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Associations between PTSD and Intimate Partner and Non-Partner Aggression Among Substance Using Veterans in Specialty Mental Health

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Abstract

Background—Risk factors of violence perpetration in veterans include substance use and posttraumatic stress disorder (PTSD); however, it is unknown whether these factors are associated

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Author Disclosures

Conflict of Interest

All authors declare that they have no conflicts of interest.

Contributors

Drs. Buchholz, Bohnert, Sripada, and Chermack developed the research question, and designed the analyses. Dr. Buchholz conducted the data analyses and wrote the initial draft of the manuscript. Dr. Chermack designed and directed the parent study. Drs. Rauch and Epstein-Ngo also assisted with designing and conducting the parent study. All authors contributed to drafting and critical revisions of the manuscript. Additionally, all authors have read the manuscript, and they approve of its submission.

with greater risk for partner or non-partner violence. This study investigated the associations between probable PTSD, heavy drinking, marijuana use, cocaine use, and partner and non-partner violence perpetration.

Methods—Self-report questionnaires assessing past-year partner and non-partner aggression (CTS2) as well as past-month substance use (SAOM), probable PTSD (PCL-C), and probable depression (PHQ-9) were administered to 810 substance using veterans entering VA mental health treatment.

Results—In bivariate analyses, probable PTSD in substance using veterans was associated with violence perpetration (partner physical, $\chi^2 = 11.46$, $p = 0.001$, $\phi = .12$; non-partner physical, $\chi^2 = 50.64$, $p < 0.001$, $\phi = .25$; partner injury, $\chi^2 = 6.41$, $p = 0.011$, $\phi = .09$; non-partner injury, $\chi^2 = 42.71$, $p < 0.001$, $\phi = .23$). In multiple logistic regression analyses that adjusted for sociodemographic characteristics, probable PTSD was independently associated with non-partner physical (odds ratio [OR], 2.82; 95% confidence interval [CI], 1.97 – 4.05) and injury aggression (OR, 3.96; CI, 2.56 – 6.13). Cocaine and heavy drinking were independently associated with non-partner physical and injury aggression and non-partner injury aggression respectively.

Conclusions—The results provide evidence that probable PTSD, heavy drinking, and cocaine use are associated with increased risk of non-partner violence perpetration in substance using veterans. These results underscore the importance of screening for PTSD symptoms and violence perpetration towards non-partners in substance using veterans presenting for treatment.

Keywords

Partner aggression; Non-partner aggression; PTSD; Substance use

1. Introduction

Violence perpetration among veterans has emerged as a critical public health concern (MacManus et al., 2015; Sontag and Alvarez, 2008). To date, however, there has been relatively little research investigating factors related to violence among veterans in VA mental health treatment. Prior research has indicated that individuals with substance use and substance use problems have an increased risk of perpetrating violence (Chermack et al., 2010; Chermack et al., 2014; Harford et al., 2013; Pulay et al., 2008) towards intimate partners (Okuda et al., 2015; Singh et al., 2014) and non-partners (Murray et al., 2008). Moreover, past year estimates of violence perpetration in substance use treatment samples are 2–3 times higher than community samples (Chermack et al., 2001). Problematic alcohol and cocaine use have been consistently linked to violence (Chermack et al., 2014; Macdonald et al., 2003), and some research indicates that marijuana use may be more strongly associated with partner violence than non-partner violence (Epstein-Ngo et al., 2014; Moore et al., 2008). Thus, the association between substance use and violence perpetration in veterans is an important area of investigation.

Posttraumatic stress disorder (PTSD) is a common comorbid condition among those with substance use (Najavits, 2005; Najavits et al., 1997), and has also been associated with elevated rates of violence perpetration (Elbogen et al., 2014; MacManus et al., 2015; Marshall et al., 2005; Taft et al., 2009a; Taft et al., 2009b). In the general population, PTSD

may be associated with an increased risk of partner violence among men (Hahn et al., 2015), and veterans diagnosed with PTSD have reported significantly higher rates of past-year partner physical aggression compared to veterans without a PTSD diagnosis (Teten et al., 2010). Studies in substance-using samples have also reported that the presence of PTSD increases the likelihood of violence (Crane et al., 2014; Heinz et al., 2015). Given the high comorbidity between PTSD and substance use disorders in veterans (Seal et al., 2011), the associations between substance use, PTSD, and violence are an important focus of research.

