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Examining the Role of Antisocial Personality Disorder in Intimate Partner Violence Among Substance Use Disorder Treatment Seekers With Clinically Significant Trauma Histories

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Abstract

This study examined the associations among posttraumatic stress disorder (PTSD) symptom severity, antisocial personality disorder (ASPD) diagnosis, and intimate partner violence (IPV) in a sample of 145 substance abuse treatment-seeking men and women with positive trauma histories; sex was examined as a moderator. ASPD diagnosis significantly predicted both verbal and physical aggression; sex moderated the association between ASPD diagnosis and physical violence. PTSD symptom severity significantly predicted engaging in verbal, but not physical, aggression. Overall, these results suggest that an ASPD diagnosis may be an important risk factor for engaging in IPV among women seeking treatment for a substance use disorder.

Keywords: posttraumatic stress disorder, antisocial personality disorder, IPV, substance abuse

Alcohol and substance use are robust predictors of intimate partner violence (IPV) perpetration and victimization (Foran & O'Leary, 2008; Moore et al., 2008; Smith, Homish, Leonard, & Cornelius, 2012; Stith, Smith, Penn, Ward, & Tritt, 2004). Thus, it is not surprising that rates of IPV among substance abuse treatment seekers are much higher than those in the general population. The 1-year prevalence of male-to-female and female-to-male IPV among married/cohabiting U.S. couples has been estimated at 5.21-13.61% and 6.22-18.21%, respectively (Schafer, Caetano, & Clark, 1998). In contrast, the 1-year prevalence of male-to-female and female-to-male IPV perpetration in substance abuse treatment samples is 58%-85% and 50-68%, respectively, and the 1-year prevalence of female victimization in substance abuse treatment samples ranges from 47-87% (Stuart, O'Farrell, & Temple, 2009). Although these rates are elevated, it is important to note that a significant minority of men and women seeking substance abuse treatment do not report past-year IPV experiences. Thus, it may be important to contextualize the relationship between substance use and IPV in what is known about other conditions that commonly occur with both IPV and alcohol and other substance use disorders (SUDs).

Alcohol and substance use/dependence are highly comorbid with posttraumatic stress disorder (PTSD; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). PTSD is classified as an anxiety disorder that develops following exposure to a traumatic event (e.g., motor vehicle accident, natural disaster, sexual or physical assault, combat) involving actual or perceived threat of death and in which an individual experiences intense feelings of fear, horror, and/or helplessness. PTSD is composed of a wide range of symptoms that include a diverse array of cognitive, affective, behavioral, and physiological symptoms. Among combat veterans with PTSD, studies have consistently found significantly higher rates of alcohol abuse in comparison with control subjects and non-combat veterans. Comparable findings have been reported among survivors of physical and sexual assault and disasters (Miller, Downs, & Testa, 1993; Vlahov et al., 2002). Findings from these studies also suggest that the severity of alcohol abuse may be positively associated with trauma severity, and rates of PTSD tend to be higher among alcohol/substance abusers (see Brady, Back, & Coffey, 2004).

In a related literature, research also shows that PTSD increases the risk of IPV perpetration (e.g., Bell & Orcutt, 2009). For example, in the National Vietnam Veterans Readjustment Study (NVVRS), Kulka et al. (1990) reported that approximately one third of male Vietnam veterans had engaged in IPV in the previous year. This rate was higher not only when compared with civilian samples but also in comparison with combat veterans without a diagnosis of PTSD. Similar findings have been reported among non-clinical samples of civilian men. For example, Jakupcak and Tull (2005) found that in comparison with men without trauma exposure or symptoms associated with PTSD, men with trauma-related PTSD symptoms reported engaging in significantly more IPV. The elevated rate of IPV perpetration observed among individuals with PTSD is not surprising in light of the symptom presentation of the condition. PTSD includes the presence of irritability or outbursts of anger (i.e., symptom D2 in the *Diagnostic and Statistical Manual of Mental Disorders* [4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association [APA], 2000] and E1

in *DSM-5*; APA, 2013). Research shows that irritability is associated with impulsive aggression (Barratt, 1991; Stanford, Greve, & Dickens, 1995; Stanford et al., 2003), and anger is a well-established correlate of IPV (e.g., Norlander & Eckhardt, 2005). Furthermore, re-experiencing symptoms may lead a person with PTSD to feel increased fear, in turn resulting in hypervigilance, which ultimately increases risk of aggressive behavior (Novaco & Chemtob, 2002).

