alcohol?" The response options for this item are *never*, *monthly or less*, *two to four times a month, two to three times a week*, and *four or more times a week*. The second item is "How many drinks containing alcohol do you have on a typical day when you are drinking?" The response options for this item are *zero*, *one or two*, *three or four*, *five or six*, *seven to nine*, and *ten or more*. The third item is "How often do you have six or more drinks on one occasion?" The response options for this item are *never*, *less than monthly*, *monthly*, *weekly*, and *daily or almost every day*. Prior research supports the validity of the total AUDIT score for detecting hazardous alcohol use (Saunders et al., 1993). However, the current study only utilized AUDIT items focused on the quantity

and frequency of alcohol use and binge drinking because they are the most relevant to blackouts and other dissociative IPV experiences that may be endorsed on the DPVS.

Additionally, the frequency of illicit drug use over the past 6 months was assessed via structured interview. Five drug categories were assessed: 1) cannabis, 2) stimulants, 3) cocaine, 4) sedatives/hypnotics/tranquilizers, and 5) opioids. Participant responses were recorded on an 8-point scale with the following anchors: *Never, 1 to 3 times, 4 to 10 times, about once a month, several times a month, 1 to 2 days a week, 3 to 5 days a week,* and *everyday or nearly everyday*. A 6-month estimate of illicit drug use days is computed by recoding the categorical responses (e.g., "monthly" is recoded as 6 use days, and "several times a month" as 18 use days), and summing across drug categories.

Trauma exposure. An adapted version of the *Traumatic Events Questionnaire* (TEQ; Vrana & Lauterbach, 1994) was used to assess exposure to traumatic events. Participants indicate whether or not they have experienced 10 different categories of traumatic events, including natural disasters, violent crime victimization, childhood physical or sexual abuse, and witnessing the death or serious injury of others. The tenth item asks participants whether they have experienced any other traumatic events similar to those previously asked. To diminish the possibility of false negatives, the phrase "unwanted sexual experiences that involved the threat or use of force" was used instead of the term "rape" (Kilpatrick et al., 1989). In addition to the presence or absence of each trauma category, participants indicated how many times each event had taken place (*once, twice*, or *three or more times*), and rated their level of injury, life threat, and how traumatic each event seemed at the time of the event and currently on a scale from 1 (*not at all*) to 7 (*severely*). Due to the lack of a single accepted scoring method for this

measure, three scoring methods were employed: 1) Total number of traumatic events experienced,¹ 2) Number of categories of traumatic events experienced, and 3) Perceived severity of the trauma at the time of the trauma. These scoring methods were highly correlated with one another (*r*'s ranging from .80 to .92). For efficiency, the primary scoring method used in the Results section is the total number of traumatic events experienced. This is in light of evidence of the cumulative effect of trauma exposure on PTSD symptoms (Green et al., 2000; Ogle, Rubin, & Siegler, 2014; Schnurr, Spiro, Vielhauer, Findler, & Hamblen, 2002; Suliman et al., 2009). However, any substantial differences in the findings (i.e., differences in statistical significance) are noted in footnotes, and the full results using these alternative scoring methods are presented in Appendix B.

Reliability and validity of the TEQ have been demonstrated in past research. Lauterbach and Vrana (1996) found high two-week test-retest reliability estimates among a sample of 51 students. Specifically, they found strong correlations for overall number of traumas reported (r = .91) and for specific traumatic events (ranging from r = .72 for life-threatening situations to r = 1.0 for child abuse). Supporting its validity, Vrana and Lauterbach (1994) found that college students who reported exposure to one or more traumatic event on the TEQ showed significantly higher depression, anxiety, and PTSD scores than did college students who reported no trauma exposure. Additionally, the

¹ For two items that did not ask participants to report the number of times the trauma had occurred (i.e., physical or sexual abuse as a child, physical or other abuse experienced in an adult relationship), ages when the event began and ended were used to create an estimated frequency score on the same scale as the other items. Specifically, if there was 0 years difference between the event's beginning and end, this was recoded as *once*, if there was a 1 year difference between the event's beginning and end, this was recoded as *twice*, and if there was a 2 or more year difference between the event's beginning and end, this was recoded as *twice*, and if there was a 2 or more year difference between the event's beginning and end, this was recoded as *twice*.

number of traumas experienced and its interaction with participant gender predicted 15% of the variance in participants' scores on the *Impact of Event Scale*, a common measure of posttraumatic distress (Horowitz, Wilner, & Alvarez, 1979). A subsequent study among college students found that the number and intensity of traumatic events on the TEQ accounted for 31% of the variance in PTSD symptom severity (Lauterbach & Vrana, 2001). While designed as a written questionnaire, the TEQ was administered in this study via clinician interview. Lipschitz and colleagues (1996) reported high levels (kappa = .83) of agreement between traumatic event endorsement on the TEQ assessed via written questionnaire and face-to-face interview.

PTSD symptoms. The *PTSD Symptom Checklist – Civilian Version* (PCL-C; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) is a 17-item self-report questionnaire that was used to assess the symptoms of posttraumatic stress disorder (PTSD) as described in the DSM-IV-TR (APA, 2000). The PCL-C was administered as a written questionnaire. Participants indicate the degree to which they have been bothered by each symptom over the past month on a Likert scale from 1 (*not at all*) to 5 (*extremely*). Item scores are then summed to create a total PTSD symptom severity score. Example items include "avoiding situations or activities because they reminded you of a stressful experience" and "feeling jumpy or easily startled."

Past research has found the PCL-C to have strong psychometric properties (Wilkins, Lang, & Norman, 2011). For example, a study among a non-clinical sample found the measure to demonstrate adequate one-week test-retest reliability (r = .88 for computer based administration and r = .75 for mixed computer and paper based administration; Campbell et al., 1999). The measure has also been shown to correlate

highly (r = .79) with the Clinician Administered PTSD Scale (CAPS; Blake et al., 1990), supporting its convergent validity (Keen, Kutter, Niles, & Krinsley, 2008). Additionally, studies among clinical populations (e.g., Cusack, Grubaugh, Knapp, & Frueh, 2006; Harrington & Newman, 2007) have found high internal consistency, with Cronbach's alpha values above .90.

