

Trauma Exposure and PTSD among Women Receiving Treatment for Intimate Partner Violence  
Perpetration

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### Abstract

Trauma exposure and posttraumatic stress disorder (PTSD) symptoms have been associated with men's perpetration of intimate partner violence (IPV), but relatively little research has examined these associations among women who perpetrate IPV. This exploratory investigation evaluated the associations among trauma, PTSD symptoms, and IPV perpetration for women and a comparison sample of men. During intake at a community-based Abuse Intervention Program (AIP), women ( $n = 32$ ) and a demographically-similar comparison sample of men ( $n = 64$ ) completed measures of trauma exposure, PTSD symptoms, physical aggression and emotional abuse perpetration, and use of alcohol and other drugs. The vast majority of women (93.5%) reported traumatic event exposure, and close to half (43.8%) screened positive for a probable PTSD diagnosis. Women's level of PTSD symptoms correlated positively with emotional abuse perpetration, with medium-to-large effect sizes. After controlling for substance use, women's PTSD symptoms were significantly and positively correlated with physical assault and emotional abuse perpetration. Women reported significantly higher rates of exposure to IPV victimization and had significantly higher rates of probable PTSD and PTSD symptoms than did men from the same AIP. Gender did not significantly moderate the associations between PTSD symptoms and IPV perpetration. Overall, findings indicate that trauma exposure and PTSD symptoms are important correlates of women's IPV perpetration. Women in treatment for IPV perpetration may benefit from additional assessment and treatment of trauma and trauma-related symptoms.

*Keywords:* Intimate Partner Violence, Posttraumatic Stress Disorder, Trauma Exposure, Women's Perpetration, Gender-Responsive Treatment

## Trauma Exposure and PTSD among Women Receiving Treatment for Intimate Partner Violence Perpetration

In the past two decades researchers have begun to focus on trauma exposure and posttraumatic stress disorder (PTSD) symptoms as risk factors for men's intimate partner violence (IPV) perpetration (Bell & Orcutt, 2009; Taft, Watkins, Stafford, Street, & Monson, 2011). A growing body of research has found that men's trauma experiences and PTSD symptoms are associated with IPV perpetration in both clinical (e.g., Maguire et al., 2015; Semiatin, Torres, LaMotte, Portnoy & Murphy, 2017) and population samples (e.g., Hahn, Aldarondo, Silverman, McCormick & Koenen, 2015). However, less is known about the role of trauma and PTSD among women perpetrators of IPV, and study limitations make it difficult to draw conclusions regarding the importance of these factors in women's IPV perpetration. In addition, there are disagreements in the field regarding gender similarities and differences in the nature and causes of IPV (Dutton, 2012; Johnson, 2011). These discrepancies raise questions about whether women's experiences of trauma and PTSD symptoms are related to their IPV perpetration, and whether these associations are similar to those found for men. The purpose of the current study is to examine rates of trauma exposure and PTSD symptoms, and their associations with emotional abuse and physical aggression perpetration in a clinical sample of women receiving treatment for IPV, and to contrast the women's data with a sample of men receiving services from the same Abuse Intervention Program (AIP).

Several prior studies have assessed the rates of trauma exposure and trauma symptomatology among women who have perpetrated IPV. As described below, initial studies with clinical samples of women perpetrators have found elevated rates of trauma exposure and PTSD symptoms. An investigation comparing women perpetrators in an AIP to women survivors

of IPV found that, while survivors' PTSD symptoms were significantly higher, the perpetrators also reported elevated rates of PTSD symptoms (Abel, 2001). In addition, on a measure of six kinds of interpersonal trauma, the women perpetrators reported experiencing significantly more exposures to three trauma types (being threatened, witnessing threats, and forced sex) compared to the IPV survivors (Abel, 2001). In another study of women receiving treatment for IPV perpetration, researchers found a 44% rate of probable PTSD (Stuart, Moore, Gordo, Ramsey, & Khaler, 2006). This PTSD rate is over four times higher than the 10% estimated rate of lifetime PTSD among women in the general population (Keane Marshall, & Taft, 2006), and similar to rates of probable PTSD among incarcerated women, which have ranged from 22% to 40% (Green, Miranda, Daroowalla, & Siddique, 2005; Komarovskaya, Loper, Warren, & Jackson, 2011). These initial studies indicate that women who perpetrate IPV often have a history of trauma exposure and trauma symptoms.

In addition to research indicating that women in treatment for perpetration of IPV have elevated rates of trauma exposure and trauma symptomatology, some studies have examined the association between women's trauma symptoms and perpetration of physical aggression and emotional abuse. Samples used to investigate these research questions have been primarily composed of veterans and community women who report a range of perpetration (i.e., perpetrating IPV was not an inclusion criterion for these studies, such as Dutra, de Blank, Scheider, & Taft, 2012; Gold et al., 2007; Kendra, Bell, & Guimond, 2012; Price, Bell, & Lilly, 2014). These investigations extend previous findings for men (e.g., Bell & Orcutt, 2009; Taft, Murphy, & Creech, 2016b) by indicating that women's PTSD symptoms are also associated with IPV perpetration. For example, an investigation with women Vietnam veterans found that women's hyperarousal PTSD symptoms were correlated with physical aggression and emotional

abuse perpetration (Dutra et al., 2012). In addition, research with undergraduate women who had experienced child abuse also found that both physical aggression and emotional abuse perpetration were correlated with PTSD symptoms (Kendra et al., 2012). Further, a study with a community sample that included women survivors of IPV found that PTSD symptoms were significantly correlated with physical aggression perpetration (Price et al., 2014). These studies among women in non-IPV treatment settings suggest that women's experiences of trauma may be related to their perpetration of IPV.

