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Trauma Exposure, PTSD Symptoms, and Presenting Clinical Problems Among Male Perpetrators of Intimate Partner Violence

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Objective: This study explores trauma exposure, posttraumatic stress disorder (PTSD) symptoms and diagnosis, and PTSD symptom associations with key presenting problems in male intimate partner violence (IPV) perpetrators. The goal is to elucidate the implications of trauma and PTSD for understanding the presenting clinical problems of partner violent men. ***Method:*** Male IPV perpetrators (n = 293) at a community-based agency completed assessments of their past traumatic event exposures; current PTSD symptoms; depression; alcohol problems; illicit drug use; relationship problems; and perpetration of physical assault, psychological aggression, injury, sexual coercion, and general (nonrelationship) violence. ***Results:*** Seventy-seven percent of participants reported past trauma exposure, 62% reported multiple trauma exposures, and 11% screened positive for a probable diagnosis of PTSD. PTSD symptom levels were significantly correlated with depression, alcohol and drug use, general violence, and all indicators of relationship maladjustment and abuse. In multivariate analyses, PTSD symptoms uniquely predicted relationship dysfunction and relationship abuse over and above the influence of alcohol problems, drug use, and depression, and all 3 PTSD symptom clusters had some unique associations with relationship abuse scales. ***Conclusion:*** Trauma exposure and PTSD symptoms should be routinely assessed in IPV perpetrator treatment. More research is needed to determine whether PTSD symptoms influence treatment response and to investigate trauma-informed interventions for this population.

Keywords: intimate partner violence, domestic abuse, trauma, PTSD, relationship problems

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Although trauma exposure and traumatic stress symptoms are linked to elevated risk for intimate partner violence (IPV) perpetration, these factors have received very little attention in research on treatment for IPV perpetrators. An extensive body of research on military veterans has identified PTSD as a significant risk factor for IPV perpetration (Taft, Watkins, Stafford, Street, & Monson, 2011). PTSD symptoms largely account for the elevated rate of IPV observed among combat veterans (Marshall, Panuzio, & Taft, 2005; Taft et al., 2007). Conceptual explanations emphasize changes in social information processing that result from combat-related posttraumatic stress disorder (PTSD; Chemtob, Novaco, Hamada, Gross, & Smith, 1997; Chemtob, Roitblat, Hamada, Carlson, & Twentyman, 1988; Taft, Creech, & Murphy, in press) and focus on the activation of context-inappropriate survival functions including heightened threat appraisal; reduced capacity for reappraisal of interpersonal safety cues; and preemptive or self-defensive reactions (in fight-or-flight mode) involving avoidance, escape, and aggression. The extensive research literature on IPV among combat veterans has produced a call for increased attention to PTSD in the treatment of partner violent men (Bell & Orcutt, 2009). The current study examines these issues in a community treatment sample of partner violent men, exploring their exposure to a range of traumatic events, PTSD symptom levels, and the links between PTSD symptoms and common presenting problems including abusive behavior, relationship difficulties, depression, alcohol and drug use, and general (nonrelationship) violence.

In contrast to the research on military veterans, studies with civilian samples focus primarily on traumatic childhood experiences as a key contributing factor in adult IPV (Capaldi, Knoble, Shortt, & Kim, 2012; Schumacher, Feldbau-Kohn, Smith Slep, & Heyman, 2001). Intergenerational patterns of violence arising from witnessing or experiencing abuse in childhood are evident in prospective studies of community samples (e.g., Ehrensaft, Moffitt, & Caspi, 2004; Milaniak & Widom, 2014) as well as case-control studies of IPV perpetrators referred for counseling (Delsol & Margolin, 2004; Stith et al., 2000). Although trauma-based theories of IPV have been proposed (e.g., Dutton, 2007), the predominant conceptual focus has been on observational learning explanations that emphasize antisocial behavior, conduct problems, and attitudes condoning violence, rather than posttraumatic stress reactions, as the explanatory mechanisms in in-

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tergenerational violence (e.g., Delsol & Margolin, 2004; Ehrensaft et al., 2004).

In light of the extensive findings on combat-related PTSD and childhood violence exposure as risk factors for IPV, surprisingly little research has examined PTSD symptoms and diagnosis in treatment samples of IPV perpetrators. Likewise, very little research has examined their exposure to traumatic events other than childhood violence or treatment challenges that arise from trauma exposures and PTSD. An early clinical study by Dutton (1995) found that IPV perpetrators had elevated scores relative to nonviolent controls on a measure of trauma-related symptoms, and trauma symptom levels were positively correlated with levels of anger, emotional abuse, and physical violence. However, their study did not directly assess trauma exposures, the diagnostic symptoms of PTSD, or PTSD diagnosis.

Subsequently, Rosenbaum and Leisring (2003) found that 13% of male IPV perpetrators in a clinical sample exceeded a cutoff for probable PTSD diagnosis on the PTSD Check List–Civilian Version (PCL-C). Those with probable PTSD self-reported significantly more frequent and severe IPV than other perpetrators, significantly more generalized aggression, higher global psychological distress, higher scores on a screening measure of alcohol problems, and more childhood exposure to physical and emotional abuse.