Antisocial personality disorder (ASPD) has also been identified as a risk factor for both alcohol use disorders (AUDs) and IPV perpetration (e.g., Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000). ASPD is defined as a "pervasive pattern of disregard for and violation of the rights of others" (APA, 2013, p. 659). This pattern of behavior typically starts in childhood or adolescence and persists through adulthood. Prevalence rates range from 0.2%-3.3%; however, the highest rates are typically seen among males with alcohol/substance abuse problems. A study comparing treatment-seeking men without a history of a SUD with men with a history of SUD found that in comparison with the former group, men in the latter group were more likely to meet criteria for borderline personality disorder and ASPD (Ray, Primack, Chelminski, Young, & Zimmerman, 2011). In addition, in a recent longitudinal study examining static and time-varying risk factors associated with perpetration of IPV, Taft and colleagues (2010) found that ASPD characteristics were associated with higher rates of IPV perpetration at baseline. Furthermore, ASPD characteristics predicted perpetration of IPV at the 6-month follow-up among participants reporting no IPV at baseline. Again, it is not surprising that IPV is elevated in patients with ASPD because impulsivity, irritability and aggressiveness, and lack of remorse are all symptoms of ASPD.

To date, the bulk of research in this area has focused primarily on male-to-female IPV. Studies examining female-to-male IPV typically contextualize female perpetration within the context of women's IPV victimization. Nonetheless, these studies typically report findings similar to those established in male samples. For example, in a sample of 103 women arrested for IPV perpetration and mandated to attend a batterer intervention program, Stuart, Moore, Gordon, Ramsey, and Kahler (2006) found the prevalence of PTSD, alcohol abuse/dependence, and ASPD was elevated in comparison with women in the general population. Specifically, they reported that 44% of their sample met criteria for probable PTSD, whereas 43% met criteria for alcohol abuse/dependence and 7% met criteria for ASPD. In a study comparing 112 females arrested for IPV perpetration with 1,158 male domestic violence offenders, Henning, Jones, and Holdford (2003) reported no significant differences between men and women on the Antisocial, PTSD, and Alcohol scales of the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon, 1994). Finally, a recent study of female inmates revealed that 100% of the sample ($N = 41$) met criteria for ASPD, and more than half (56%) met criteria for alcohol dependence (Lewis, 2011). Furthermore, more than half the sample (54%) hit a significant other or family member while under the influence.

Several studies have also shown elevated rates of PTSD and ASPD among men and women seeking treatment for an alcohol or other SUD. In clinical populations, it is estimated that 40% of those presenting for treatment of a SUD also met criteria for comorbid PTSD (Dansky, Roitzsch, Brady, & Saladin, 1997; Ouimette, Read, &

Brown, 2005). Among individuals with a SUD who are also diagnosed with co-occurring PTSD, prevalence rates of ASPD are estimated to be between 41-52% (Cottler, Nishith, & Compton, 2001). Accordingly, a recent study found that in a primarily female sample, individuals diagnosed with comorbid PTSD and AUD were more likely to meet criteria for ASPD than individuals diagnosed with PTSD only (Ray et al., 2009). Additional analyses revealed that those with only an AUD had a lower prevalence rate of ASPD than those with PTSD only (2.6% and 3.4%, respectively); however, this difference was not statistically significant. Those with an AUD only had a significantly lower prevalence rate of ASPD than those with comorbid PTSD and AUD (2.6% and 13.5%, respectively).

In light of the increased prevalence of PTSD and ASPD among individuals with an AUD or SUD, and the robust relationship between AUD/SUD and IPV, the roles of these variables in IPV perpetration necessitate further investigation. The current study sought to extend previous findings by examining the relations among PTSD symptom severity, ASPD diagnosis, and both engaging in and experiencing IPV in a sample of substance abuse treatment-seeking men and women, who were identified as having probable AUD and PTSD diagnoses. Specifically, we hypothesized that (a) PTSD symptom severity would be positively associated with IPV, and (b) ASPD would be positively associated with IPV. Sex was included as a moderator in the models to examine potential sex differences in these relations.