Although most prior studies have found elevated rates of trauma exposure and PTSD symptoms among women who perpetrate relationship aggression, some studies have found different results. One investigation of women veterans found that PTSD symptoms were only correlated with emotional abuse perpetration, and not with physical aggression (Gold et al., 2007). In addition, two studies with clinical samples of women IPV perpetrators found low rates of probable PTSD using the Millon Clinical Multiaxial Inventory (5.4%, Henning, Jones, & Holdford, 2003; 8.5%, Simmons, Lehman, & Craun, 2008). Furthermore, a meta-analysis found that the association between PTSD symptomatology and physical IPV perpetration was stronger for men than women (Taft et al., 2011). These inconsistent findings indicate a need for further research to clarify and better understand the associations among trauma, PTSD, and IPV perpetration for women.

In addition, a number of methodological issues make it challenging to draw accurate conclusions about the importance of trauma and PTSD in women's IPV perpetration, to make comparisons between studies with samples of women or men, and to evaluate the potential significance of trauma among treatment-seeking samples of women IPV perpetrators. First, several studies used selection criteria that may have increased the likelihood that women

participants would have elevated trauma symptomatology. For example, some studies selected samples of IPV victims and examined their perpetration of IPV (e.g., Price et al., 2014) or only included women who were exposed to childhood abuse (e.g., Kendra et al., 2012). Second, most prior studies have not assessed lifetime exposure to multiple traumatic events, instead focusing only on specific potential traumas such as interpersonal violence victimization (Abel, 2001; Simmons et al., 2008). In addition, some studies did not include standardized assessment of IPV perpetration (Abel, 2001; Simmons et al., 2008). Furthermore, many of the studies have not used IPV perpetration as an inclusion criterion (e.g., Dutra et al., 2012; Gold et al., 2007; Kendra et al., 2012; Price et al., 2014), and therefore the frequency and severity of IPV perpetration are likely to be much lower than among women in an AIP.

These limitations highlight the need for more research on samples of women presenting for IPV treatment to evaluate their exposure to a range of traumatic events, PTSD symptoms, and physical aggression and emotional abuse perpetration using standardized measures. Although women perpetrators receiving IPV treatment are a relatively small subset of all women engaging in IPV perpetration, they are an important population to understand given the responsibility of treatment providers to deliver effective services to these individuals.

### **The Present Study**

The present study examined the rates of lifetime traumatic event exposures and current PTSD symptoms, and tested whether PTSD symptom levels are correlated with levels of emotional abuse and physical aggression perpetration in a sample of women presenting for treatment at a community-based AIP. The general goal was to extend previous findings on trauma, PTSD symptoms, and abuse perpetration from community and veteran samples to women receiving treatment for IPV perpetration. The current study also examined whether the

associations between PTSD and IPV perpetration were independent of drug and alcohol use because both PTSD and IPV perpetration are associated with substance use (Capaldi, Knoble, Shortt, & Kim, 2012). In addition, in light of the meta-analytic finding that PTSD may be a more important clinical consideration for men's perpetration of physical IPV than women's (Taft et al., 2011), this study included a comparison group of demographically-similar men receiving treatment for IPV perpetration at the same AIP. The present study also examined gender differences in trauma exposure and rates of probable PTSD because past research has suggested that women who perpetrate IPV, in contrast to men, may be more likely to report a history of IPV victimization (e.g., Hamberger & Guse, 2002) and may have higher rates of PTSD (Henning et al., 2003; Keane et al., 2006; Smith-Acuna, Metzger, & Watson, 2004).

The following hypotheses were tested:

- 1) Women's PTSD symptoms will be significantly and positively correlated with their perpetration of physical aggression and emotional abuse.
- 2) Associations between PTSD symptoms and women's perpetration of physical aggression and emotional abuse will remain significant even when controlling for their use of alcohol and drugs.
- 3) In light of inconsistencies in prior research findings, no a priori hypotheses were made with regard to comparisons between women and men IPV perpetrators on trauma exposure, probable PTSD, and the associations between PTSD symptoms and IPV perpetration.