More recent clinical studies of PTSD in partner violent men have produced additional support for comorbid difficulties but conflicting results with respect to IPV perpetration. One study (Hoyt, Wray, Wiggins, Gerstle, & Maclean, 2012) compared court-referred male IPV perpetrators with PTSD as assessed by the Posttraumatic Stress Diagnostic Scale (Kubany, Leisen, Kaplan, & Kelly, 2000) to perpetrators who reported no trauma exposure and trauma exposure without PTSD. Overall, 83% reported one or more traumatic life events and 28% exceeded the cutoff score for PTSD. As expected, individuals with PTSD reported higher levels of depression, anxiety, and somatic complaints than the other two groups. However, in sharp contrast to previous findings, individuals with PTSD self-reported significantly lower levels of IPV than the other two groups. Another recent clinic-sample study found that PTSD symptoms were significantly and positively correlated with anger, hostility, and perpetration of partner aggression (Swopes, Simonet, Jaffe, Tett, & Davis, 2013). This study used a total PTSD symptom score but did not assess traumatic exposures or provide rates of probable PTSD diagnosis. In addition, partner aggression was measured with an adapted version of a general aggression measure rather than a more standard instrument for assessing IPV.

These prior studies suggest that trauma exposure and PTSD symptoms may be important in assessment and treatment planning for IPV perpetrators. However, questions remain regarding the nature and extent of their trauma exposures; levels of PTSD symptoms and diagnosis; and associations of PTSD symptoms with IPV perpetration, relationship dysfunction, and common comorbid problems that may inform treatment planning. More specifically, alcohol problems, drug use, and depression have been associated with PTSD in other populations and with partner violence perpetration. Therefore, it is important to determine whether PTSD is uniquely associated with abusive behavior and relationship dysfunction over and above the effects of these other common comorbid problems. Finally, in light of the heterogeneous nature of PTSD symptoms, it is important to determine whether specific symptom clusters are uniquely associated with relationship dysfunction, abusive behavior, and other common presenting clinical concerns in this population.

The current study contributes to the nascent literature on PTSD in men receiving IPV treatment. The overarching goal is to elucidate the implications of trauma and PTSD for understanding the presenting clinical problems of partner violent men. Careful descriptive research is needed to determine the extent of trauma exposure and PTSD in this population and to help clarify the ways in which trauma exposure and PTSD may warrant further consideration in assessment and treatment planning for IPV perpetrators. These objectives are addressed using archival data from a large community-based (i.e., non-Veterans Affairs) IPV treatment sample to examine (a) descriptive data on trauma and PTSD; (b) bivariate associations of PTSD symptoms and specific PTSD symptom clusters with relationship abuse, relationship dysfunction, and common presenting clinical problems in this population; (c) unique prediction of relationship abuse and dysfunction from PTSD symptom clusters; and (d) the unique associations of PTSD symptoms, relative to alcohol problems, drug use, and depression, in predicting relationship dysfunction and abuse. The specific goals of the study are as follows:

1. To provide descriptive data on partner violent men's exposure to various traumatic events, their levels of PTSD symptoms, and rates of probable PTSD diagnosis.

2. To test the hypothesis that perpetration of physical assault, sexual coercion, and emotional abuse positively correlates with PTSD symptoms.

3. To replicate and extend prior findings showing that PTSD symptom levels correlate with key presenting clinical problems in this population by testing the hypothesis that PTSD symptoms are positively correlated with problematic use of alcohol and other drugs, low levels of relationship adjustment and high levels of relationship problems, generalized violence outside of the relationship context, and depression.

4. To extend prior findings by examining associations with specific PTSD symptom clusters (reexperiencing, avoidance/numbing, and hyperarousal) as well as unique prediction from different PTSD symptom clusters under the working hypothesis that hyperarousal will have the most consistent and unique associations with abusive behavior and other presenting concerns.

5. To determine whether PTSD symptoms are uniquely associated with relationship abuse and relationship dysfunction after accounting for other problems that are often comorbid with PTSD, specifically alcohol problems, drug use, and depression.

Method

Participants

Participants were 293 men who presented for treatment at the Domestic Violence Center of Howard County, Maryland from

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April 2006 to June 2011. Of 365 participants seen during this time frame, 28 (7.7%) declined consent to have their data used for research; 5 (1.4%) were deemed inappropriate for IPV intervention; and 39 (10.7%) dropped out, declined treatment, or were referred elsewhere before completing the current study assessments.

On average, participants were 36.5 years of age (SD = 11.1), had 13.2 years of formal education (SD = 2.6), and had an annual income of $23,700 in U.S. dollars ($SD$ = $29,400); 41% self-identified as non-Hispanic Caucasian, 41% as African American, 3% as Asian American, 8% as Hispanic, 1% as Native American, and 5% as another race or ethnicity. Most (75%) were court-referred to treatment, 11% had a court case pending, and 15% reported no court involvement related to IPV.