Notably, a prior study of veterans and active duty military members enrolled in an IPV intervention program used a version of the PCL and reported a Guttman split-half reliability of 0.95 (Gerlock, 2004). Another prior study used the PCL-C in a non-military sample of men presenting to an IPV intervention program (Rosenbaum & Leisring, 2003), but this study did not report any psychometric properties of the measure. A common concern with administering the PCL-C is that it may capture general psychological distress in the absence of trauma exposure (Shapinsky, Rapport, Henderson, & Axelrod, 2005; Wilkins et al., 2011). Research indicating high rates of trauma exposure among men in treatment for IPV perpetration (Hoyt, Wray, Wiggins, Gerstle & Maclean, 2012; Maguire et al., 2015; Semiatin et al., 2016) suggests that the use of this measure is appropriate for this population. Cronbach's alpha for the total symptom severity score in this sample is .94.

In order to ensure that any relationships found with dissociative IPV perpetration are not simply due to overlap with dissociative symptoms of PTSD, I also calculated a total PTSD symptom severity score excluding the two items that have clear dissociative elements ("Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)" and "Trouble remembering important parts of a stressful experience"). This alternative scoring method was highly correlated (r = .99) with the original scoring method using all items. Thus, the Results section employs the original scoring method, any substantial differences are noted in footnotes, and full results using the alternative scoring method are presented in Appendix B.

Data Analyses

First, descriptive statistics for the DPVS were examined. Specifically, I calculated the mean, standard deviation, and rate of endorsement (i.e., the percentage of the sample reporting one or more occurrence) for each DPVS item as well as the DPVS total score. Next, I calculated descriptive statistics for all study variables. Two variables (i.e., DPVS total score and drug use frequency) showed substantial deviation from normality (operationalized as skew greater than 2.0 and/or kurtosis greater than 7.0; West, Finch & Curran, 1995), and so I log-transformed these variables prior to running hypothesis tests. The log-transformed DPVS total score remained slightly above cutoff values for skew and kurtosis (skew was 2.6, kurtosis was 7.6). As a result, the findings of any Pearson correlations with this variable were verified using Spearman's rho correlations, which do not assume normality, and any differences in statistical significance are noted in footnotes.

To add to research on the validity of the DPVS, Pearson product-moment correlations were conducted between dissociative IPV perpetration, alcohol use, and drug use. Next, Pearson product-moment correlations were conducted between dissociative IPV perpetration, the total number of trauma experiences reported, and PTSD symptoms. Finally, a mediation model was conducted with trauma exposure as the independent variable, dissociative experiences during IPV as the outcome variable, and PTSD symptoms as the mediator variable. The significance of indirect effects was tested via bootstrap analysis of the sampling distribution, and bias-corrected 95% confidence intervals were calculated using 5,000 bootstrap samples. This approach is preferable to the causal steps approach by Baron and Kenny (1986), which does not directly test the significance of indirect effects, and is also preferable to the Sobel test, which may incorrectly assume normality of the sampling distribution of the indirect effect. Mediation analyses were based on standardized variables because the log-transformed dissociative IPV variable did not facilitate intuitive interpretation. I provided P_M as an index of effect size of the mediated effect. This index represents the ratio of the indirect effect to the total effect, and is recommended by Wen and Fan (2015) in cases when the indirect and direct effects are in the same direction. Due to the skew and kurtosis of the DPVS total score, mediation findings were verified by running the mediation models again after rank order transformation of all variables, and any differences in the statistical significance of the indirect effect are noted in footnotes.

Results

Rates of Endorsement for Dissociative IPV Perpetration and Other Descriptive Statistics

Table 1 presents rates of endorsement (i.e., the percentage of the sample reporting one or more occurrence) of each item on the DPVS, as well as item means and standard deviations. Rates of endorsement for each item were below 10%, and the most commonly reported item was "You were told that you were violent with a partner, but don't remember this happening" (9.6%).

When examining the DPVS total score, 67 participants (22.2%) reported at least one dissociative experience during IPV perpetration. Of these 67, 19 (28.4%) reported only a single instance, 29 (43.3%) reported between 2 and 5 instances, and 19 (28.4%) reported greater than 5 instances. Descriptive statistics on all primary study variables are presented in Table 2.

Bivariate Correlations between Alcohol Use, Drug Use, and Dissociative IPV Perpetration

Bivariate correlations between dissociative IPV perpetration, alcohol use, and drug use are displayed in Table 3. As expected, dissociative IPV perpetration was not significantly correlated with drinking frequency, typical drinking amount, and binge drinking frequency. Dissociative IPV perpetration was significantly and positively associated with drug use frequency, although, as expected, this association was in the small range of magnitude.

Bivariate Correlations between Trauma Experiences, PTSD Symptoms, and Dissociative IPV Perpetration

At the bivariate level, the total number of trauma experiences reported was significantly and positively associated with PTSD symptoms (r = .31, p < .001) and dissociative experiences during IPV perpetration (r = .13, p = .024),² with medium and small effect sizes, respectively. Additionally, PTSD symptoms were significantly and positively associated with dissociative experiences during IPV perpetration (r = .34, p < .001), with a medium effect size.

Mediation Model

Next, a mediation model was run with total number of trauma experiences as the independent variable, dissociative experiences during IPV perpetration as the outcome variable, and PTSD symptoms as the mediator variable. Results of the mediation are depicted in Figure 1. The overall model was significant, $R^2 = .12$, F(2, 277) = 18.08, p < .001. Total number of trauma experiences significantly predicted PTSD symptoms, $\beta = .31$, $SE = .06 \ p < .001$, and PTSD symptoms significantly predicted dissociative IPV perpetration when controlling for trauma experiences, $\beta = .31$, $SE = .06 \ p < .001$. The direct effect of trauma experiences on dissociative IPV perpetration was not significant, $\beta = .04$, $SE = .06 \ p = .527$, while the indirect effect through PTSD symptoms was significant, $\beta = .10$, SE = .03, 95% CIs [.0425 to .1787], $P_M = .73$. As presented in Appendix B, Figure 2 through Figure 6, the significance of this indirect effect did not change based on the scoring method of the TEQ or the PCL-C. Additionally, the

² Another scoring method for the TEQ, perceived severity of the trauma at the time of the trauma, was not significantly associated with dissociative IPV perpetration using a Pearson correlation (r = .11, p = .061). However, it was significantly correlated with dissociative IPV perpetration using a Spearman's rho correlation (r = .14, p = .022).

significance of the indirect effect did not change as a result of conducting the mediation analyses with variables that had undergone rank order transformation.