## **Methods**

### **Participants**

The present study examines data from 32 women, and a matched sample of 64 men who presented for IPV treatment at a community-based AIP program in Maryland. The women were 33.87 years of age on average ( $SD = 11.67$ , range 19-63). Most women identified their race as African American/black ( $n = 10$ ; 34.5%) or white/Caucasian ( $n = 12$ ; 41.4%), followed by Hispanic/Latina ( $n = 3$ , 10.3%), American Indian/Alaskan Native ( $n = 2$ , 6.9%), Asian ( $n = 1$ , 3.4%), and other ( $n = 1$ , 3.4%). The women were primarily court mandated or recommended to treatment ( $n = 25$ ; 78.1%) and 21.9% were self-referred ( $n = 7$ ). The matched sample of male IPV perpetrators was composed of 64 men who presented for treatment at the same AIP during a similar time frame. The men were 34.27 years of age on average ( $SD = 11.04$ , range 19-66). Men primarily identified their race as African American/black ( $n = 29$ , 46%) or white/Caucasian ( $n = 20$ , 31.3%), followed by Hispanic/Latino ( $n = 7$ , 11.1%), Asian ( $n = 3$ , 4.8%), American Indian/Alaskan Native ( $n = 1$ , 1.6%), and other ( $n = 3$ , 4.8%). Men were also primarily court mandated or recommended to treatment ( $n = 53$ ; 82.8%) and 17.2% were self-referred ( $n = 11$ ). Full demographic information on the sample is provided in Table 1.

### **Procedures**

Data were gathered by graduate clinical psychology trainees during routine clinical intake procedures between 2009 and 2015. All of the measures that are used in the present study were included in the standard clinical intake assessment for clients. The researchers had access to this clinical sample as the last author served as the director and clinical supervisor of the treatment program where these data were gathered. As part of the program intake procedures, clients were informed that clinical data may be used for research and program evaluation purposes and were able to provide or withhold consent. All individuals included in the present study consented for their clinical information to be used for research and program evaluation purposes. Using the



“MatchIt” package (Ho, Imai, King, & Stuart, 2011) in R (R Core Team, 2013), a matched sample of men with similar mean levels and variation on key demographic variables was selected from a set of 157 men’s intake cases. A two-to-one selection procedure was used to increase statistical power for gender comparisons (32 women, 64 men). Matching was accomplished by stratifying cases into groups based on age, education, relationship status, and referral status. If a participant was missing data on a matching variable, the sample mean or mode was substituted.

This investigation was approved by institutional review at the University of Maryland, Baltimore County.

### **Measures**

**Trauma history.** A modified version of the Trauma Experiences Questionnaire (TEQ; Vrana & Lauterbach, 1994) was used to evaluate the number and type of trauma exposures experienced by clients throughout their lives. Clients responded “yes” or “no” to having experienced 11 different traumatic events (see Table 2). A total exposure score reflected the number of different traumatic event categories endorsed. This scoring method has been found to correlate highly with other methods of calculating total exposure to traumatic events (LaMotte, 2016). Research has supported the reliability and validity of the TEQ. In past investigations, the measure has been found to have very good test-retest reliability ( $r = .91$ ) over a period of 2 weeks (Lauterbach & Vrana, 1996).

**Trauma symptoms.** The Posttraumatic Stress Disorder Checklist – Civilian Version (PCL-C) was used to assess clients’ experiences of trauma symptoms during the month prior to program intake (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). The PCL-C items assess the Diagnostic and Statistical Manual of Mental Disorders Version IV criteria for PTSD (American Psychiatric Association [APA], 1994). Clients responded on a scale of 1 (*not at all*) to

5 (*extremely*). The PCL-C is considered a screening measure, and therefore it was used to detect level of PTSD symptoms and probable PTSD diagnosis. Item responses were summed and the recommended cut-point of 44 was used to identify a probable PTSD diagnosis (Blanchard et al., 1996). The PCL-C has been found to have excellent psychometric properties, including good test-retest reliability, internal consistency, and temporal stability (Wilkins, Lang, & Norman, 2011), and strong convergent validity with the Clinician Administered PTSD scale (Blake et al., 1990). Cronbach's alphas for the present study were .91 for the women's sample and .93 for the men's sample.

**Physical aggression perpetration.** The Physical Assault (12 items), Injury (6 items), and Sexual Coercion (7 items) subscales of the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) were used to evaluate perpetration of physical aggression. Clients were asked how frequently they have engaged in the behavior in the past six months with the following response options: *never* (0), *once* (1), *twice* (2), *3 to 5 times* (4), *6 to 10 times* (8), *11 to 20 times* (15), and *more than 20 times* (25). For the present study, a total score in the past 6 months for each subscale was calculated by first recoding item responses to the median category value (provided in parentheses above) and then summing the item values. This scoring procedure was used as it is the scoring method recommended by the scale developers (Straus et al., 1996). In the development sample, internal consistency was .86 for the Physical Assault subscale, .95 for the Injury subscale, and .87 for the Sexual Coercion subscale (Straus et al., 1996). In the current study, Cronbach's alphas were calculated using the re-coded frequency values. For the women's and men's samples, respectively, the Cronbach's alphas were .78 and .68 for Physical Assault, .31 and .51 for Injury, and .58 and .43 for Sexual Coercion.