Measures

Traumatic Events Questionnaire. An adapted version of the Traumatic Events Questionnaire (TEQ; Vrana & Lauterbach, 1994) was used to assess exposure to nine categories of potentially traumatic events (listed in Table 1). To reduce false negatives, the phrase "unwanted sexual experience that involved the threat or use of force" was used instead of the term "rape." Two open-ended questions were added: "Have you ever had any other very traumatic event like these?" and "Have you had any experiences like these that you feel you can't tell about (note: you don't have to describe the event)." For all positively endorsed categories, participants were asked the number of times that they had experienced each event, with response options of *one*, *two*, or *three or more*. In addition, participants were asked to rate how traumatic this was for them at the time on a scale of 1 (*not at all*) to 7 (*extremely*). The TEQ was administered as a structured interview to facilitate accurate interpretations of the questions. Lipschitz, Kaplan, Sorkenn, Chorney, and Asnis (1996) found a high degree of concordance between the endorsement of traumatic events on the TEQ and responses to the same questions when asked face to face (κ = .83).

PCL-C. The PCL-C (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) is a 17-item self-report questionnaire assessing PTSD symptoms with strong psychometric properties (Wilkins, Lang, & Norman, 2011). Participants rate the degree to which they have been bothered by each symptom over the past month on a scale from 1 (*not at all*) to 5 (*extremely*). Item scores are summed to create a total frequency score and symptom cluster scores for reexperiencing, avoidance/numbing, and hyperarousal. A cutoff score of 44 on the PCL-C was used to indicate a probable diagnosis of PTSD (Blanchard et al., 1996). Reliability was high in the current sample for the total PCL-C score (α = .93), reexperiencing (α = .86), avoidance/numbing, (α = .86), and hyperarousal (α = .82).

Revised Conflict Tactics Scale. The Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a widely used assessment of IPV perpetration. The Physical Assault, Psychological Aggression, Injury, and Sexual Coercion subscales were used in the current study. All questions were administered via clinician interview. Adaptations were made to address concerns arising from the random order of CTS2 items and confusion or suspicion regarding items that sound alike but have subtle differences in content. Specifically, the CTS2 items were reordered so that items for each subscale were clustered together in rough order of item severity. Participants were first asked whether they had ever engaged in each behavior and then asked about the frequency over the previous 6 months with response options of *never*, *once*, *twice*, *3–5 times*, *6–10 times*, *11–20 times*, and *more than 20 times*. The 6-month frequency scores for each CTS2 subscale were used for the current study and were computed by summing item responses after recoding item data to the midpoints of the response categories (e.g., *3–5 times* received a score 4), with a response of *more than 20* recoded as 25 (Straus et al., 1996). The α coefficients were .69, .80, .68, and .25 for the Physical Assault, Psychological Aggression, Injury, and Sexual Coercion subscales, respectively. Given that other studies have found the Sexual Coercion subscale to have adequate internal consistency (e.g., Straus et al., 1996), we decided to retain it for the current analyses despite low reliability.

Multidimensional Measure of Emotional Abuse. The Multidimensional Measure of Emotional Abuse (MMEA; Murphy,

Table 1
Participant Reports of Trauma Exposures (N = 293)

Traumatic stress category	Exposed (%)[a]	More than once (%)[b]	Trauma rating M (SD)[c]
Been in or witnessed a serious industrial, farm, car accident, or a large fire or explosion	39.9	18.6	3.5 (2.2)
Received news of mutilation, serious injury, or violent or unexpected death of someone close	33.8	16.2	5.2 (1.9)
Been in serious danger of losing your life or of being seriously injured	31.1	17.0	5.4 (2.0)
Victim of violent crime such as rape, robbery, or assault	30.4	14.7	4.3 (2.3)
Witnessed someone who was mutilated, seriously injured, or violently killed	25.7	14.1	4.3 (2.3)
Been in a natural disaster such as a tornado, hurricane, flood, or major earthquake	20.2	9.6	2.7 (2.2)
Experienced relationship abuse as an adult	19.4	12.5[d]	4.0 (2.2)
Experienced physical or sexual abuse in childhood	14.4	10.0[c]	4.9 (2.1)
Other traumatic events	13.4	2.8	5.4 (2.1)

[a] Percentage of the sample with valid data on each TEQ item (valid N varies from 284 to 293 by item). [b] Percentage of the total sample reporting multiple exposures to this event category. [c] "How traumatic was this for you at the time?" rated on a 1–7 scale where 1 = *not at all* and 7 = *extremely*. [d] Percentage reporting that the abuse exposure lasted 2 years or more.

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Hoover, & Taft, 1999) consists of 28 items designed to assess emotionally abusive behaviors in relationships. Sample items include "tried to stop the other person from seeing certain friends or family members" and "belittled the other person in front of other people." Response options and scoring were consistent with those of the CTS2. The items were grouped into the following subscales: Restrictive Engulfment ($\alpha = .88$), Hostile Withdrawal ($\alpha = .89$), Denigration ($\alpha = .89$), and Dominance/Intimidation ($\alpha = .90$).