Discussion

Summary and Interpretation of Findings

Findings of this project contribute to the limited empirical literature on dissociative experiences during IPV perpetration. First, results indicated that approximately 22% of this sample reported at least one instance of dissociative IPV perpetration. This is somewhat lower than the rates of endorsement among two prior empirical studies, one using a self-report questionnaire (46%; Cuartas, 2001), and one using an interview format (33%; Simoneti et al., 2000). It is not fully clear why the rate in the current study is lower, although it is notable that both prior studies had relatively small sample sizes (n = 46; Cuartas, 2001; n = 47; Simoneti et al., 2000), which produces high sampling error in estimating prevalence of dissociative violence. Additionally, some differences in the nature of the samples may help explain the different rates found. For example, the current study was conducted in a suburban setting, whereas Simoneti and colleagues' (2000) study was conducted in an urban setting among a sample characterized by more economic stress and potentially higher trauma/PTSD symptoms. However, 22% still represents a substantial number of people presenting for services at an IPV intervention program. Even if only half of the reports on this measure were genuine in this study, this would mean that one in ten men presenting to the program have dissociative experiences during IPV perpetration. It is also concerning that the majority of people who endorsed any dissociative IPV perpetration (71.6%) reported more than one instance, suggesting that, for many, this may be an enduring characteristic of their violence.

When examining rates of endorsement for individual items, the most commonly endorsed item in this study was "You were told that you were violent with a partner, but don't remember this happening." This is consistent with Simoneti and colleagues' (2000) study in which this item was among the most commonly endorsed items. Amnesia for violent episodes has been the focus of much of the attention on this phenomenon (Dutton et al., 1982; Finley et al., 2010; Swihart, Yuille, & Porter, 1999), and thus far appears to be the most frequently reported aspect of this phenomenon by men presenting to IPV intervention programs. Given its relative frequency of endorsement, IPV interventions that are interested in assessing dissociative IPV perpetration but have limited time to devote to this may consider including this item. Amnesia for violent episodes also holds particular clinical relevance in a setting where taking responsibility for the behavior is an important early step towards changing it. For example, clients who endorse this item may be either minimizing their role in the abuse or may feel helpless to stop this behavior because they believe that they have no control over it. This assessment could then prompt a clinically meaningful discussion between the counselor and client that may include: 1) examining the part of the narrative leading up to the violence that the client does remember and identifying places where the client had the opportunity to change the course of events (e.g., by removing himself from the situation), 2) investigating proximal factors that may have contributed to the violence and the client's lack of memory for the events (e.g., cessation of needed medication, lack of sleep the previous night), and 3) creating a plan for future difficult situations that incorporate this information.

The second aim of this study was to add to prior research on the validity of the DPVS (Mantakos, 2008) via novel correlations with alcohol and drug use. Results

indicated that dissociative experiences during IPV perpetration were not associated with drinking frequency, typical drinking amount, and binge drinking frequency, but did show a small significant correlation with drug use frequency. In general, these findings support the validity of the questionnaire by showing that it is not simply individuals with high alcohol and drug use who report these unusual experiences during IPV perpetration. This does not completely preclude the possibility that the dissociative IPV perpetration occurred in the context of alcohol or drugs, but this seems less likely than if large, positive correlations were found between these variables. To further support the idea that dissociative experiences occur during IPV perpetration independent of substance use, it would be helpful for future research to analyze information from in-depth interviews about these experiences. Determining the potential role of substance use in dissociative IPV perpetration may prove complicated. For example, it is not enough to determine whether any alcohol use occurred before these experiences, because one or two drinks would not be expected to produce memory loss or other dissociative experiences. Similarly, contextual information about the drug use (e.g., dose, normal effects of that type of drug) should be considered before determining that one's dissociative IPV experiences are completely explained by drug use.

The primary aim of the study was to investigate the relationships between trauma exposure, PTSD symptoms, and dissociative experiences during IPV perpetration. Overall, hypotheses were supported. Findings indicated that dissociative IPV perpetration showed a small positive association with trauma exposure and a medium positive association with PTSD symptoms. Additionally, PTSD symptoms significantly mediated the relationship between trauma exposure and dissociative IPV perpetration.

Furthermore, the link between PTSD symptoms and dissociative IPV perpetration remained even when removing the items from the PCL-C that had dissociative content, suggesting that this relationship is not explained by construct overlap.

The connection between trauma exposure and dissociative IPV perpetration in this study was consistent with the only previous study to examine this relationship. Simoneti and colleagues (2000) created groups based on exposure to three specific childhood traumas (sexual abuse, physical abuse, and interparental abuse), and examined mean differences between groups in frequency of dissociative IPV experiences. When converting these associations to r-values for comparison, the average correlation between the variables was .17, similar to the correlation of .13 found in this study. This finding is also consistent with a large research base demonstrating a connection between trauma exposure and general dissociative experiences (Carlson et al., 2012). In contrast to trauma exposure, PTSD symptoms accounted for approximately 12% of the variance in dissociative IPV perpetration. This relationship has not previously been investigated, but is smaller than associations found between PTSD symptoms and general dissociative experiences (average of r = .71 across studies reviewed by Carlson et al., 2012). This is to be expected, as the current study assessed dissociative experiences that occur within a particular and limited context.

The relationship between PTSD symptoms and dissociative IPV perpetration prompts the question of how these variables may be related. While PTSD is most commonly conceptualized as a fear-based disorder, some researchers have argued that it can also be thought of as a disorder of dysregulated attention, with some symptoms reflecting over-attention to threat cues (i.e., hypervigilance) and others reflecting inattentiveness (e.g., problems with concentration and avoidance of distressing memories, thoughts, or feelings about the traumatic event; Vasterling & Verfaellie, 2009). In studies with combat veterans, the hyperarousal symptoms of PTSD, in contrast to the other symptom clusters, have been most strongly linked to IPV perpetration (King & King, 2004; Taft et al., 2009; Taft et al., 2015). The explanation for this finding is based on the idea that hypervigilence to potential threat cues causes people to experience strong negative emotions across a wide range of situations, increasing the likelihood of escalating conflict and aggressive reactions in these situations (Chemtob, Novaco, Hamada, Gross, & Smith, 1997; Constans, 2005).

In addition to overactive threat perception, people with PTSD tend to experience alexithymia, or difficulty in identifying and labeling one's emotions (Frewen, Dozois, Neufeld, & Lanius, 2008). These may, in part, be explained by mechanisms designed to reduce or avoid strong negative emotions. The phenomenon of dissociation is also characterized by a breakdown in the ability to properly attend to and process ongoing internal and external stimuli as a situation unfolds. Thus, one hypothesis is that trauma causes a person to develop coping strategies that involve attentional avoidance of strong negative emotions and the environmental cues that trigger them, and these strategies then may result in depersonalization, derealization, amnesia, and/or other dissociative experiences during fights with an intimate partner. This hypothesis is consistent with the idea that IPV tends to occur in the context of real or perceived insults, jealousy, and other strong negative emotions (Babcock, Costa, Green, & Eckhardt, 2004; Langhinrichsen-Rohling, McCullars, & Misra, 2012).