The few studies that have examined substance use, PTSD, and violence among veterans have been equivocal. For example, one study reported that comorbid diagnoses of PTSD and alcohol use disorder were linked with greater risk of violence perpetration than either PTSD or alcohol use alone (Elbogen et al., 2014). Similarly, another study found that patients with comorbid PTSD and hazardous substance use reported higher levels of partner physical aggression than patients with only PTSD (Owens et al., 2014). A third study found that substance use and PTSD symptom severity were both related to aggressive behavior (Heinz et al., 2015). Another study found that PTSD symptom severity was associated with physical aggression among veterans, however, alcohol problems were not (Stappenbeck et al., 2014). A more comprehensive analysis is needed to disentangle the associations between PTSD, substance use, and violence perpetration.

A noteworthy limitation of the prior research in veterans is the lack of data on partner versus non-partner violence. Studies in non-veteran populations have reported that different factors may be associated with partner violence compared with non-partner violence (Epstein-Ngo et al., 2014). Specifically, Epstein-Ngo and colleagues (2014) found that heavy drinking and cocaine use were associated with non-partner aggression whereas marijuana was associated with partner aggression. Another limitation in prior veteran-focused work is the lack of research on specific substances other than alcohol. The current study addresses these gaps in the literature by examining both partner and non-partner violence within the same sample of treatment seeking veterans, and investigating whether and to what extent substance use and probable PTSD are related to physical violence and violence perpetration that leads to injury of another person. After adjusting for covariates that have been associated with violence perpetration (Elbogen et al., 2014; Murray et al., 2008; Stappenbeck et al., 2014; Taft et al., 2009a); it was hypothesized that PTSD would be associated with physical violence towards a partner (partner physical aggression), physical violence towards a person other than a partner (non-partner physical aggression), more severe violence resulting in the injury of a partner (partner injury aggression), and violence resulting in the injury of a person other than the perpetrator's partner (non-partner injury violence). Additionally, based on previous research (Epstein-Ngo et al., 2014), it was hypothesized that past-month heavy alcohol use and cocaine use would be associated with all four types of violence whereas marijuana would only be associated with partner physical and injury aggression.

2. Methods

2.1 Participants and study design

Eight hundred and forty-one veterans completed self-report measures as part of screening for a randomized controlled trial (RCT) of a substance use and violence prevention intervention

(#NCT01337973) at a Veterans Affairs (VA) hospital in the Midwest. Due to missing data, 31 veterans were not included in the current analyses leading to a total sample of 810 veterans. Participants were recruited from three different clinics in a VA, namely, substance use disorder, substance use intensive outpatient, and mental health clinics, using posters, presentations at treatment groups, and direct clinician referral. Veterans eligible for the RCT screening reported current or recent substance use or substance use within the past six months and were entering or recently engaged in substance use or mental health treatment. Exclusion criteria for the screen was developed with the RCT intervention study in mind, and included inability to read or speak English, current suicidal ideation, active psychosis, not able to provide informed consent, and having a legal guardian. Further, veterans were excluded if they had insufficient cognitive orientation due to acute substance use, active participation in another intervention study, or they resided outside of the study catchment area. Veterans provided written informed consent prior to completing screening measures. The screen process took approximately 60 minutes and consisted of a variety of self-report measures. Research assistants were present to assist participants if needed, and participants were compensated \$10 in gift cards for their time. The VA's institutional review board approved all procedures.