Generality of Violence Questionnaire. A version of the Generality of Violence Questionnaire (GVQ; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000) was adapted from Holtzworth-Munroe and colleagues (2000) to assess physical violence perpetration against people other than relationship partners. Participants were asked about the frequency with which they engaged in a list of violent behaviors (taken from the CTS2) against eight different types of people (e.g., "people at work," "strangers"). Questions were worded in such a way that participants responded about the use of any of the behaviors on the list for each category of persons. Response options and scoring were consistent with those of the CTS2. Cronbach's α for the total estimated frequency of general violence in the current sample was .73.

Relationship Problems Scale. The severity of relationship problems was assessed using a 30-item adapted version of the Relationship Problems Scale (RPS; Riggs, 1993). Participants indicated the severity of each relationship problem on a scale from 0 (*not at all a problem*) to 4 (*major problem*). Sample items include "partner's attempts to control your spending money," "lack of mutual affection," and "poor communication." A total problem score was computed by summing the 0–4 item rating for all 30 items. This total problem score is highly correlated with two alternative scoring methods: the number of different problems endorsed ($r = .90$) and the average intensity rating for positively endorsed problems ($r = .69$). Cronbach's α for the total problem score in this sample was .87.

Relationship Assessment Scale. The Relationship Assessment Scale (RAS; Hendrick, Dicke, & Hendrick, 1998) is a 7-item measure of global relationship satisfaction with sound psychometric properties (Hendrick et al., 1998). Responses are provided on a 5-point Likert scale with higher numbers reflecting higher relationship satisfaction. Cronbach's α for the current sample was .98.

Structured Clinical Interview for DSM Axis I Disorders. The Structured Clinical Interview for DSM Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1995) was used to evaluate the presence or absence of current major depression. The SCID assesses *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (*DSM–IV–TR*) criteria A, C, D, and E for a major depressive episode (MDE; American Psychiatric Association, 2000). Criterion A requires five or more of the following symptoms most of the day and nearly every day during a continuous 2-week period within the past month: a depressed mood; diminished interest in previously pleasurable activities; thoughts of death/suicide; appetite abnormalities with weight loss, insomnia, or hypersomnia; psychomotor agitation; fatigue; feeling of worthlessness; and problems with thinking or concentration. To address MDE criterion B (which refers to mixed episodes), participants who met diagnostic criteria for both a current manic episode and a current MDE were not assigned a diagnosis of MDE. Criterion C requires clinically significant distress or impairment, Criterion D requires that symptoms are not due to substance use or a general medical condition, and criterion E requires that symptoms are not better accounted for by bereavement.

Alcohol Use Disorders Identification Test. The Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) is a brief 10-item measure that assesses hazardous alcohol use, dependence symptoms, and harmful alcohol use over the past year. Item scores are summed to create a total AUDIT score with a range of 0 to 40. Cronbach's α for the current sample was .85.

Frequency of Illicit Drug Use. The frequency of illicit drug use during the past 6 months was assessed via structured interview. Ten drug categories were assessed: (a) sedatives/hypnotics/tranquilizers, (b) cannabis, (c) stimulants, (d) heroin, (e) opioids, (f) cocaine, (g) phencyclidine, (h) hallucinogens, (i) inhalants, and (j) anabolic steroids. The frequency of use was recorded on an 8-point scale with the following anchors: *never*, *1–3 times*, *4–10 times*, *about once a month*, *several times a month*, *1–2 days a week*, *3–5 days a week,* and *every day or nearly every day*. For substances that can be prescribed (e.g., opiates), only illicit use beyond prescribed levels or use of nonprescribed medications was coded as positive. An annualized estimate of illicit drug use days was computed by recoding the categorical responses (e.g., "monthly" is recoded as 12 use days, and "several times a month" as 36 use days) and summing across drug categories.

Procedures

All data were obtained during agency program intake from self-report questionnaires and interviews conducted by trained graduate student clinicians. Study procedures were approved through institutional review at the University of Maryland, Baltimore County.

Data Analysis

Descriptive data are provided on rates of exposure to various traumatic stressors and PTSD symptoms. Before correlational analyses, distributions for all study variables were examined to detect substantial deviation from normality, defined as skew greater than 2.0 and/or kurtosis greater than 7.0 (West, Finch, & Curran, 1995). Variables that deviated from normality were log transformed. If substantial skew or kurtosis remained after transformation, then analyses were repeated with nonparametric alternatives (e.g., Spearman rank-order correlation) to verify that substantive findings were robust to the violation of statistical assumptions.