**Psychological aggression and emotional abuse perpetration.** The 9-item Psychological Aggression subscale of the CTS2 (Straus et al., 1996) and the 28-item Multidimensional Measure of Emotional Abuse (MMEA; Murphy, Hoover & Taft, 1999) were used to assess emotional abuse perpetration. The MMEA contains four subscales with 7-items each: Restrictive Engulfment, Denigration, Hostile Withdrawal, and Dominance/Intimidation. The response options and scale calculations for the MMEA and CTS2 Psychological Aggression subscale are consistent with the procedures for the CTS2 (outlined above). The scoring procedure used in the present study is the method recommended by the scale developers (Murphy et al., 1999). All subscales of the MMEA have been found to have good internal consistency, ranging from .79 to .94 (Murphy et al., 1999; Ro & Lawrence, 2007). The Psychological Aggression subscale of the CTS2 also had good internal consistency in the development sample (.79; Straus et al., 1996). In the present study, Cronbach's alphas for the women's and men's samples, respectively, were .81 and .83 for Restrictive Engulfment, .94 and .86 for Denigration, .78 and .87 for Hostile/Withdrawal, .86 and .73 for Dominance/Intimidation, and .85 and .79 for CTS2 Psychological Aggression.

**Alcohol use.** Women clients' consumption of alcohol was calculated using a modified quantity / frequency index (Cahalan, Cisin & Crosley, 1969). Clients were asked how many weekdays and weekend days they typically drink alcohol, and then asked about how many drinks they usually have on a weekday and weekend day when they drink. This assessment question was changed during the period of data collection such that some women were asked about drinking in the past 6 months ( $n = 11$ ) and some were asked about the past 12 months ( $n = 21$ ). Given that the questions assess average or typical drinking behavior, and given that no significant differences were found for the 6 versus 12 month versions of the question, these time

frames were treated as equivalent in computing average weekly alcohol consumption. An estimate of standard drinks per week was calculated by first multiplying the typical number of weekday drinking days by the typical number of drinks consumed on a weekday, then multiplying the typical number of weekend drinking days by the typical number of drinks consumed on a weekend day, and then summing these two values.

**Drug use.** Women clients' use of illicit drugs was evaluated using questions from the clinic intake which assessed the frequency of use of eleven different drug categories (consistent with the DSM-IV diagnostic categories; APA, 1994) on an 8-point scale. The response options (and estimated number of use days per year) were as follows: *Never* (0), *1 to 3 times* (2), *4 to 10 times* (6), *about once a month* (12), *several times a month* (36), *1 to 2 days a week* (78), *3 to 5 days a week* (208), and *every day or nearly every day* (312). An estimate of yearly days of drug use was calculated by adding the values in parentheses above together for each item to create a yearly frequency of drug use for each drug type, and then adding the estimated yearly frequency of the 11 drug types together to create an estimated total for all drugs. Similar to the alcohol use variable described above, some clients were asked to report on use in the past 6 months ( $n = 11$ ) and some reported on the past 12 months ( $n = 21$ ). There were no significant differences in the responses to these time frames, so the estimates of drug use were treated as equivalent in calculating days of use in the past year. Past research has demonstrated associations of this drug use frequency indicator with other variables of clinical interest among men in IPV treatment, including alcohol use and PTSD symptoms (LaMotte, 2016; Miles-McLean et al., 2018; Semiatin et al., 2017).

### **Data Analytic Plan**

Data were entered and analyzed in SPSS Version 22.0. Prior to conducting analyses, descriptive statistics were examined, and log transformations were performed on variables that deviated substantially from normal distribution both in the women's and combined samples, defined as having skew greater than 2.0 and/or kurtosis greater than 7.0 (West, Finch, & Curran, 1995). Specifically, for analyses restricted to the women's sample, CTS2 Physical Assault, CTS2 Sexual Coercion, MMEA Dominance/Intimidation, alcohol use, and drug use were log transformed. For analyses comparing women to men, CTS2 Physical Assault, MMEA Restrictive Engulfment, MMMEA Denigration, and MMEA Dominance/Intimidation were log transformed. Then, the associations between women's PTSD symptoms and perpetration of physical aggression and emotional abuse were examined using bivariate correlations. Next, hierarchical regressions were run to evaluate the relation between women's PTSD symptoms and IPV perpetration above and beyond the effects of alcohol use and drug use. After, gender differences were examined using chi-square tests and independent samples *t* tests to compare trauma exposure and probable PTSD for women and men. Finally, moderation analyses were run using the SPSS macro, PROCESS, to evaluate whether the association between PTSD and IPV perpetration significantly differs for women and men (Hayes, 2013).

## **Results**

### **Trauma Experiences, PTSD Symptoms, and Correlations**

Exposure to potentially traumatic events (PTEs) reported by women clients are presented in Table 2. Most (93.5%) women reported exposure to at least one PTE, and over half (51.6%) reported exposure to 4 or more different PTE categories. The most frequently endorsed trauma category was being in an abusive relationship as an adult (71%), followed by receiving news of the injury or death of a loved one (53.3%), being the victim of a violent crime including rape or

assault (38.7%), and witnessing physical aggression among adults as a child (38.7%).

Descriptive statistics for the primary study variables including PTSD symptoms and probable PTSD diagnosis are presented in Table 3. The average score on the PCL-C was 38.09, which is approximately half a standard deviation below the cutoff for a probable diagnosis of PTSD. This indicates that most of the women experience elevated symptoms of PTSD. Using the recommended cut-off of 44, 14 women (43.8%) met criteria for probable PTSD.