2.2 Measures

2.2.1. Past-year partner and non-partner violence—Past-year partner and non-partner violence was assessed using the physical aggression (less severe violence) and injury aggression (more severe violence) scales from a modified version of the revised Conflict Tactics Scale (CTS2; Straus et al., 1996). Items on these scales of the CTS2 include items related to physical aggression (“*I pushed or shoved my partner*”) and aggression that leads to injury (“*My partner had a sprain, bruise, or small cut because of a fight with me*”). Participants rated the frequency of each item on a 0 “*Never*” to 6 “*20+ times*” scale. The measure was modified to assess for non-partner physical and injury aggression by re-administering items with altered wording (“*I pushed or shoved someone other than my partner*,” “*Someone other than my partner had a sprain, bruise, or small cut because of a fight with me*; ” see Chermack et al., 2008). The CTS2 has good internal consistency and has been well validated (Simpson and Christensen, 2005). Further, the modified version has been shown to have strong internal consistency ($\alpha > .90$) for measuring both partner and non-partner aggression (Epstein-Ngo et al., 2014). The Cronbach's alphas for each subscale used in the current sample were: partner physical aggression $\alpha = .89$, non-partner physical aggression $\alpha = .90$, partner injury aggression $\alpha = .71$, and non-partner injury aggression $\alpha = .84$. For the current study, four dichotomous variables were created from participants' responses indicating any incidence of aggression on one of the four subscales in the past year.

2.2.2. Probable PTSD—PTSD symptoms were measured through the PTSD Checklist for civilians (PCL-C; Weathers et al., 1994). The PCL-C is a 17 item self-report based on DSM-IV-TR criteria for PTSD. Participants rated (1 “Not at all” to 5 “Extremely”) how bothered they were in the past month for each item – yielding a total severity score between 17 and 85. The Cronbach's alpha for the PCL-C in the current sample was .95. Participants were identified as having probable PTSD if they endorsed a criterion A event and had a PCL-C

score of 50 or higher (Ruggiero et al., 2003). Due to an administrative error, the last item (“Feeling jumpy or easily startled”) of the PCL-C was not administered to participants. To adjust for this, the mean PCL-C item rating was calculated for each participant and added to each person’s total score.

2.2.3. Probable depression—Symptoms of depression were measured by the depression module of the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a 9 item self-report based on DSM-IV-TR criteria for depression. For each of the nine items, participants rated (0 “Not at all” to 3 “Nearly every day”) how bothered they were in the past two weeks. Total scores range from 0 to 27. The Cronbach’s alpha for the PHQ-9 in the current sample was .90. The current study utilized a cut off score of 15 (moderate depressive symptoms) to categorize probable depression (Kroenke et al., 2001).

2.2.4. Heavy alcohol and substance use—Heavy alcohol and substance use were assessed using items from the University of Arkansas Substance Abuse Outcomes Module (SAOM; (Smith et al., 1996). To measure heavy alcohol use, participants were asked to indicate how many days in the 30 days prior to entering substance use treatment they had five or more standard drinks containing alcohol. Marijuana and cocaine were assessed by having participants indicate how many days in the 30 days prior to treatment they used each substance. The SAOM has good test-retest reliability (Smith et al., 1996).

2.3 Data analysis

Statistical analyses were conducted using IBM SPSS 23 for Windows. Separate chi-square tests were used to examine associations between PTSD and each type of aggression (partner physical, non-partner physical, partner injury, non-partner injury). Mann-Whitney U tests were conducted to examine associations between each of the substance use variables and each type of aggression. Multivariable logistic regression modeling was conducted to examine associations between independent variables of interest, covariates, and each type of aggression outcome. Based on prior research, covariates included age, gender, race, income, and probable depression; and the variables of interest were probable PTSD, heavy alcohol use, marijuana use, and cocaine use.

3. Results

3.1. Sample characteristics

Sample demographics are presented in Table 1. Participants’ ages ranged from 21–75 years with a mean of 48.10 years ($SD = 13.27$). The majority of participants were male (93.3%), not partnered (68.9%) and White (72.5%). Almost half of the sample (45.6%) reported income less than \$20,000, 42.1% of participants reported income between \$20,000 and \$60,000, and 12.3% of participants reported income over \$60,000. Approximately one third of the participants had probable depression (31.7%). One hundred eighty-seven participants (23.1%) reported perpetrating partner physical aggression, and 274 participants (33.8%) reported non-partner physical aggression. Seventy-six participants (9.4%) reported perpetrating partner injury aggression, and 148 participants (18.3%) reported non-partner injury aggression in the past year. The majority of participants (82.5%) experienced at least

one traumatic event, and 39.1% of the sample was identified as having probable PTSD, based on experiencing a traumatic event and experiencing significant PTSD symptoms. Sixty percent of the sample engaged in heavy drinking, 37.9% used marijuana, and 15.8% used cocaine in the 30 days prior to treatment. Overall, participants averaged 8.99 ($SD = 11.28$) days having five or more drinks, 4.47 ($SD = 9.32$) days using marijuana, and 1.72 ($SD = 5.58$) days using cocaine or crack in the 30 days before entering treatment.