Method

Participants

The current sample comprises 145 males and females who were seeking treatment for a SUD. All participants completed the eligibility/baseline assessment for a recently completed randomized clinical trial targeting participants meeting diagnostic criteria for comorbid PTSD and alcohol dependence (manuscript under review). To complete the eligibility/baseline assessment for the clinical trial, participants had to report experiencing a traumatic event, exceed the 44-point cutoff score for probable PTSD on the PTSD Checklist–Civilian version (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993), and exceed the 8-point cutoff for a probable alcohol problem on the *Alcohol Use Disorders Identification Test* (AUDIT; Babor, de la Fuente, Saunders, & Grant, 1992) during screening. Thus, although all participants included in the current analyses exceeded cutoffs for probable PTSD and alcohol dependence, not all met full diagnostic criteria for PTSD and alcohol dependence. To be included in the current analyses, participants also had to report a current romantic relationship (i.e., married, engaged, cohabitating, or serious dating relationship); of the 224 individuals initially screened into the study, 65% ($n = 145$) were involved in a current romantic relationship. Demographic characteristics of the sample can be found in Table 1.

Measures

Posttraumatic stress disorder. The National Women's Study of Posttraumatic Stress Disorder Module–Part 1 (NWS-PTSD; Kilpatrick, Resnick, Saunders, & Best, 1989)

Table 1. Sample Descriptives.

Characteristic	Males (<i>n</i> = 68)	Females (<i>n</i> = 77)	Total (<i>N</i> = 145)
Age <i>M</i> (<i>SD</i>)	33.4 (9.61)	32.5 (9.53)	32.9 (9.55)
Race			
Caucasian	<i>n</i> = 52 (77%)	<i>n</i> = 64 (83%)	<i>n</i> = 116 (80%)
African American	<i>n</i> = 15 (22%)	<i>n</i> = 12 (16%)	<i>n</i> = 27 (19%)
Other	<i>n</i> = 1 (1%)	<i>n</i> = 1 (1%)	<i>n</i> = 2 (1%)
Alcohol abuse/dependence	<i>n</i> = 59 (87%)	<i>n</i> = 65 (86%)	<i>n</i> = 124 (86%)
Other substance abuse/dependence	<i>n</i> = 48 (71%)	<i>n</i> = 62 (81%)	<i>n</i> = 110 (76%)
CAPS total score <i>M</i> (<i>SD</i>)	65.5 (22.1)	71 (24.3)	68.4 (23.4)
PTSD (% meeting dx. criteria)	<i>n</i> = 49 (72%)	<i>n</i> = 61 (79%)	<i>n</i> = 110 (76%)
ASPD (% meeting dx. criteria)	<i>n</i> = 37 (54%)	<i>n</i> = 24 (32%)	<i>n</i> = 61 (43%)
ASPD PTSD	<i>n</i> = 25 (37%)	<i>n</i> = 18 (24%)	<i>n</i> = 43 (30%)
CTS verbal aggression <i>M</i> (<i>SD</i>)			
Perpetration	39.26 (33.58)	46.00 (40.73)	42.88 (37.37)
Perpetration ASPD	<i>n</i> = 35 (56%)	<i>n</i> = 23 (35%)	<i>n</i> = 58 (45%)
Perpetration PTSD	<i>n</i> = 46 (73%)	<i>n</i> = 54 (81%)	<i>n</i> = 100 (77%)
Victimization	36.23 (35.80)	38.19 (39.33)	37.27 (37.95)
Victimization ASPD	<i>n</i> = 34 (57%)	<i>n</i> = 22 (36%)	<i>n</i> = 56 (46%)
Victimization PTSD	<i>n</i> = 43 (72%)	<i>n</i> = 51 (80%)	<i>n</i> = 94 (76%)
Perpetration Victimization	<i>n</i> = 60 (92%)	<i>n</i> = 63 (86%)	<i>n</i> = 123 (89%)
CTS physical violence <i>M</i> (<i>SD</i>)			
Perpetration	2.77 (6.67)	10.28 (18.91)	6.74 (14.92)
Perpetration ASPD	<i>n</i> = 17 (55%)	<i>n</i> = 20 (44%)	<i>n</i> = 37 (48%)
Perpetration PTSD	<i>n</i> = 20 (65%)	<i>n</i> = 37 (77%)	<i>n</i> = 57 (72%)
Victimization	11.29 (29.29)	14.09 (33.55)	12.77 (31.53)
Victimization ASPD	<i>n</i> = 21 (57%)	<i>n</i> = 17 (45%)	<i>n</i> = 38 (51%)
Victimization PTSD	<i>n</i> = 25 (68%)	<i>n</i> = 28 (72%)	<i>n</i> = 53 (70%)
Perpetration Victimization	<i>n</i> = 26 (39%)	<i>n</i> = 37 (50%)	<i>n</i> = 63 (45%)