Bivariate correlations among the primary study variables are presented in Table 4. The PCL-C total score was significantly correlated with Restrictive Engulfment, Denigration, Hostile Withdrawal, and Dominance/Intimidation scales of the MMEA, and with CTS2 Psychological Aggression with medium to large effect sizes. There were also significant correlations among most of the PCL-C subscales and the measures of emotional abuse with effects in the medium to large range. These findings partially support the first hypothesis, indicating that women's PTSD symptoms were correlated with emotional abuse, but not physical aggression perpetration. Sexual Coercion was excluded from subsequent analyses because it was reported by only a small number of women ( $n = 3$ ; 9.3%).

### **Unique Association of PTSD Symptoms with IPV Perpetration**

After examining bivariate relationships among PTSD symptoms and IPV perpetration, multiple regression was used to determine whether these associations were significant in models that also accounted for drug and alcohol use. The results revealed that the second hypothesis was partially supported. PTSD had a significant unique association above and beyond the effects of alcohol and drug use for CTS2 Physical Assault ( $t(28) = 2.97, p = .006, sr^2 = .19$ ), CTS2 Psychological Aggression ( $t(28) = 2.91, p = .007, sr^2 = .22$ ), and three of the four MMEA subscales: Restrictive Engulfment ( $t(28) = 3.48, p = .002, sr^2 = .26$ ), Hostile Withdrawal ( $t(27) =$

3.31,  $p = .003$ ,  $sr^2 = .29$ ), and Dominance/Intimidation ( $t(28) = 2.49$ ,  $p = .019$ ,  $sr^2 = .17$ ). The models for CTS2 Injury and MMEA Denigration were non-significant ( $p > .05$ ). Overall, the results indicate that PTSD symptoms were significantly associated with women's perpetration of IPV above and beyond the effects of drug and alcohol use.

### **Comparison to Matched Men's Sample**

Next, analyses were conducted to compare women and men's exposure to trauma and PTSD symptoms. There were no a priori hypotheses for these analyses given that there have been inconsistent findings regarding women and men's abuse perpetration and associations with trauma in past research. Descriptive data on IPV perpetration, trauma exposure, and PTSD symptoms in a larger sample of men that overlaps with the matched sample in the current study have been previously reported and are therefore not included here (e.g., Semiatin et al., 2017; Miles-McLean et al., 2018). The findings are described below and are not included in the tables. Chi-square tests of independence were used to compare the proportion of women and men who reported each of the 11 different trauma categories. Significantly more women (71%) than men (28%) reported being the victim of IPV,  $X^2(1, n = 95) = 15.73$ ,  $p < .001$ . There were no other significant differences in trauma exposure between women and men in the sample (all  $p$  values  $> .05$ ). With regards to the number of different trauma exposures, women and men did not significantly differ,  $t(93) = 0.49$ ,  $p = .62$ . Women reported an average of 3.65 ( $SD = 2.18$ ) trauma exposures and men reported an average of 3.44 ( $SD = 2.23$ ). With respect to PTSD symptoms, using the recommended cut-off of 44, significantly more women than men met criteria for probable PTSD (43.8% women, 15.6% men;  $X^2(1, n = 96) = 9.00$ ,  $p = .003$ ). In addition, there was a significant difference in the level of trauma symptoms reported by women and men,  $t(94)$

= 2.58,  $p = .01$ , with women reporting significantly more symptoms. The average symptom score on the PCL-C for women was 38.09 ( $SD = 14.67$ ) and 30.50 ( $SD = 13.05$ ) for men.

Finally, analyses examined whether gender moderated the relation between PTSD symptoms and IPV perpetration. The interaction term of PCL-C total score by gender was non-significant for all the models (all  $p$  values  $> .05$ ) indicating that gender is not a significant moderator of these relationships. In addition, gender was not a significant predictor in any of the models (all  $p$  values  $> .05$ ), indicating that there was no significant gender difference in perpetration of any aggression variable. These results provide no indication that the associations between PTSD symptoms and IPV perpetration differ significantly for women and men.

### **Discussion**

The present investigation examined the relations among experiences of trauma, trauma symptoms, and IPV perpetration in a clinical sample of women receiving treatment for IPV perpetration. Analyses revealed that nearly all of the women had experienced at least one type of traumatic event in their lives. Further, many women reported experiencing PTSD symptoms, with nearly half exceeding the cutoff for a probable diagnosis of PTSD. The findings further demonstrated that PTSD symptoms were associated with women's emotional abuse perpetration. In addition to the correlational findings, PTSD was uniquely associated with the perpetration of physical aggression and emotional abuse perpetration above and beyond the effects of alcohol and drug use. Comparisons with a matched sample of men receiving treatment at the same AIP found that women and men reported similar overall rates of trauma exposure, with women being significantly more likely to report being the victim of IPV than men. Women also had a significantly higher rate of probable PTSD and PTSD symptoms compared to men in the sample. Finally, moderation analyses were conducted to determine whether the relation between PTSD symptoms and IPV perpetration differed for women and men. None of the interaction terms were



significant, indicating the relation between PTSD symptoms and IPV perpetration does not vary significantly based on gender.