Limitations

Findings of this project should be considered in light of its limitations. The DPVS may have obtained some false positive reports of dissociative IPV perpetration (Mantakos, 2008), and an interview format for these questions may be most appropriate to ensure that all participants are interpreting the items correctly. However, the fact that we obtained lower rates of dissociative IPV perpetration than a previous study using an interview format (Simoneti et al., 2000) suggests that we did not find a questionably large number of participants reporting these behaviors. Additionally, all variables were assessed via either self-report questionnaire or interview, and so some of the associations found may be partially accounted for by common method variance. Alternatively, if response biases influence the reporting of different constructs in different ways (e.g., make one more likely to report dissociative IPV perpetration and less likely to report alcohol use), this may diminish the strength of some associations. Another measurement limitation in this project is the lack of assessment of temporal precedence, which precludes strong conclusions regarding a causal relationship between the variables. Although the mediation model appears to represent the most logical arrangement of the variables, alternative hypotheses should be considered. For example, a person's dissociative IPV perpetration could cause them to spend time in jail, where a traumatic event occurs that then causes or exacerbates PTSD symptoms.

Another important limitation is the small effect size found for the relationship between trauma exposure and dissociative IPV perpetration. This is consistent with the findings of Simoneti and colleagues (2000), but raises the question of why trauma exposure does not show a larger relationship with this phenomenon. While many of the events reported by participants may not have been experienced as very distressing, this relationship was even smaller when scoring the measure based on the perceived severity of the trauma (see Appendix B, Table 5). It is notable that the trauma variables in this study had only moderate correlations with current PTSD symptoms (with *r*-values of .31 and .32), serving as a reminder that even variables that are etiologically linked are not always strongly associated. The experience of PTSD symptoms is multi-determined, with factors including underlying vulnerabilities and the availability of social support post-trauma (Ozer, Best, Lipsey, & Weiss, 2003). The experience and reporting of dissociative IPV perpetration is likely similarly multi-determined, with possible factors including measurement error and variation in exposure to situations that tend to induce strong negative emotions.

General Conclusions and Directions for Future Research

Overall, the findings are consistent with the idea that trauma and PTSD symptoms are involved in dissociative experiences during IPV perpetration. The exact nature of this relationship needs further explication, and a number of additional research questions remain. One important question is whether individuals who report dissociative IPV experiences show any different pattern of progress over the course of their time in an IPV intervention program. On the one hand, disorganized attention and memory may interfere with learning and generalization of skills from the program. Alternatively, people with these experiences may show greater motivation to learn these skills because feeling a lack of control distresses them. Another important direction for future research is to learn more about the contexts in which dissociative violence occurs. For example, if people report these experiences during some instances of IPV perpetration and not others, what may be different about these instances? It would also be useful to determine whether or not these experiences tend to occur in the context of particular emotions. For instance, some researchers have highlighted that people show amnesia for violence committed during extreme rage, calling these episodes "red-outs" (Swihart et al., 1999).

To address many of these research questions, more in-depth qualitative research is needed to help develop more refined models and hypotheses. Interviews with people reporting these experiences may answer some questions (e.g., what is the range of emotions that people report shortly before dissociative violence?) and generate other questions. For the question of whether the experiential avoidance component of PTSD symptoms helps explain dissociative experiences during IPV perpetration, empirical studies could test participants' attention, memory, and emotional responses to potentially distressing stimuli. If disengagement with the distressing stimuli mediates the relationship between PTSD symptoms and dissociative IPV perpetration, and if these dissociative experiences tend to occur in situations with strong negative emotions, this would support the hypothesis that these dissociative experiences are a strategy to reduce distress.

An important concern about studying dissociative experiences during IPV perpetration is that doing so will take responsibility for the behavior away from the perpetrator. It is imperative to make clear that these experiences do not and should not take away accountability, and that accepting responsibility is a necessary early step toward changing the behavior. The goal of this line of research is to better understand the barriers to remaining non-violent that some people experience, with the aim of working around and overcoming these barriers. The current study offers some preliminary findings on the phenomenon of dissociative experiences during IPV perpetration. Hopefully, research on this topic will continue to develop in order to better inform intervention efforts for people who report these experiences.

Table 1.

Rates of Endorsement and Means for Dissociative IPV Perpetration

Variable	M(SD)	(% Endorsed)
Item 1. You felt as if someone else was being physically aggressive with your partner and not you.	0.16 (0.66)	7.3
Item 2. You felt as if the other person was not real.	0.06 (0.38)	3.6
Item 3. You felt that you could see yourself from a distance aggressing against this individual.	0.12 (0.50)	6.6
Item 4. You felt as if you were not real	0.09 (0.61)	3.0
Item 5. You were accused of being violent with your partner in ways you have only seen in a dream	0.10 (0.59)	4.6
Item 6. You were told that you were violent with a partner, but don't remember this happening.	0.15 (0.59)	9.6
Item 7. You had blackouts during violent episodes with your partner, not caused by your drinking or drug use	0.06 (0.42)	4.0
Item 8. You had flashbacks of violence that you experienced in the past while being physically aggressive with a partner	0.14 (0.71)	5.6
DPVS Total ^{<i>a.</i>}	1.62 (8.43)	22.2

Note. % Endorsed is the percentage of the total sample (N = 302) that reported one or more

instance on each item or the total scale. Abbreviations: DPVS, Dissociative Partner

Violence Scale.

^{*a.*} Although these variables were log-transformed for subsequent analyses, the means and

standard deviations presented here are of the original scale to facilitate interpretation.

Table 2.

Descriptive Statistics for Primary Study Variables

Item	п	M(SD)	Range
DPVS Total ^{<i>a.</i>}	302	1.62 (8.43)	0-127
AUDIT Item 1: How often do you have a drink containing alcohol?	299	1.59 (1.24)	0-4
AUDIT Item 2. How many drinks containing alcohol do you have on a typical day when you are drinking?	298	1.18 (1.16)	0-5
AUDIT Item 3. How often do you have six or more drinks on one occasion?	298	0.78 (1.09)	0-4
Drug Use Frequency ^{a.}	299	18.83 (57.46)	0-367
TEQ: Total Number Traumatic Events Experienced	283	3.79 (4.04)	0-22
PCL-C Total	280	28.06 (12.61)	17-77

Note. Abbreviations: DPVS, Dissociative Partner Violence Scale; AUDIT, Alcohol Use Disorders Identification Test; TEQ, Traumatic Events Questionnaire; PCL-C, PTSD Symptom Checklist – Civilian Version.