To examine associations of PTSD symptoms and symptom cluster scores with measures of relationship abuse, relationship dysfunction, and other presenting clinical problems, first bivariate (Pearson) correlations were conducted. Next, multiple regressions were conducted with the three PTSD symptom clusters as the predictor variables to examine the significance of unique associations with the three PTSD symptom clusters. Given that the symptom clusters are highly intercorrelated and therefore likely to have a high degree of shared prediction, unique associations at $p <$ .10 are interpreted as clinically meaningful. Finally, to determine whether PTSD uniquely predicts relationship abuse and relationship dysfunction relative to other common symptoms, doubly

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multivariate multiple regressions were conducted with alcohol problems, drug use frequency, depression, and PTSD as the predictor variables. One analysis included six indicators of relationship abuse as the dependent variables (the four MMEA scales and CTS2 Physical Assault and Psychological Aggression) and another analysis included two indicators of relationship dysfunction as the dependent variables (relationship adjustment and total relationship problems).

Results

Rates of Trauma Exposure

Table 1 displays the percentage of participants who endorsed each of nine categories of traumatic experiences on the TEQ and the percentage who reported multiple exposures within each category of trauma. A total of 227 participants (77.5%) reported experiencing at least one traumatic event. All categories assessed by the TEQ were common in this sample, including criminal victimization, violence exposures, and witnessing harm to others. However, only 15% of the sample reported experiencing physical or sexual abuse in childhood, and only 19% reported relationship abuse victimization in adulthood. More than half of participants (62%) reported exposures in more than one trauma category, and 27% reported exposures in four or more trauma categories. Among those who endorsed traumatic experiences, roughly half reported multiple or extended exposures within each category of trauma.

Table 1 also displays average ratings of the extent to which participants experienced these events as traumatic. The highest average ratings of trauma (means close to or >5 on a 7-point rating scale) were provided for being in danger of losing one's life or being seriously injured, receiving news of harm to someone close, and childhood abuse experiences. The lowest average ratings (means <4) were provided for accidents and natural disasters. Overall, the ratings indicate that events captured by the TEQ in general constitute traumatic stress exposures consistent with criterion A1 for the *DSM–IV* diagnosis of PTSD (American Psychiatric Association, 2000).

PTSD Symptoms and Diagnosis on the PCL-C

The number of participants who met symptomatic criteria for the *DSM–IV* diagnosis of PTSD was estimated with the PCL-C. For each PCL-C item, a score of 3 or greater (corresponding to a symptom rating of "moderately") was used to indicate the presence of that symptom, and symptoms were then mapped onto the *DSM–IV* diagnostic criteria. Using this method, 99 participants (33.8%) reported one or more reexperiencing symptom (criterion B), 55 (18.8%) reported 3 or more avoidance/numbing symptoms (criterion C), and 68 (23.2%) reported two or more hyperarousal symptoms (criterion D). A total of 33 participants (11.3%) met all three symptomatic criteria for the *DSM–IV* diagnosis of PTSD; 31 of who reported trauma exposure on the TEQ, producing an estimated PTSD prevalence of 10.6%. This prevalence estimate is very similar to that obtained by using a cutoff score of 44 or greater for the PCL-C. Using that method, a total of 32 participants (10.9%) screened positive for a probable diagnosis of PTSD.

PCL-C Correlations With Other Presenting Clinical Problems, Relationship Dysfunction, and Relationship Abuse

Table 2 displays zero-order correlations of total symptom scores and symptom cluster scores on the PCL-C with indicators of common clinical problems, relationship functioning, and relationship abuse. For common comorbid problems, all PCL-C total score correlations were in the small to medium range of magnitude (ranging from .15 to .28), in the expected direction, and statistically significant. Individuals with higher levels of PTSD symptoms had higher levels of problematic alcohol use, other drug use, major depressive disorder, and generalized violence. For PCL-C symptom cluster scores, correlations with problematic alcohol use,

Table 2
Pearson Correlations Among PTSD Symptoms, Common Presenting Clinical Problems, Relationship Functioning, and Partner Abuse

Variable	PCL-C: total	PCL-C: reexperiencing	PCL-C: avoidance/ numbing	PCL-C: hyperarousal
AUDIT	.15*	.16**	.14*	.10
Drug use frequency[a]	.18**	.19**	.15*	.14*
SCID MDD	.28**	.25**	.27**	.23**
Generalized violence[a]	.21**	.20**	.19**	.17**
RAS	−.21**	−.25**	−.18**	−.15*
RPS: total problems score	.42**	.39**	.37**	.37**
MMEA: Restrictive Engulfment[a]	.39**	.34**	.35**	.36**
MMEA: Denigration[a]	.32**	.33**	.25**	.30**
MMEA: Hostile Withdrawal	.43**	.32**	.38**	.45**
MMEA: Dominance/Intimidation[a]	.37**	.34**	.37**	.29**
CTS2: Psychological Aggression[a]	.28**	.24**	.25**	.27**
CTS2: Physical Assault[a]	.17**	.18**	.16**	.12*
CTS2: Sexual Coercion[a]	.16**	.19**	.15*	.10
CTS2: Injury to Partner[a]	.16**	.12	.18**	.13*

Note. MDD = major depressive disorder.
[a] Scale log transformed to reduce skew and kurtosis.
* $p < .05$. ** $p < .01$.