CAPS = Clinician-Administered PTSD Scale; PTSD = posttraumatic stress disorder; ASPD = antisocial personality disorder; CTS = Conflict Tactics Scale; Dx = diagnosis.

is a widely used instrument for the assessment of traumatic life events and has been used in studies of both men and women (e.g., Brady, Dansky, Back, Foa, & Carroll, 2001; Coffey, Stasiewicz, Hughes, & Brimo, 2006; Schumacher, Coffey, & Stasiewicz, 2006). This semi-structured interview assesses respondents' experiences of various potentially traumatic events (e.g., military combat, serious accidents, natural disasters, forced sex, physical assault, attack with a weapon) and whether or not perception of threat and psychological experience of the event was consistent with *DSMIV-TR* Criterion A for PTSD diagnosis (APA, 2000, p. 467). Events in which the respondents reported experiencing actual or threatened death or serious injury and their response to this event involved feelings of intense fear, helplessness, or horror

Table 2. Exposure to Criterion A Traumatic Events by Sex.

	Males (<i>n</i> = 68)	Females (<i>n</i> = 77)	χ^2 (<i>df</i>)
	<i>n</i> (%)	<i>n</i> (%)	
Criterion A traumatic event exposure			
Non-interpersonal	29 (42.6)	26 (33.8)	1.2 (1)
Interpersonal	36 (52.9)	41 (53.2)	0.00 (1)
Serious injury or death of others	30 (44.1)	29 (37.7)	0.62 (1)
Other events	30 (44.1)	28 (36.4)	0.91 (1)

Non-interpersonal category comprised of motor vehicle accident and natural disaster; Interpersonal category comprised of sexual trauma, physical assault, and physical childhood abuse; Witness category comprised of seeing someone injured or killed and family member or close friend being murdered or dying in motor vehicle accident; Other category comprised of other situation in which serious injury occurred, other situation in which there was fear of being killed or seriously injured, and any other "extraordinarily stressful situation or event."

were considered fulfilling Criterion A requirements (from this point on, such events will be referred to as "Criterion A events"). The version of the NWS-PTSD used in the current study was modified by Dansky, Bryne, and Brady (1999) to include additional items aimed specifically at assessing assaults by an intimate partner (e.g., physical assault/attack using a weapon, physical attack/assault with intent to cause death or serious injury, physical attack/assault without intent to cause death/serious injury). Participants are asked to indicate which event(s) occurred and, for those events that did occur, to report the age/age range at which the event(s) occurred and who the perpetrator was (if applicable). The original NWS-PTSD demonstrates good concurrent validity with the Structured Clinical Interview for DSM Disorders-PTSD Module and has acceptable reliability (Resnick, 1996). Table 2 provides prevalence rates, separated by sex, of index traumas reported on the NWS-PTSD. Given the focus of the current study, both past-year and lifetime prevalence rates of physical assault and sexual assault by a partner are provided in Table 3. The difference between the participant's age at the time(s) of the incident and his or her age at the time of the interview was calculated and used to determine past-year prevalence. All individuals who had experienced a traumatic life event that satisfied *DSM-IV-TR* PTSD Criterion A (APA, 2000) were administered the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995) to assess for the presence of PTSD and the severity of PTSD symptoms. The CAPS is a widely used semi-structured diagnostic interview wherein interviewers assign frequency and intensity scores for each of the 17 symptoms associated with PTSD on a 5-point Likert-type scale (0-4) based on the degree to which the participant has experienced that symptom in the previous month. A total severity score for each symptom is computed by summing the frequency and intensity scores; an overall severity score is calculated by summing all items. In the current study, a symptom was counted as present if the respondent endorsed a "1" or higher on frequency and a "2" or higher on intensity (Weathers, Keane, & Davidson, 2001). Participants reporting one or more

Table 3. Lifetime and Past Year Prevalence of Sexual and Physical Assault by a Partner.