^{*a.*} Although these variables were log-transformed for subsequent analyses, the means and standard deviations presented here are of the original scale to facilitate interpretation.

Table 3.

Bivariate Correlations between Alcohol Use, Drug Use, and Dissociative IPV

Perpetration

Variable	1.	2.	3.	4.	5.
1. DPVS Total ^{<i>a</i>.}					
2. AUDIT Item 1: Drinking Frequency	06				
3. AUDIT Item 2: Typical Drinking Amount	07	.53***			
4. AUDIT Item 3: Binge Drinking Frequency	.05	.56***	.67***		
5. Drug Use Frequency ^{a.}	.18**	.15**	.12*	.17**	

Note. Abbreviations: Abbreviations: DPVS, Dissociative Partner Violence Scale; AUDIT,

Alcohol Use Disorders Identification Test.

p* <.05. *p* <.01. ****p* <.001.

^{*a.*} Variables were log-transformed to reduce skewness/kurtosis.

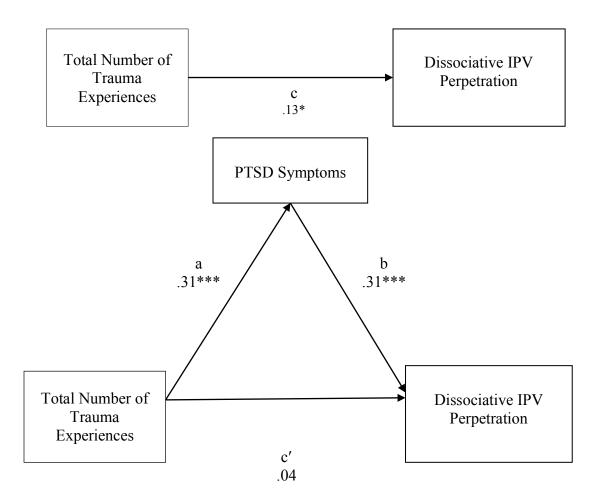


Figure 1. PTSD symptoms as a mediator between total number of trauma experiences and dissociative IPV perpetration. The indirect effect is significant with $\beta = .10, 95\%$ CI [.0425 to .1787], $P_M = .73$. Dissociative IPV perpetration was log-transformed prior to running analyses. All coefficients presented are standardized.

*p < .05. **p < .01. ***p < .001.

Appendix A

Dissociative Partner Violence Scale

How often have any of the following happened over the span of your life, while you were being physically aggressive with a partner: (Please circle a number using the scale below)

 (5) 11-20 times (6) More than 20 times (0) This has never happened 	ed Once	Twice	3-5	6-10	11-20	20+	Never
1. You felt as if someone else was being physically aggressive with your partner at not you.	1 nd	2	3	4	5	6	0
2. You felt as if the other person was not real.	1	2	3	4	5	6	0
3. You felt that you could see yourself from a distance aggressing against this individu		2	3	4	5	6	0
4. You felt as if you were not real.	1	2	3	4	5	6	0
5. You were accused of being violent with your partner in ways you have only seen if dream.		2	3	4	5	6	0
6. You were told that you were violent wi a partner, but don't remember this happening.	th 1	2	3	4	5	6	0
7. You had blackouts during violent episodes with your partner, not caused by your drinking or drug use.	1	2	3	4	5	6	0
8. You had flashbacks of violence that yo experienced in the past while you were being physically aggressive with a partne (By "flashbacks," we mean any memories thoughts, usually vivid images, that migh	r. S or	2	3	4	5	6	0

come into your head quickly).

(1)

(2)

(3)

(4)

Once

Twice 3-5 times

6-10 times

Appendix B

Tables and Figures for Analyses Using TEQ and PCL-C Alternative Scoring Methods

Table 4.

Descriptive Statistics for Alternative Scoring of Study Variables

Item	п	M (SD)	Range
TEQ: Number of Categories of Traumatic Events Experienced	283	2.10 (1.84)	0-8
TEQ: Perceived Severity of Trauma at the Time of the Trauma	283	8.92 (9.34)	0-44
PCL-C Total (excluding items 3 and 8)	280	25.19 (11.53)	15-67

Note. Abbreviations: TEQ, Traumatic Events Questionnaire; PCL-C, PTSD Symptom

Checklist – Civilian Version.

Table 5.

Bivariate Correlations between Trauma Exposure (Including Alternative Scorings),

PTSD Symptoms (Including Alternative Scoring), and Dissociative IPV Perpetration

Variable	1.	2.	3.	4.	5.	6.
1. DPVS Total ^{<i>a</i>.}						
2. TEQ: Total Number of Traumatic Events Experienced	.13*					
3. TEQ: Number of Categories of Traumatic Events Experienced	.14*	.92***				
4. TEQ: Perceived Severity of Trauma at the Time of the Trauma	.11	.80***	.88***			
5. PCL-C Total	.34***	.31***	.32***	.31***		
6. PCL-C Total (excluding items 3 and 8)	.33***	.30***	.32***	.32***	.99***	

Note. Abbreviations: Abbreviations: DPVS, Dissociative Partner Violence Scale; TEQ,

Traumatic Events Questionnaire; PCL-C, PTSD Symptom Checklist - Civilian Version.

p* <.05. *p* <.01. ****p* <.001.

^{*a.*} Variable was log-transformed to reduce skewness/kurtosis.

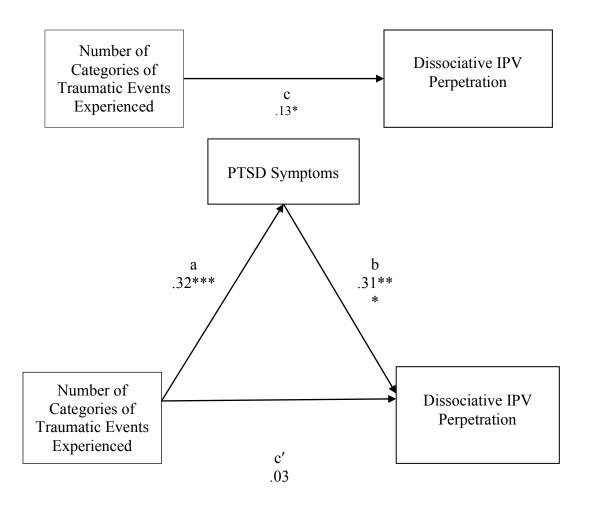


Figure 2. PTSD symptoms as a mediator between number of categories of traumatic events experienced and dissociative IPV perpetration. The indirect effect is significant with $\beta = .10, 95\%$ CI [.0452 to .1828], $P_M = .75$. Dissociative IPV perpetration was log-transformed prior to running analyses. All coefficients presented are standardized. *p < .05. **p < .01. ***p < .001.