3.2. Bivariate analyses

Chi-square results are presented in Table 2. Unadjusted chi-square analysis found that probable PTSD was associated with higher rates of physical aggression towards partners ($\chi^2 = 11.46, p = 0.001, \phi = .12$) and non-partners ($\chi^2 = 50.64, p < 0.001, \phi = .25$). Probable PTSD was also associated with injury aggression towards partners ($\chi^2 = 6.41, p = 0.011, \phi = .09$) and non-partners ($\chi^2 = 42.71, p < 0.001, \phi = .23$).

Mann-Whitney U analyses demonstrated that heavy drinking was associated with higher rates of non-partner injury aggression ($U = 43,351.50, p = .022, r = .08$). Marijuana use was associated with higher rates of physical aggression towards partners ($U = 53,219.00, p = .029, r = .08$) and non-partners ($U = 65,258.50, p = .002, r = .11$) as well as injury aggression towards both partners ($U = 24,715.50, p = .046, r = .07$) and non-partners ($U = 43,652.00, p = .012, r = .09$). Cocaine use was associated with higher rates of physical aggression towards partners ($U = 52,144.50, p = .001, r = .12$) and non-partners ($U = 64,531.00, p < .001, r = .16$) as well as injury aggression towards both partners ($U = 24,619.00, p = .007, r = .09$) and non-partners ($U = 43,612.00, p = .001, r = .12$).

3.3. Multivariable analyses

Multivariable logistic regression results are presented in Table 3. Collinearity diagnostics indicated no concerns of multicollinearity. Older ages ($OR = .98$) were associated with reduced odds of partner physical aggression, and being married or living with a partner ($OR = 2.01$) and non-white race ($OR = 2.03$) were associated with increased odds of partner physical aggression. Non-significant factors included gender, income, probable PTSD, probable depression, heavy drinking, marijuana use, and cocaine use. Older ages ($OR = .96$) were associated with reduced odds of non-partner physical aggression. Non-white race ($OR = 1.77$), probable PTSD ($OR = 2.82$), and cocaine use ($OR = 1.05$) were associated with increased odds of non-partner physical aggression. Partner status, gender, income, probable depression, heavy drinking, and marijuana use were non-significant factors.

Older ages ($OR = .97$) were associated with reduced odds of partner injury aggression. Being married or living with a partner ($OR = 1.76$), non-white race ($OR = 1.90$), income less than \$20,000 ($OR = 2.79$), and probable depression ($OR = 1.76$) were associated with increased odds of partner injury aggression. Gender, probable PTSD, heavy drinking, marijuana use, and cocaine use were non-significant factors in the model. Older ages ($OR = .96$), being female ($OR = .27$), and probable depression ($OR = .56$) were associated with reduced odds of non-partner injury aggression. Non-white race ($OR = 1.73$), probable PTSD ($OR = 3.96$), heavy drinking ($OR = 1.02$), and cocaine use ($OR = 1.03$) were associated with

increased odds of non-partner injury aggression. Non-significant factors were partner status, income, and marijuana use.

4. Discussion

The current study investigated the association between probable PTSD and past-year violence perpetration in 810 substance using patients receiving mental health treatment at a VA hospital. Thirty-nine percent of participants in the current study had probable PTSD. This finding is consistent with previous research that has found 10–50% of substance using patients seeking treatment have PTSD (Brown et al., 1995; Driessen et al., 2008; Najavits et al., 2003). Similar to research in non-veteran samples (Chermack et al., 2010; Epstein-Ngo et al., 2014), different factors were associated with different types of violence perpetration. Consistent with our hypotheses, veterans in our sample with probable PTSD were more likely to have reported past-year non-partner physical aggression and non-partner injury aggression. These results indicate that veterans with PTSD and substance problems are at heightened risk for multiple types of violence directed at non-partners. Thus, PTSD might be an important marker for violence involvement among veterans in substance use treatment.