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other drug use, major depression, and general violence were very similar in magnitude to the PCL-C total score correlations (ranging from .10 to .27). All cluster score correlations were statistically significant, with one exception—hyperarousal symptoms were not significantly correlated with AUDIT scores. Overall, as predicted, these correlations indicate that PTSD symptoms provide a clinically relevant marker of behavioral and emotional dysregulation among partner violent men.

As expected, the PCL-C total score was significantly and inversely correlated with relationship adjustment as measured by the RAS (see Table 2). This effect was in the small to medium range of magnitude. In addition, the PCL-C total score exhibited a significant correlation of medium magnitude with total relationship problems. Likewise, PCL-C symptom cluster score correlations with relationship adjustment and relationship problems were all statistically significant and very similar in magnitude to the correlations with the PCL-C total score (ranging from .15 to .42).

Table 2 displays PTSD symptom correlations with several forms of relationship abuse perpetration. With respect to the PCL-C total score and all of the PCL-C symptom cluster scores, the results reveal significant correlations approaching a medium effect size (ranging from .25 to .45) with all forms of emotional abuse assessed by the MMEA. Thus, partner violent men with PTSD symptoms report emotional abuse reflecting the expression of control through hostile avoidance, jealous insecurity, partner denigration, and fear-inducing displays of dominance. Also as expected, PCL-C total scores were found to correlate significantly with all abuse subscales of the CTS2, including Physical Assault, Sexual Coercion, and Injury. These associations were small in magnitude (ranging from .16 to .28). Correlations between CTS2 scales and the PCL-C symptom cluster scales were generally similar in magnitude to correlations observed with the PCL-C total symptom score. Two symptom cluster correlations were not significant—hyperarousal with sexual coercion and reexperiencing with injuries. Overall, the results provide support for the prediction that partner violent men with PTSD symptoms have elevated rates of abuse perpetration at the initiation of treatment services.

Unique Associations With PTSD Symptom Clusters

Table 3 displays the unique associations for the three PTSD symptom clusters as indicated by standardized regression weights from multiple regressions predicting each of the clinical, relationship, and abuse variables. The expectation that hyperarousal symptoms would be uniquely associated with abusive behavior received partial support. Hyperarousal was uniquely associated with several forms of emotional abuse, including denigration, hostile withdrawal, and restrictive engulfment (at $p < .05$); CTS2 Psychological Aggression (at $p < .10$); and with total relationship problems (at $p < .10$). Hyperarousal was not uniquely associated with dominance/intimidation, physical assault, sexual coercion, or injury. Avoidance/numbing symptoms were uniquely associated with dominance/intimidation (at $p < .05$) and injury (at $p < .10$). Reexperiencing symptoms was significantly associated with drug use, relationship adjustment, relationship problems, denigration, and sexual coercion (at $p < .05$) and with dominance/intimidation (at $p < .10$).

Unique Prediction of Relationship Dysfunction and Relationship Abuse From PTSD Relative to Alcohol Problems, Drug Use, and Depression

Doubly multivariate (canonical) analyses were conducted to test the hypothesis that PTSD symptoms would have unique associations with relationship problems and abusive behavior over and above the influence of alcohol problems, drug use, and depression. In the analysis predicting relationship dysfunction, which included relationship adjustment and total relationship problems as the dependent variables, PTSD symptoms (PCL-C total score) provided significant unique prediction, *Pillai's Trace* = .135, $F(2, 268) = 20.83$, $p < .001$. Alcohol problems (AUDIT total score) also uniquely predicted relationship dysfunction, *Pillai's Trace* = .026, $F(2, 268) = 3.61$, $p < .028$, whereas drug use, *Pillai's Trace* = .005, $F(2, 268) = 0.61$, $p = .545$, and depression, *Pillai's Trace* = .000, $F(2, 268) = 0.02$, $p = .976$, did not. PTSD

Table 3
Standardized Regression Coefficients Showing Unique Associations of PTSD Symptom Clusters With Common Presenting Clinical Problems, Relationship Functioning, and Partner Abuse

Dependent variable	Reexperiencing	Avoidance/ numbing	Hyperarousal	Overall model R^2
AUDIT	.14	.05	−.03	.03*
Drug use frequency[a]	.18*	−.00	.02	.04*
SCID MDD	.10	.17†	.03	.08**
Generalized violence[a]	.14	.07	.03	.05**
RAS	−.27**	−.01	.03	.06**
RPS: total problems score	.22**	.09	.16†	.18**
MMEA: Restrictive Engulfment[a]	.13	.12	.18*	.15**
MMEA: Denigration[a]	.28**	.10	.18*	.12**
MMEA: Hostile Withdrawal	.00	.10	.38**	.21**
MMEA: Dominance/Intimidation[a]	.15†	.24*	.02	.14**
CTS2: Psychological Aggression[a]	.08	.07	.16†	.08**
CTS2: Physical Assault[a]	.15	.08	−.03	.04*
CTS2: Sexual Coercion[a]	.20*	.04	−.06	.04*
CTS2: Injury to Partner[a]	−.04	.19†	.02	.03*

Note. MDD = major depressive disorder.
[a] Scale log transformed to reduce skew and kurtosis.
† $p < .10$. * $p < .05$. ** $p < .01$.