	Males (<i>n</i> = 68) <i>n</i> (%)	Female (<i>n</i> = 77) <i>n</i> (%)	χ^2 (<i>df</i>)
Lifetime history of sexual assault by partner as Criterion A trauma	0 (0.0)	15 (19.5)	14.8 (1)***
Any lifetime history of sexual assault by partner	1 (1.5)	27 (35.1)	26.2 (1)***
Lifetime history of physical assault by partner as Criterion A trauma	18 (26.5)	19 (24.7)	0.06 (1)
Any lifetime history of physical assault by partner	31 (45.6)	38 (49.4)	0.21 (1)
Past year sexual assault by partner as Criterion A trauma	0 (0.0)	5 (6.5)	4.6 (1)*
Past year sexual assault by partner	0 (0.0)	8 (10.4)	7.5 (1)**
Past year physical assault by partner as Criterion A trauma	5 (7.4)	6 (7.8)	0.01 (1)
Past year physical assault by partner	6 (8.8)	10 (13.0)	0.64 (1)

Boldface indicates significant findings. * $p < .05$; ** $p < .01$; *** $p < .001$

re-experiencing symptoms, three or more avoidance and numbing symptoms, and two or more hyperarousal symptoms were diagnosed with PTSD. The CAPS has been shown to have high internal consistency and concurrent validity with other measures of PTSD (Blake et al., 1995; Weathers et al., 2001).

Antisocial personality disorder. ASPD was assessed using the *Structured Interview for DSM-IV Personality* (SIDP; Pfohl, Blum, & Zimmerman, 1995), a semi-structured diagnostic interview for Axis II disorders, wherein symptoms are rated as 0 (*not present or limited to rare isolated examples*), 1 (*subthreshold*), 2 (*present*), or 3 (*strongly present*). In lieu of a severity score, the current study utilized a dichotomous score to indicate presence (1) or absence (0) of ASPD diagnosis. This approach was utilized because a diagnosis of ASPD requires the presence of conduct disorder prior to age 15; thus, a severity score is less meaningful because it does not take this criterion into account. The SIDP has been shown to have good psychometric properties (Damen, De Jong, & Van der Kroft, 2004).

Intimate partner violence. The presence of IPV was assessed with the Conflict Tactics Scale (CTS; Straus, 1979). The original CTS, rather than the revised CTS (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996), was administered due to high assessment burden. The CTS is a 36-item self-report inventory that assesses the frequency of reasoning (e.g., calmly discussing a problem), verbal aggression (e.g., insults or swearing), and physical violence (e.g., grabbing or slapping) during disagreements or conflicts with an intimate partner within the past year. Respondents

were asked to indicate the number of times that both they and their partner had engaged in each of the conflict behaviors in the past year using a 7-point scale (*never, once, twice, 3-5 times, 6-10 times, 10-20 times, and 20+ times*). Please note that given that the CTS does not provide context for the circumstances in which IPV occurred (e.g., it is possible that some of the violence perpetrated by participants occurred in the context of experiencing victimization), from this point forward, when discussing the results of the current study, we will use the terms “engaged in” and “experienced” when discussing perpetration and victimization, respectively. In the current study, four composite scores were created: engaging in verbal aggression, verbal aggression experience, engaging in physical violence, and physical violence experience.

Procedure

Participants were recruited from a local residential substance abuse treatment center within 1 week of entering treatment. Potential participants completed brief pre-screening measures to determine eligibility for a lengthier eligibility/baseline assessment. Participants meeting the initial eligibility criteria were scheduled for a comprehensive eligibility/baseline assessment appointment, which lasted approximately 5 hr and was preceded by an institutional review board (IRB)-approved, documented informed consent procedure. During that time, participants completed an extensive battery of self-administered and interview measures, including those analyzed for the current study. Participants could be deemed ineligible for inclusion in the larger study after completing the eligibility/baseline assessment. For the purposes of the current study, all individuals who completed the eligibility/baseline assessment and reported current involvement in a romantic relationship were included, regardless of their inclusion in the clinical trial.