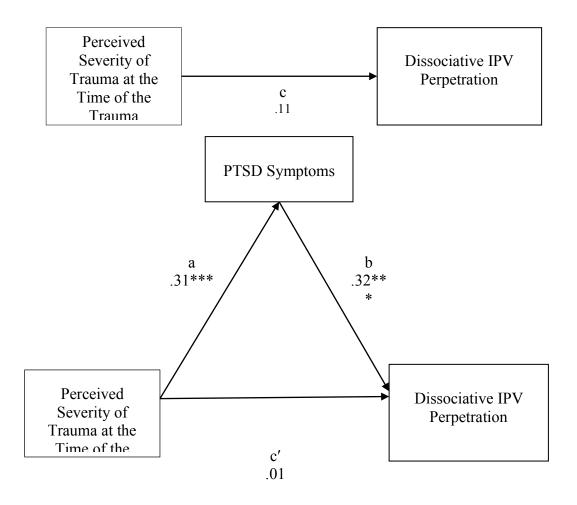


Figure 3. PTSD symptoms as a mediator between perceived severity of trauma at the time of the trauma and dissociative IPV perpetration. The indirect effect is significant with $\beta = .10, 95\%$ CI [.0466 to .1880], $P_M = .95$. Dissociative IPV perpetration was log-transformed prior to running analyses. All coefficients presented are standardized. *p < .05. **p < .01. ***p < .001.

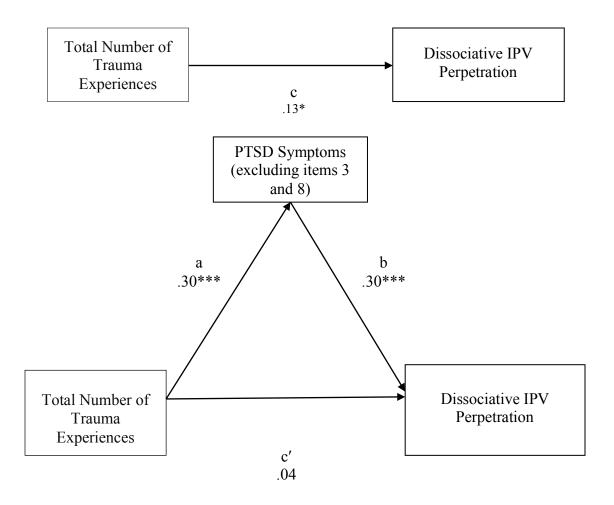


Figure 4. PTSD symptoms (excluding items 3 and 8) as a mediator between total number of trauma experiences and dissociative IPV perpetration. The indirect effect is significant with $\beta = .09, 95\%$ CI [.0391 to .1763], $P_M = .69$. Dissociative IPV perpetration was log-transformed prior to running analyses. All coefficients presented are standardized. *p < .05. **p < .01. ***p < .001.

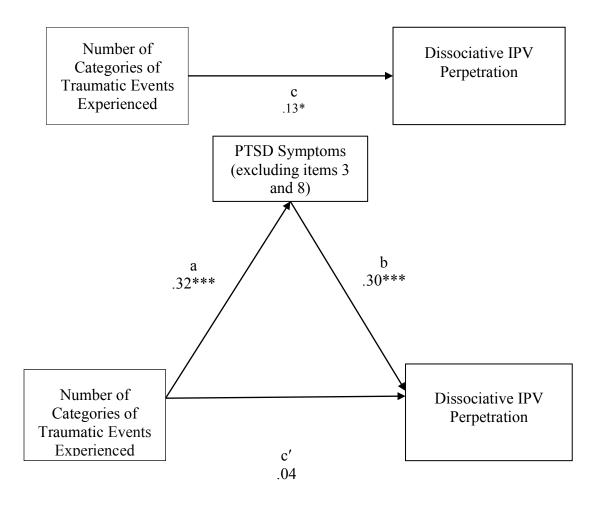


Figure 5. PTSD symptoms (excluding items 3 and 8) as a mediator between number of categories of traumatic events experienced and dissociative IPV perpetration. The indirect effect is significant with $\beta = .10, 95\%$ CI [.0442 to .1803], $P_M = .72$. Dissociative IPV perpetration was log-transformed prior to running analyses. All coefficients presented are standardized. *p < .05. **p < .01. ***p < .001.

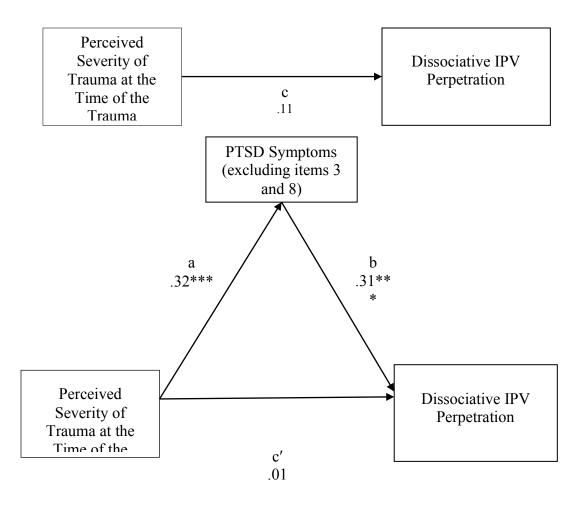


Figure 6. PTSD symptoms (excluding items 3 and 8) as a mediator between perceived severity of trauma at the time of the trauma and dissociative IPV perpetration. The indirect effect is significant with $\beta = .10, 95\%$ CI [.0418 to .1828], $P_M = .93$. Dissociative IPV perpetration was log-transformed prior to running analyses. All coefficients presented are standardized. *p < .05. **p < .01. ***p < .001.