Overall, the findings are consistent with past research indicating that many women who engage in relationship violence report a history of interpersonal violence victimization (Hamberger & Guse, 2002; Henning et al., 2003; Simmons et al., 2008) and have elevated PTSD symptomatology (Stuart et al., 2006), and that these experiences are related to their perpetration of IPV (Dutra et al., 2012; Gold et al., 2007; Price et al., 2014). The results also extend past research among men IPV offenders (Bell & Orcutt, 2009; Taft et al., 2011) and support the notion that trauma exposure and symptoms are clinically relevant for women in IPV treatment. Indeed, the high rate of trauma exposure is comparable to findings among women who are involved in the criminal justice system (Green et al., 2005; Komarovskaya et al., 2011) and survivors of IPV (Norwood & Murphy, 2012). The PTSD rate of 43.8% is also notably higher than the general population estimate for lifetime diagnosis of PTSD among women which is approximately 10% (Keane et al., 2006). The commonalities among clinical samples of women IPV perpetrators and incarcerated samples of women indicate that, similar to work with incarcerated women (Stalans, 2009), gender-responsive treatment that considers women's unique needs and pathways into the criminal justice system may be appropriate for treatment samples of women IPV offenders. Further, the finding that women's PTSD symptoms were associated with IPV perpetration above and beyond the effects of substance use extends similar findings from a sample of men from the same AIP (Semiatin et al., 2017), and indicates that these comorbid problems alone do not account for the relationship between PTSD and IPV perpetration.

The current results are also consistent with the relatively small body of research comparing clinical samples of women and men which have found higher levels of PTSD

symptoms (Henning et al., 2003; Smith-Acuna et al., 2004) and IPV victimization among the women perpetrators (Hamberger & Guse, 2002). However, inconsistent with a previous meta-analysis, which indicated that trauma symptoms were more strongly associated with physical IPV perpetration for men than for women (Taft et al., 2011), the moderation analyses in the present study did not reveal any significant gender differences in the associations between trauma symptoms and IPV perpetration. The meta-analysis included many studies of veteran populations, so it is possible that combat-related trauma was confounded with gender in their results. Notably, they also found that PTSD in military veteran samples, in contrast to civilian samples, was more highly associated with physical IPV. Although the meta-analysis included both community and clinical samples, given the available research it would have included very little data on clinical samples of women IPV perpetrators, and this may help explain the differing findings in the present investigation. The non-significant moderation analyses coupled with women having nearly three times the rate of probable PTSD and high rates of exposure to IPV victimization further support the importance of gender-responsive and trauma-informed methods for treating clinical samples of women perpetrators. This may also be important for women's AIP treatment outcomes, given a recent study that found that men perpetrators with probable PTSD at program intake had significantly worse group alliance, homework completion, and higher recidivism at a 2-year follow-up than men without probable PTSD (Miles-McLean et al., 2018). It is possible that women's PTSD symptoms may be associated with their engagement in treatment and future violence recidivism, and if so this could be particularly detrimental to the success of AIP treatment for women given their high rates of PTSD. This is an important avenue for future research raised by the present study.

### **Limitations**

There are a few noteworthy limitations to the present study, which was exploratory in nature. One is the small sample size, which limited statistical power. Further, the small sample size makes it difficult to generalize these results to other samples of women in AIP programs. The sample was also not randomly selected and as a result the present sample may not be representative of all women referred to AIP treatment. However, given that significant findings and medium to large effect sizes were obtained in the present investigation, these results can be used to inform future research in this population. In addition, despite the small size, the women's sample represents an under-studied treatment population that can be difficult to recruit given that women arrested for IPV are less likely to be prosecuted resulting in lower rates of women presenting for IPV treatment despite research indicating that women perpetrate IPV at similar rates as men (Larsen & Hamberger, 2015). In addition, the use of archival clinical data gathered over a several year period created some challenges, including that the measures in this investigation were not specifically chosen for this study and the need to collapse data using different time frames for the assessment of alcohol and drug use. Further, the rate of substance use was very low in this sample, which may have suppressed the observed associations with PTSD symptoms and IPV perpetration. Future research is needed to determine whether the low rate of substance use was unique to this sample or is common in samples of women attending an AIP.

Another limitation is that this study used a cross-sectional design, limiting the ability to make inferences about causal associations between trauma and IPV. However, given the types of reported traumas, it is likely that some of these events were experienced prior to initial IPV perpetration (e.g., child abuse, witnessing IPV in the home). Future research might explore the longitudinal relationship of women's experiences of trauma, their trauma symptoms, and

perpetration of IPV. This study also included a screen for PTSD, the PCL-C, rather than a diagnostic evaluation. It would be useful to utilize the Clinician Administered PTSD Scale (Blake et al., 1990) or another clinician-administered measure to assess PTSD in future studies. Additionally, the reporting rates and reliability for the CTS2 Injury and CTS2 Sexual Coercion subscales were low in the present study, limiting the ability to test hypotheses for these aspects of abuse. More research is needed regarding the applicability of the CTS2 for evaluating women's perpetration in treatment samples, and whether other items assessing injury or sexual coercion may be more applicable for this population. In addition, the present study did not evaluate how the associations among IPV perpetration, trauma, and gender may vary for same versus different sex relationships. Additional research is needed to further evaluate these research questions in more diverse samples.