Data Analysis

Data for the current analyses were obtained from participants prior to their involvement in the clinical trial during the eligibility/baseline assessment. Raw scores for the CTS subscales were non-normally distributed and were log-transformed. Hierarchical linear regression was used to analyze the data. Sex, PTSD symptom severity, and ASPD diagnosis status (present/absent) were entered into the first step of the regression. In the second step, the interaction terms PTSD \times Sex and ASPD \times Sex were entered. Regression results are presented in Tables 2 to 5.

Results

Verbal Aggression

There was a significant main effect for ASPD diagnosis predicting *engaging* in verbal aggression, $\beta = .23$, $t(134) = 2.63$, $p < .05$. Given that ASPD diagnosis status was dichotomously scored, the results indicate that meeting criteria for ASPD was a

Table 4. Summary of Hierarchical Regression Analyses Predicting Verbal Abuse.

	Perpetration			Victimization		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Step 1						
Sex	.03	.24	.01	-.04	.25	-.01
ASPD diagnosis	.62	.24	.23**	.57	.25	.20**
PTSD Sx severity	.01	.01	.18**	.01	.01	.13
Step 2						
Sex	-.41	.76	-.15	.02	.81	.01
ASPD diagnosis	.35	.34	.13	.48	.36	.16
PTSD Sx severity	.01	.01	.14	.01	.01	.15
ASPD \times Sex	.54	.48	.15	.19	.51	.05
PTSD \times Sex	.01	.01	.08	-.01	.01	-.06

$R^2 = .06$ (*ns*) for perpetration, $R^2 = .09$ (*ns*) for victimization.

ASPD = antisocial personality disorder; PTSD = posttraumatic stress disorder; Sx = symptom.

** $p < .01$

Table 5. Summary of Hierarchical Regression Analyses Predicting Physical Abuse.

	Perpetration			Victimization		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Step 1						
Sex	0.89	.21	.36***	0.17	.26	.06
ASPD diagnosis	0.49	.21	.20**	0.49	.26	.17 [†]
PTSD Sx severity	-0.01	.01	-.12	-0.01	.01	-.10
Step 2						
Sex	0.27	.65	.11	0.14	.81	.05
ASPD diagnosis	-0.11	.29	-.04	0.04	.36	.01
PTSD diagnosis	-0.01	.01	-.15	-0.01	.01	-.06
ASPD \times Sex	1.20	.41	.37**	0.92	.51	.24 [†]
PTSD \times Sex	-0.01	.01	.04	-0.01	.01	-.15

$R^2 = .19$ ($ps < .05$) for perpetration, $R^2 = .06$ (*ns*) for victimization.

ASPD = antisocial personality disorder; PTSD = posttraumatic stress disorder; Sx = symptom.

[†] $p < .10$; ** $p < .01$; *** $p < .001$

significant predictor of *engaging* in verbal aggression. In addition, there was a significant main effect for PTSD symptom severity predicting *engaging* in verbal aggression $\beta = .18$, $t(134) = 2.08$, $p < .05$. This was a positive relationship indicating that those with more severe PTSD symptoms perpetrated more verbal aggression. Neither sex nor any of the interaction terms were statistically significant predictors of *engaging* in verbal aggression. ASPD diagnostic status also emerged as a significant predictor of *experiencing* verbal aggression, $\beta = .20$, $t(132) = 2.25$, $p < .05$,