References

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Babcock, J. C., Costa, D. M., Green, C. E., & Eckhardt, C. I. (2004). What Situations Induce Intimate Partner Violence? A Reliability and Validity Study of the Proximal Antecedents to Violent Episodes (PAVE) Scale. *Journal of Family Psychology*, 18, 433-442. doi:10.1037/0893-3200.18.3.433
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182. doi:10.1037/0022-3514.51.6.1173
- Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Klauminzer, G., Charney,D. S., & Keane, T. M. (1990). A clinician rating scale for assessing current andlifetime PTSD: The CAPS-1. The Behavior Therapist, *13*, 187–188.
- Blanchard, E. B., Jones-Alexander, J., Buckley, T. C., & Forneris, C. A. (1996).
 Psychometric properties of the PTSD Checklist (PCL). *Behaviour Research and Therapy*, *34*, 669-673. doi:10.1016/0005-7967(96)00033-2
- Campbell, K. A., Rohlman, D. S., Storzbach, D., Binder, L. M., Anger, W. K., Kovera, C. A., ... Grossmann, S. J. (1999). Test–retest reliability of psychological and neurobehavioral tests self-administered by computer. *Assessment*, *6*, 21-32. doi:10.1177/107319119900600103

- Cardeña, E., & Carlson, E. (2011). Acute stress disorder revisited. *Annual Review of Clinical Psychology*, 72, 45-267. doi:10.1146/annurev-clinpsy-032210-104502
- Carlson, E. B., Dalenberg, C., & McDade-Montez, E. (2012). Dissociation in posttraumatic stress disorder part I: Definitions and review of research. *Psychological Trauma: Theory, Research, Practice, and Policy*, *4*, 479-489. doi:10.1037/a0027748
- Chemtob, C. M., Novaco, R. W., Hamada, R. S., Gross, D. M., & Smith, G. (1997). Anger regulation deficits in combat-related posttraumatic stress disorder. *Journal of Traumatic Stress*, 10, 17-36. doi:10.1023/A:1024852228908
- Constans, J. I. (2005). Information-Processing Biases in PTSD. In J. J. Vasterling, C. R. Brewin, J. J. Vasterling, C. R. Brewin (Eds.), *Neuropsychology of PTSD: Biological, cognitive, and clinical perspectives* (pp. 105-130). New York, NY, US: Guilford Press.
- Cuartas, A. S. (2001). *Dissociation in male batterers* (Doctoral dissertation). Retrieved from ProQuest Information & Learning. (AAI3033918)
- Cusack, K., Grubaugh, A. L., Knapp, R. G., & Frueh, B. C. (2006). Unrecognized trauma and PTSD among public mental health consumers with chronic and severe mental illness. *Community Mental Health Journal*, 42, 487-500. doi:10.1007/s10597-006-9049-4
- Dutton, D., Fehr, B., & McEwen, H. (1982). Severe wife battering as deindividuated violence. *Victimology*, 7(1-4), 13-23.

- Ehlers, A., Hackmann, A., & Michael, T. (2004). Intrusive re-experiencing in posttraumatic stress disorder: Phenomenology, theory, and therapy. *Memory*, *12*, 403-415. doi:10.1080/09658210444000025
- Finley, E. P., Baker, M., Pugh, M. J., & Peterson, A. (2010). Patterns and perceptions of intimate partner violence committed by returning veterans with post-traumatic stress disorder. *Journal of Family Violence*, 25(8), 737-743. doi:10.1007/s10896-010-9331-7
- Frewen, P. A., Dozois, D. A., Neufeld, R. J., & Lanius, R. A. (2008). Meta-analysis of alexithymia in posttraumatic stress disorder. *Journal of Traumatic Stress*, 21, 243-246. doi:10.1002/jts.20320
- Gerlock, A. A. (2004). Domestic violence and post-traumatic stress disorder severity for participants of a domestic violence rehabilitation program. *Military Medicine*, *169*, 470-474.
- Giesbrecht, T., Lynn, S. J., Lilienfeld, S. O., & Merckelbach, H. (2008). Cognitive processes in dissociation: An analysis of core theoretical assumptions. *Psychological Bulletin*, *134*, 617-647. doi:10.1037/0033-2909.134.5.617
- Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B., Petty, R. M., Stockton,
 P., & Stern, N. M. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of Traumatic Stress*, *13*, 271-286. doi:10.1023/A:1007758711939
- Groetsch, M. (1996). *The battering syndrome: Why men beat women and the professional's guide to intervention*. Brookfield, WI: CPI Publishing.

- Harrington, T., & Newman, E. (2007). The psychometric utility of two self-report measures of PTSD among women substance users. *Addictive Behaviors*, 32, 2788-2798. doi:10.1016/j.addbeh.2007.04.016
- Horowitz, M. J., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective distress. *Psychosomatic Medicine*, 41, 209-18. doi:10.1097/00006842-197905000-00004
- Holmes, E. A., Brown, R. J., Mansell, W., Fearon, R., Hunter, E. C. M., Frasquilho, F., et al. (2005). Are there two qualitatively distinct forms of dissociation? A review and some clinical implications. *Clinical Psychology Review*, 25, 1–23. doi:10.1016/j.cpr.2004.08.006
- Hoyt, T., Wray, A. M., Wiggins, K. T., Gerstle, M., & Maclean, P. C. (2012). Personality profiles of intimate partner violence offenders with and without PTSD. *Journal of Offender Rehabilitation*, 51, 239-256. doi:10.1080/10509674.2011.650349
- Keen, S. M., Kutter, C. J., Niles, B. L., & Krinsley, K. E. (2008). Psychometric properties of PTSD Checklist in sample of male veterans. *Journal of Rehabilitation Research & Development*, 45, 465-474. doi:10.1682/JRRD.2007.09.0138
- Kilpatrick, D. G., Saunders, B. E., Amick-McMullan, A., Best, C. L., Veronen, L. J., & Resnick, H. S. (1989). Victim and crime factors associated with the development of crime-related post-traumatic stress disorder. *Behavior Therapy*, 20, 199-214. doi:10.1016/S0005-7894(89)80069-3
- Kumpula, M. J., Orcutt, H. K., Bardeen, J. R., & Varkovitzky, R. L. (2011). Peritraumatic dissociation and experiential avoidance as prospective predictors of posttraumatic

stress symptoms. *Journal of Abnormal Psychology*, *120*, 617-627. doi:10.1037/a0023927