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symptoms were also a significant unique predictor in the analysis of relationship abuse, which included the four MMEA subscales and the CTS2 Psychological Aggression and Physical Assault scales as the dependent variables, *Pillai's Trace* = .262, $F(6, 262) = 15.46$, $p < .001$. Depression also had a significant unique contribution to the prediction of relationship abuse, *Pillai's Trace* = .064, $F(6, 262) = 3.00$, $p = .008$, whereas alcohol problems, *Pillai's Trace* = .034, $F(6, 262) = 1.52$, $p = .173$, and drug use, *Pillai's Trace* = .014, $F(2, 262) = 0.63$, $p = .705$, did not.

Discussion

Consistent with other recent studies (Hoyt et al., 2012; Maguire et al., 2015), more than three fourths of this community-based treatment sample of male IPV perpetrators reported exposure to one or more traumatic event, and more than half reported multiple exposures. Despite the high rates of traumatic events, only approximately 11% of participants met the criteria for a probable PTSD diagnosis. Nevertheless, this diagnostic rate is roughly 3 times higher than the average estimate of PTSD for men in the United States (Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Although prior research has focused primarily on IPV perpetrators' experience and witnessing of abuse in childhood, it is noteworthy that the current study found high rates of exposure to multiple forms of trauma outside of those categories. Surprisingly, less than one in five participants reported childhood abuse, further suggesting that a broad range of trauma exposures may elevate risk for IPV perpetration.

Significant PTSD symptom correlations were found with problematic alcohol use, drug use, and depression, consistent with previous research in veteran and civilian samples (e.g., Brady, Killeen, Brewerton, & Lucerini, 2000). These findings are consistent with the notion that individuals may use substances to self-medicate stress and anxiety symptoms as part of a general pattern of negative coping and experiential avoidance (Brady, Back, & Coffey, 2004; McCauley, Killeen, Gros, Brady, & Back, 2012). In addition, individuals with higher levels of PTSD symptoms reported lower relationship adjustment, more relationship problems, and higher levels of abusive behavior on all scales assessed, including physical assault, sexual coercion, and emotional abuse.

Multivariate analyses indicate that PTSD symptoms are uniquely associated with relationship dysfunction and abusive behavior over and above the effects of problems that often co-occur with PTSD, namely alcohol problems, drug use, and depression. These results are both novel and intriguing given that substance use has received much greater attention than PTSD in research on IPV perpetrators. As noted in the introduction, prior clinical studies have yielded conflicting findings with respect to associations between PTSD symptoms and partner abuse. The current study extends this literature by confirming positive associations between PTSD and abusive behavior in a relatively large community-based clinical sample by uncovering PTSD correlations with the expression of control through hostile avoidance, jealous insecurity, denigration, and intimidation and by demonstrating that PTSD associations with abusive behavior and relationship problems remain significant after accounting for substance use and depression.

Further analysis revealed a somewhat unexpected pattern of unique associations between PTSD symptom clusters and presenting clinical problems. Prior conceptual and empirical work with military veterans (Chemtob et al., 1997; Taft et al., 2007) indicates that hyperarousal symptoms heighten threat appraisal and anger-mediated reactions that result in partner abuse. Consistent with this expectation, hyperarousal uniquely predicted several forms of emotional abuse, although it was not uniquely associated with physical assault or injury. The significant unique associations found for reexperiencing symptoms, including associations with relationship problems, denigration, and sexual coercion, were surprising given that reexperiencing has been largely ignored in efforts to explain the link between PTSD and partner violence. Reexperiencing of traumatic memories may maintain activation of posttraumatic beliefs that motivate abusive behavior, including themes associated with betrayal, mistrust, and a desire for control (Taft et al., in press). Also intriguing was the finding that avoidance/numbing symptoms uniquely predicted dominance/intimidation and injurious violence. Symptoms in this cluster, including feelings of detachment from others and emotional avoidance, may impede self-monitoring during conflict escalation such that the individual continues aggressing to the point of injury in the presence of cues that might otherwise end or inhibit violence. Conversely, it is possible that intimidating displays or injurious forms of aggression may serve an avoidance function by terminating aversive interactions. More research is needed to replicate these findings and examine putative mechanisms through which specific PTSD symptoms may increase risk for abusive behavior.

Limitations

The reliance on self-report data raises concerns about response biases. It is likely that participants vary in their willingness to acknowledge symptoms and behavioral problems, which may produce deflated estimates of PTSD symptoms and inflated estimates of associations among indicators of socially undesirable characteristics and behaviors. However, the acknowledgment of emotional and psychological problems, including substance abuse, may also provide a way to account for or excuse partner violence, which may produce inflated estimates of some problems. Although the potential effects of reporting biases remain difficult to discern, the findings nevertheless indicate that self-report data from partner violent men has value in detecting trauma histories and correlated patterns of emotional and behavioral problems.