### **Clinical and Research Implications**

The findings have some important clinical and research implications. Overall, the results support the notion that women in treatment for IPV may need strategies tailored to their experiences as survivors of IPV as well as treatment content that addresses their trauma histories and high levels of PTSD symptoms (e.g., Goldenson, Spidel, Greaves, & Dutton, 2009). Given that significantly more women than men met criteria for probable PTSD and reported experiences of IPV victimization, addressing trauma in women's IPV perpetration treatment may be particularly crucial. These recommendations should not be taken to imply that a trauma-informed approach is irrelevant for men who perpetrate IPV, particularly given that men also had high rates of trauma exposure and elevated PTSD symptoms. Indeed, a trauma-informed program for military veterans who perpetrate IPV has been found to significantly reduce IPV perpetration in contrast to enhanced treatment as usual in the Veterans Affairs system in a

sample of men (Taft, Macdonald, Creech, Monson, & Murphy, 2016a). These promising results suggest that further efforts to incorporate trauma-informed elements and PTSD screening into IPV perpetration treatment may improve outcomes for both women and men.

In addition to applying the current results in treatment development, future research is needed to evaluate the efficacy of gender-responsive and trauma-informed treatments for women who engage in IPV. Gender responsive treatment programs are an outgrowth of gender responsivity theory, which highlights how women's differing pathways into the criminal justice and mental health systems influence their treatment needs (e.g., Stalans, 2009). Gender responsive programs aim to address the unique treatment needs that women may have based on how their lived experiences may differ from men (e.g, higher rates of exposure to sexual and domestic violence). The success of the Strength at Home program for addressing IPV among veterans who are men (Taft et al., 2016a) and of gender-responsive treatments for other mental health conditions (Stalans, 2009), support the need to develop and study trauma- and gender-informed programs for women IPV perpetrators. The need for this research is particularly urgent given research that found that men's probable PTSD symptoms were significantly associated with violence recidivism following AIP treatment (Miles-McLean et al., 2018), raising the question of whether women's PTSD symptoms may also impact treatment engagement and outcomes. Current theories indicate that PTSD symptoms and IPV risk are enhanced by altered thinking patterns, often referred to as maladaptive cognitive schemas, that may emerge following trauma, including mistrust, a need for control, negative self-evaluation, and shame (Keane et al., 2006; Taft et al., 2016b). Indeed, research studies evaluating the role of these unhelpful thinking patterns or maladaptive cognitive schemas on IPV perpetration have found that they help explain the relation between trauma and IPV perpetration (e.g., Marshall, Robinson, & Azar, 2011). The

role of maladaptive cognitions related to trauma should be examined in future research among women attending AIPs. Further, given women's everyday experiences of gender-based discrimination or microaggressions (e.g., experiences of more minor forms of sexism; Nadal & Haynes, 2012), which have been conceptualized and evaluated as potentially traumatic events (Miles-McLean et al., 2015), treatments should incorporate a clear conceptualization of how clients' experiences as women may impact their perpetration of IPV. Future research should examine how women's experience of gender-based discrimination and the intersection with other identities may be related to IPV perpetration. For example, it would be useful to evaluate how women of different sexual orientations and of diverse racial/ethnic groups may have differing treatment needs for IPV perpetration. Additionally, more work in the IPV treatment field is needed to understand the role of trauma and PTSD symptomatology in the perpetration of IPV by individuals of all gender identities.

### **Conclusions**

The present exploratory study extends our understanding of the role of trauma and PTSD in IPV to women receiving treatment for IPV perpetration. Women reported high rates of trauma exposure and PTSD symptoms, and these variables were related to their IPV perpetration. Compared to men IPV perpetrators, women were significantly more likely to be victims of IPV, to have probable PTSD, and they reported significantly higher rates of PTSD symptoms. However, the strength of associations between PTSD symptoms and IPV perpetration did not significantly differ for women and men, suggesting that PTSD is an important consideration for both women and men who perpetrate IPV (e.g., Bell & Orcutt, 2009; Taft et al., 2011). Indeed, given that more than one-third of the women's sample met criteria for probable PTSD the findings indicate the importance of developing trauma- and gender-informed IPV treatments for

women. In addition, more research is needed to conceptualize women's perpetration of IPV, taking into consideration both feminist perspectives on IPV perpetration as well as behavioral models (Dutton, 2012; Johnson, 2011). Women's perpetration of IPV shares some similarities with men's perpetration. However, given higher rates of trauma symptoms and significantly greater experiences of IPV victimization, providing trauma-informed IPV treatment tailored to women may be most appropriate and consistent with this expanding body of research.

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Table 1.

*Background Characteristics for the Participant Sample of Women and Matched Comparison**Sample of Men*

Variable	Women <i>n</i> = 32	Men <i>n</i> = 64
Age, years: <i>Mean (SD), Range</i>	33.87 (11.75), 19-63	34.27 (11.04), 19-66
Education, years: <i>Mean (SD), Range</i>	13.74 (2.41), 8-20	13.63 (2.43), 9-20
Race, <i>N (%)</i>		
American Indian / Alaskan Native	2 (6.9%)	3 (4.8%)
Asian / Asian American	1 (3.4%)	1 (1.6%)
Black / African American	10 (34.5%)	29 (46%)
Hispanic / Latinx	3 (10.3%)	7 (11.1%)
White / Caucasian	12 (41.4%)	20 (31.3%)
Other Race	1 (3.4%)	3 (4.8%)
Referral Status, <i>N (%)</i>		
Court-referred	25 (78.1%)	53 (82.8%)
Other referral source	7 (21.9%)	11 (17.2%)
Relationship Status, <i>N (%)</i>		
Reported on Current Relationship	24 (75.0%)	48 (75.0%)
Reported on Past Relationship	8 (25.0%)	16 (25.0%)

*Note:* Chi-square tests of independence (for race, referral status, and relationship status) and independent samples t-tests (for age and education) revealed no significant differences between women and the matched comparison sample of men (all *p* values > .20). Relationship status indicates whether clients reported abuse perpetration towards a current or previous relationship partner. One woman and five men were missing data on the education variable. Two women and one man missing race/ethnicity data.