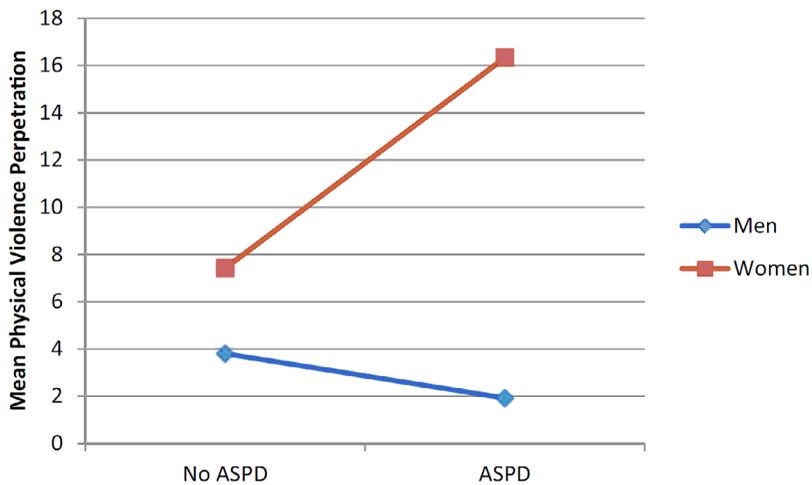


Figure 1. Interaction between antisocial personality disorder status and sex predicting physical abuse perpetration. ASPD = antisocial personality disorder.

indicating that individuals meeting ASPD diagnostic criteria reported *experiencing* greater verbal aggression. Neither sex, PTSD symptom severity, nor any of the interaction terms were significantly associated with *experiencing* verbal aggression.

Physical Violence

There was a significant main effect for both sex, $\beta = .36$, $t(134) = 4.24$, $p < .001$, and ASPD diagnostic status, $\beta = .20$, $t(134) = 2.36$, $p < .05$, predicting *engaging* in physical violence. In addition, there was a significant interaction, $\beta = .34$, $t(136) = 2.77$, $p < .01$, between sex and ASPD diagnostic status, such that women who also met diagnostic criteria for ASPD reported *engaging* in more physical violence (Figure 1). Neither PTSD symptom severity nor the interaction between sex and PTSD were significant predictors of *engaging* in physical violence. ASPD diagnostic status approached significance, $\beta = .17$, $t(134) = 1.91$, $p = .06$, in the model predicting *experience* of physical violence, and the interaction between ASPD and sex was marginally significant, $\beta = .24$, $t(134) = 1.80$, $p = .08$. However, sex, PTSD symptom severity, and the interaction between PTSD and sex were not significant.

Discussion

The current study examined whether PTSD symptom severity or ASPD diagnostic status helped explain variance in engaging in and experiencing IPV in a sample of male and female substance abuse treatment seekers who reported at least one prior

traumatic experience and clinically significant PTSD symptoms. The current study also examined whether sex moderated these effects. Almost half (43%) of the current sample met diagnostic criteria for ASPD. Although this is elevated relative to the prevalence in the general population (3-5%), it is perhaps not surprising given the diagnostic criteria for ASPD. A diagnosis of ASPD cannot be given to individuals under the age of 18 and requires the evidence of conduct disorder, before the age of 15 (APA, 2000). Conduct disorder is often associated with early onset of alcohol/drug use (APA, 2000). The prevalence in this sample is also consistent with previous research showing ASPD to be more prevalent among individuals seeking substance abuse treatment with comorbid PTSD (e.g., Cottler et al., 2001), as well as previous research showing ASPD was more prevalent among men.

Overall, women reported both experiencing and perpetrating more IPV than the men in the sample. This finding is consistent with prior research that men and women tend to perpetrate IPV at similar rates (Archer, 2000; Straus, 1999). Researchers have questioned whether the growing rates of female-perpetrated IPV may somehow be related to a reporting bias. However, studies show that men's and women's reports of the *presence* of IPV tend to agree (e.g., Panuzio et al., 2006); where differences emerge is typically in reporting the *amount* of IPV that has occurred. Furthermore, research has shown that the *format* in which questions about sensitive topics such as trauma and IPV are asked matters. In general, self-administered questionnaires with behaviorally specific, neutrally worded questions tend to elicit greater reporting of events (e.g., Schumacher, Fals-Stewart, & Leonard, 2003).

Results from the regression analyses suggest that among women seeking treatment for a SUD who have clinically significant trauma histories, meeting diagnostic criteria for ASPD may increase the risk of engaging in and experiencing both psychological and physical IPV. This is consistent with previous research documenting increased prevalence rates of ASPD among women arrested for IPV perpetration and mandated to attend treatment (Henning et al., 2003; Stuart et al., 2006). Given that individuals with ASPD have a long history of engaging in illegal behaviors and actions that violate the rights of others, it is not surprising that individuals with an AUD or SUD and co-occurring ASPD are at increased risk of engaging in IPV. Given previous research, it is surprising, however, that in the current sample, ASPD represented a risk factor for perpetration among women, but not for men. This finding may be explained, at least in part, by less variance in ASPD diagnosis among men in the current sample: Whereas 54% of men met diagnostic criteria for ASPD, only 32% of women also met diagnostic criteria for ASPD.