- Langhinrichsen-Rohling, J., McCullars, A., & Misra, T. A. (2012). Motivations for men and women's intimate partner violence perpetration: A comprehensive review. *Partner Abuse*, *3*, 429-468. doi:10.1891/1946-6560.3.4.429
- Lauterbach, D., & Vrana, S. (1996). Three studies on the reliability and validity of a selfreport measure of posttraumatic stress disorder. *Assessment*, *3*, 17-25. doi:10.1177/107319119600300102
- Lauterbach, D., & Vrana, S. (2001). The relationship among personality variables, exposure to traumatic events, and severity of posttraumatic stress symptoms. *Journal of Traumatic Stress*, *14*, 29-45. doi:10.1023/A:1007831430706
- Lipschitz, D. S., Kaplan, M. L., Sorkenn, J., Chorney, P., & Asnis, G. M. (1996).
 Childhood abuse, adult assault, and dissociation. *Comprehensive Psychiatry*, *37*, 261-266. doi:10.1016/S0010-440X(96)90005-X
- Lynch, S. M., Forman, E., Mendelsohn, M., & Herman, J. (2008). Attending to dissociation: Assessing change in dissociation and predicting treatment outcome.
 Journal of Trauma & Dissociation, 9, 301–319. doi:10.1080/15299730802139063
- Lynn, S. J., Lilienfeld, S. O., Merckelbach, H., Giesbrecht, T., McNally, R. J., Loftus, E.
 F., ... Malaktaris, A. (2014). The trauma model of dissociation: Inconvenient truths and stubborn fictions. Comment on Dalenberg et al. (2012). *Psychological Bulletin*, *140*, 896-910. doi:10.1037/a0035570
- Maguire, E., Macdonald, A., Krill, S., Holowka, D. W., Marx, B. P., Woodward, H., & ... Taft, C. T. (2015). Examining trauma and posttraumatic stress disorder symptoms

in court-mandated intimate partner violence perpetrators. *Psychological Trauma: Theory, Research, Practice, And Policy*, Advance Online Publication. doi:10.1037/a0039253

- Mantakos, S. M. (2008). Psychometric properties of the dissociative partner violence scale (Unpublished Master's thesis). University of Maryland, Baltimore County, Maryland.
- Millon, T., Davis, R., & Millon, C. (1997). Millon Clinical Multi-axial Inventory (3rd ed.). Minneapolis, MN: NCS Pearson, Inc.
- Morey, L. C. (1991). *The Personality Assessment Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Murphy, C. M., & Eckhardt, C. I. (2005). *Treating the abusive partner: An individualized cognitive-behavioral approach*. New York, NY, US: Guilford Press.
- Ogle, C. M., Rubin, D. C., & Siegler, I. C. (2014). Cumulative exposure to traumatic events in older adults. *Aging & Mental Health*, 18(3), 316-325. doi:10.1080/13607863.2013.832730
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin*, *129*, 52-73. doi:10.1037/0033-2909.129.1.52
- Rosenbaum, A., & Leisring, P. A. (2003). Beyond power and control: Towards an understanding of partner abusive men. *Journal of Comparative Family Studies*, 34, 7-22.
- 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*, 791-804. doi:10.1111/j.1360-0443.1993.tb02093.x

- Schnurr, P. P., Spiro, A. I., Vielhauer, M. J., Findler, M. N., & Hamblen, J. L. (2002).
 Trauma in the lives of older men: Findings from the Normative Aging Study.
 Journal of Clinical Geropsychology, 8, 175-187. doi:10.1023/A:1015992110544
- Semiatin, J. N., Torres, S., LaMotte, A. D., Portnoy, G., & Murphy, C. M. (2016).
 Trauma exposure, PTSD Symptoms, and presenting clinical problems among male perpetrators of intimate partner violence. *Psychology of Violence, Advance Online Publication*. doi:10.1037/vio0000041
- Shapinsky, A. C., Rapport, L. J., Henderson, M. J., & Axelrod, B. N. (2005). Civilian PTSD Scales: Relationships with trait characteristics and everyday distress. *Assessment*, 12, 220-230. doi:10.1177/1073191104273130
- Simoneti, S., Scott, E. C., & Murphy, C. M. (2000). Dissociative experiences in partnerassaultive men. *Journal of Interpersonal Violence*, 15(12), 1262-1283. doi:10.1177/088626000015012002
- 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, 283-316. doi:10.1177/019251396017003001

Suliman, S., Mkabile, S. G., Fincham, D. S., Ahmed, R., Stein, D. J., & Seedat, S. (2009).
Cumulative effect of multiple trauma on symptoms of posttraumatic stress
disorder, anxiety, and depression in adolescents. *Comprehensive Psychiatry*, 50, 121-127. doi:10.1016/j.comppsych.2008.06.006

- Swihart, G., Yuille, J., & Porter, S. (1999). The role of state-dependent memory in 'redouts.' *International Journal of Law and Psychiatry*, 22, 199-212. doi:10.1016/S0160-2527(99)00005-9
- Taft, C. T., Weatherill, R. P., Scott, J. P., Thomas, S. A., Kang, H. K., & Eckhardt, C. I.
 (2015). Social information processing in anger expression and partner violence in returning U.S. Veterans. *Journal of Traumatic Stress*, *28*, 314-321. doi:10.1002/jts.22017
- Taft, C. T., Weatherill, R. P., Woodward, H. E., Pinto, L. A., Watkins, L. E., Miller, M. W., & Dekel, R. (2009). Intimate partner and general aggression perpetration among combat veterans presenting to a posttraumatic stress disorder clinic. *American Journal of Orthopsychiatry*, *79*, 461-468. doi:10.1037/a0016657
- Vasterling, J. J., & Verfaellie, M. (2009). Symposium—Introduction: Posttraumatic stress disorder: A neurocognitive perspective. *Journal of The International Neuropsychological Society*, 15, 826-829. doi:10.1017/S1355617709990683
- Vrana, S., & Lauterbach, D. (1994). Prevalence of traumatic events and post-traumatic psychological symptoms in a nonclinical sample of college students. *Journal of Traumatic Stress*, 7, 289-302. doi:10.1002/jts.2490070209
- Wagner, A. W., & Linehan, M. M. (1998). Dissociative behavior. In V. M. Follette, J. I.
 Ruzek, & F. R. Abueg (Eds.). *Cognitive-behavioral therapies for trauma* (pp. 191–225). New York: Guilford Press.
- Wen, Z., & Fan, X. (2015). Monotonicity of effect sizes: Questioning kappa-squared as mediation effect size measure. *Psychological Methods*, 20, 193-203.
 doi:10.1037/met0000029

- West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 56–75). Newbury Park: Sage.
- Wilkins, K. C., Lang, A. J., & Norman, S. B. (2011). Synthesis of the psychometric properties of the PTSD checklist (PCL) military, civilian, and specific versions. *Depression and Anxiety*, 28, 596-606. doi:10.1002/da.20837
- Zimbardo, P. G. (1969). The Human choice: Individuation, reason and order vs. deindividuation, impulse and chaos. *Nebraska Symposium on Motivation*, 17, 237-307.