Table 2.

*Trauma Exposures Endorsed: Women's Sample*

Trauma Exposure	<i>n</i>	(%)
Types of Trauma		
Serious industrial, farm, or car accident	9	29.0%
Natural disaster (e.g., tornado, hurricane, flood, etc.)	6	19.4%
Victim of a violent crime such as rape, robbery, or assault	12	38.7%
Victim of child physical abuse	4	12.9%
Victim of unwanted sexual contact before the age of 18	8	27.6%
As a child, ever witness physical abuse among adults in the home	12	38.7%
As an adult, ever been in an abusive relationship (physical, sexual, emotional)	22	71.0%
Ever witnessed someone who was mutilated, seriously injured, or killed	7	22.6%
Ever been in serious danger of losing your life or being seriously injured	10	32.3%
Ever received news of the mutilation, serious injury, or death of someone close	16	53.3%
Other traumatic experiences	9	28.1%
Number of Traumatic Categories		
Reported 1 or more traumas	29	93.5%
Reported 4 or more traumas	16	51.6%

*Note.* There was missing trauma exposure data for one woman client.



Table 3.

*Descriptive Statistics for Primary Study Variables: Women's Sample*

Variables	<i>M</i>	<i>SD</i>	Range
Trauma Symptoms			
PCL-C Total	38.09	14.67	17 - 69
Reexperiencing	11.47	4.79	5 - 20
Avoidance	15.00	6.17	7 - 29
Hyperarousal	11.63	5.35	5 - 22
Physical Aggression Perpetration			
Physical Assault	6.50	9.12	0 - 48
Injury	1.91	2.52	0 - 8
Sexual Coercion	1.94	8.91	0 - 50
Psychological Aggression Perpetration			
Restrictive Engulfment	30.69	35.25	0 - 144
Denigration	29.50	46.57	0 - 175
Hostile Withdrawal	39.35	34.57	0 - 141
Dominance/Intimidation	16.00	26.20	0 - 116
Psychological Aggression	45.38	45.51	0 - 183
Alcohol Use	5.44	9.34	0 - 45
Drug Use	37.13	108.72	0 - 472

*Note.* PCL-C = Posttraumatic Stress Disorder Checklist – Civilian Version. The sample size for the Hostile Withdrawal scale for women is 31 due to missing data for one case. All descriptives are provided for variables prior to any log-transformation for clarity.

Table 4.

*Bivariate Correlations Among Study Variables: Women’s Sample*

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Trauma Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. PCL-C Total	.53**	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Reexperiencing	.42**	.89***	-	-	-	-	-	-	-	-	-	-	-	-
4. Avoidance	.51**	.92***	.74***	-	-	-	-	-	-	-	-	-	-	-
5. Hyperarousal	.49**	.87***	.68***	.71***	-	-	-	-	-	-	-	-	-	-
6. Physical Assault <sup>a</sup>	-.01	.34	.30	.28	.34	-	-	-	-	-	-	-	-	-
7. Injury	-.10	.14	.06	.19	.13	.73***	-	-	-	-	-	-	-	-
8. Sexual Coercion <sup>a</sup>	-.25	-.04	-.01	-.09	-.01	.003	-.02	-	-	-	-	-	-	-
9. Restrictive Engulfment	.20	.56**	.43*	.45*	.62***	.32	.19	-.07	-	-	-	-	-	-
10. Denigration	.19	.36*	.20	.39*	.36*	.44*	.41*	-.18	.74***	-	-	-	-	-
11. Hostile Withdrawal	.17	.53**	.44*	.53**	.43*	.44*	.29	-.02	.67***	.67***	-	-	-	-
12. Dominance/Intimidation <sup>a</sup>	.05	.37*	.29	.24	.46**	.75***	.65***	-.15	.47***	.45*	.54**	-	-	-
13. Psychological Aggression	.27	.40*	.27	.37	.41*	.61***	.53**	-.08	.54***	.63***	.61***	.58**	-	-
14. Alcohol Use <sup>a</sup>	-.06	-.19	-.15	-.19	-.18	.45*	.36*	.20	-.32	-.08	-.01	.16	.26	-
15. Drug Use <sup>a</sup>	-.22	-.13	-.22	-.09	-.05	.15	.25	.12	-.01	-.03	-.02	.16	.13	.21

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

*Note.* PCL-C = Posttraumatic Stress Disorder Checklist – Civilian Version.

<sup>a</sup> These variables were log-transformed to reduce skewness/kurtosis.