Another surprising finding of the current study was the relative lack of relationship between PTSD symptom severity and IPV. Previous research has shown that PTSD is a risk factor for both perpetration of IPV and victimization (Krause, Kaltman, Goodman, & Dutton, 2006; Kulka et al., 1990). However, in the current sample, PTSD symptom severity was associated with engaging in verbal aggression, but not physical aggression. This could be due to the fact that potential participants are selected because they have a self-reported trauma history and a majority of the sample met criteria for PTSD. A restriction in range and variance could thus create a ceiling effect and in turn limit findings.

Limitations

The findings presented herein should be interpreted in light of several limitations. First, the data are cross-sectional and thus, cannot address issues of temporal precedence. Second, the participants in this study represent a self-selected group of individuals presenting for treatment of a SUD who also have clinically significant trauma histories. The results may not generalize to the general population or SUD treatment seekers who are not interested in participating in a PTSD-focused randomized clinical trial. Additional research is needed to determine the specific mechanism by which alcohol/substances, PTSD, and ASPD may contribute to IPV. Third, the current study did not examine whether IPV perpetration may have occurred in the context of IPV experience. Unfortunately, neither the CTS nor the NWS-PTSD module assess the context in which IPV occurred. Therefore, it is possible that at least a portion of the abused men and women reporting perpetration occurred during episodes of reciprocal violence or may have represented self-defense. It is interesting to note that, in the current study reported, men and women did not differ significantly in their reports of Criterion A events in general and past-year or lifetime history of physical assault by a partner either as index trauma or in general (see Table 3) specifically. However, only women reported past-year sexual assault by a partner (any or as index trauma), and significantly more women than men reported a lifetime history of sexual assault by a partner (any and as index trauma). This clearly indicates the need to obtain more thorough information about the context of IPV perpetration as well as gathering information about the presence of sexual forms of IPV. Fourth, the CTS was only administered to those individuals who reported being in a current romantic relationship. It is possible that individuals attempting to leave a violent relationship might report *not* being in a current relationship. As a result, the final sample may represent individuals, especially women, who are more likely to perpetrate violence. Finally, readers are cautioned to keep in mind the small sample size (a total of 18 women had both PTSD and ASPD) and specialized population (men and women seeking treatment for a SUD) when interpreting and generalizing these findings.

Clinical and Research Implications

Limitations notwithstanding, these findings may have important clinical implications. Overall, these results suggest that a diagnosis of ASPD may be an important risk factor for engaging in IPV for women seeking treatment for a SUD. Although previous research has found that PTSD increases risk of IPV perpetration, the current results suggest that ASPD may be more useful in identifying women within a traumatized sample who are at heightened risk of engaging in IPV. However, future research might explore whether PTSD symptom clusters may be a better predictor of IPV in light of research showing a unique association between hyperarousal and re-experiencing symptoms and IPV (e.g., Savarese, Suvak, King, & King, 2001; Taft et al., 2009).

Given that individuals in substance use treatment may underreport IPV perpetration to treatment providers (Schumacher et al., 2003), women with known histories of criminal or impulsive behaviors consistent with the diagnosis of ASPD might

also be targeted with interventions for reducing IPV in substance abuse treatment settings. Interventions targeted toward treating both SUDs and symptoms associated with ASPD may be especially beneficial. For example, given that alcohol/substance abuse is likely to contribute to an ASPD diagnosis, treating such disorders may result in a decrease in ASPD symptoms and IPV.

More broadly, these data run counter to general SUD treatment in which men, almost to the exclusion of women, are the focus of ASPD and IPV assessment and intervention. Current SUD treatment models should be revised to reflect this important clinical issue. Overall, these data build on a growing body of research suggesting a need for further research of women in SUD treatment who engage in IPV (Stuart et al., 2009).

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