Other features of the assessments also warrant consideration as potential limitations. Because the data were collected as part of a routine clinic assessment, the order of administration of instruments was kept constant and may have influenced responding. With respect to the low detection rate of child victimization (15%), we used a very general trauma assessment that required a subjective appraisal of abuse embedded in a series of questions about severe and often life-threatening trauma exposures. Using similar questions in a clinic sample of IPV perpetrators, another recent study found similar rates of 19% for experienced assault in childhood and 8% for sexual victimization (Maguire et al., 2015). In addition, although witnessing serious injury to others was included in the assessment, witnessing interparental aggression in childhood, which was reported by 33% of respondents in the Maguire study, was not included in the current assessment. Enhanced

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detection of childhood trauma and victimization is likely with more detailed questions regarding physical punishment, sexual experiences, and witnessed abuse.

Although relatively diverse in social and demographic backgrounds, the sample was drawn from one agency within a specific suburban county in Maryland. Generalization to other populations and contexts requires caution, and replication is essential in that process. In addition, military veteran status was not assessed, limiting comparisons to research conducted with active-duty and veteran samples. Although the rates of trauma exposures and PTSD appear high relative to population data, a nonviolent control group was not available to provide case-control comparisons with the current sample. In addition, the results should not be taken to imply that trauma and PTSD are unique concerns of IPV offenders because other populations of offenders may also have high rates of trauma exposure.

Finally, the cross-sectional design limits conclusions about the temporal ordering of trauma exposure and IPV. Among those who reported trauma exposure on the TEQ, 52% experienced their first event by age 15 and 76% by age 21. Although these figures suggest that traumatic stress likely preceded the onset of IPV perpetration for most participants, this cannot be definitively demonstrated without a longitudinal design.

Clinical and Policy Implications

Many IPV perpetrators have comorbid mental health problems that may influence their expression of abuse and violence. In fact, IPV perpetrators in the community have substantial unmet mental health needs (Lipsky, Caetano, & Roy-Byrne, 2011). The current findings highlight the unique importance of trauma exposure and PTSD symptoms in this population. The results indicate that providers should assess trauma exposure and PTSD in this population because these factors may be very important in case formulation and efforts to plan and provide comprehensive treatment services to reduce IPV.

Many community intervention programs for IPV offenders maintain a narrow focus on abusive behavior, and many providers do not assess for comorbid mental health and behavioral problems (Klostermann, Kelley, Mignone, Pusateri, & Fals-Stewart, 2010; Rhodes et al., 2009). The lack of comprehensive services may be due, in part, to state and local guidelines that downplay the importance of mental health and emotional problems in court-mandated interventions for IPV offenders (Maiuro & Eberle, 2008). In addition, there is limited empirical research that can guide efforts to address the co-occurrence of IPV and associated behavioral and mental health problems (Klostermann et al., 2010; Stover, Meadows, & Kaufman, 2009).

Research Implications

Further research is needed to examine PTSD among IPV offenders using standard diagnostic tools, such as the Clinician Administered PTSD Scale, and more recent diagnostic criteria (e.g., *DSM–5*, American Psychiatric Association, 2013). Although the current findings suggest that the full range of PTSD symptoms is important in understanding partner abuse, more fine-grained analysis is needed to determine whether a diagnosis of PTSD is uniquely related to IPV risk relative to subclinical symptom presentations. In addition, although diagnostic formulations of PTSD emphasize anxiety and avoidance symptoms, other common aftereffects of trauma and other trauma-related disorders also warrant investigation. Interpersonal dysfunction and emotion dysregulation are key components of other conditions often associated with trauma, including borderline personality disorder and complex PTSD (e.g., Cloitre et al., 2009; Wolf et al., 2015). Further studies are needed to determine whether posttrauma reactions beyond PTSD help explain the links between trauma exposure and IPV perpetration.

Important questions also remain regarding the risks conveyed by specific PTSD symptom clusters. The current findings provide only partial and inconsistent support for the expectation, derived from research on military and veteran populations, that hyperarousal is the key contributor to IPV risk and avoidance/numbing to relationship distress (Taft et al., 2011). Our findings suggest a need for additional research to examine mediational pathways involving common posttraumatic cognitions, changes in social information processing, and arousal dysregulation in efforts to link specific PTSD symptoms to relationship dysfunction and IPV. Such results may prove essential to the development of trauma-informed IPV treatment strategies.

Finally, additional work is needed to determine whether individuals with extensive trauma exposures and PTSD symptoms respond differently to existing IPV interventions and to further develop and investigate trauma-informed and trauma-focused services for IPV offenders. Encouraging recent findings indicate that trauma-informed intervention is efficacious in reducing IPV in military veterans (Taft, Macdonald, Creech, Monson, & Murphy, in press).

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