Contrary to our hypotheses, probable PTSD was not significantly associated with partner physical or partner injury violence after adjustment for other variables. This finding was somewhat surprising given previous research connecting PTSD to intimate partner violence in both general (Hahn et al., 2015; Okuda et al., 2015) and veteran samples (Marshall et al., 2005; Taft et al., 2009b; Teten et al., 2010). However, prior research on PTSD and partner violence has generally not been conducted among substance using samples. Thus, the association between PTSD and intimate partner violence might vary by substance use status. Another explanation for inconsistent findings may be measurement and sample differences. For example, prior studies conducted in the general population have measured violence only via six items that include both physical aggression and aggression leading to injury. In addition, prior research among veterans has generally focused on recruiting samples from PTSD clinics. Probable depression was associated with partner injury violence, suggesting that depression may be more related to partner violence than PTSD. Given the lack of research investigating the relationships between different types of violence and both depression and PTSD, further research is needed to tease apart the various aspects of interpersonal violence and their potential connections with these disorders.

Clinically, research on psychotherapy interventions provides evidence that posttreatment substance use is related to posttreatment violence perpetration (Murphy and Ting, 2010; O'Farrell et al., 2003; O'Farrell et al., 2004; Walton et al., 2002); however, it is unknown if aggression is related to posttreatment changes in trauma-related or depressive symptoms. Future research should examine the impact of effective PTSD and depression treatments, such as trauma-focused therapy, cognitive behavioral therapy for depression, and treatment for co-occurring disorders, on interpersonal violence to elucidate whether further treatment development is needed to address both mental health symptomatology and help veterans build skills to reduce violence.

In adjusted models, substance use variables were associated with non-partner violence but not partner violence. Specifically, heavy drinking was associated with non-partner injury violence and cocaine was associated with non-partner physical and injury aggression. These results are somewhat consistent with the findings of Epstein-Ngo and colleagues (2014) in which heavy drinking and cocaine use were associated with non-partner but not partner violence in a substance use treatment sample. Similarly, other studies have found that greater alcohol use is linked to non-partner violence; however, some studies have failed to show that alcohol use is related to partner violence among individuals with substance use or in substance use treatment (Chermack et al., 2010; Alexandercikova et al., 2013). Other research has documented associations between alcohol and partner violence (Chermack et al., 2008; Marshall et al., 2005) and between cocaine and partner violence (Chermack et al., 2010). One explanation may be that within a sample of people seeking treatment for substance use, instead of a more heterogeneous sample, partner violence is more strongly associated with factors other than a specific substance. It is also possible that a more comprehensive measure of problematic alcohol and cocaine use would have yielded different results, given that this study was limited by single items assessing heavy drinking and cocaine use over the prior 30 days. Marijuana use was not associated with any category of violence perpetration in the adjusted models. Although some studies support an association between marijuana use and higher rates of partner violence (Epstein-Ngo et al., 2014), other studies have found no association between marijuana and violence (Chermack et al., 2010; Epstein-Ngo et al., 2012).

Overall, the associations between demographic characteristics (e.g., younger age) and violence perpetration were consistent with prior research (Elbogen et al., 2014; Murray et al., 2008; Stappenbeck et al., 2014). Being married or living with a partner increased the odds of partner physical and injury violence. Consistent with prior research stating that men are more likely to perpetrate non-partner violence (Chermack et al., 2001; Walton et al., 2007) and violence leading to injury (Chermack et al., 2010; Chermack et al., 2014; Murray et al., 2008), the current study found male gender was significantly related to non-partner injury aggression. Probable depression had an inverse relationship with non-partner injury aggression. This finding may reflect the isolative behavior that accompanies symptoms of depression.

Several limitations should be noted. First, the cross-sectional design utilizing measures that assessed symptoms over different time periods prevented us from determining temporal associations between variables and whether variables of interest predated or followed incidences of aggression. Furthermore, no conclusions regarding causation can be made. Second, probable PTSD was determined by self-report perhaps leading to inaccurate classification. Given that self-reports are less accurate, future research should utilize a clinician-administered measure of PTSD to improve diagnostic accuracy. Third, relatively brief measures of substance use were utilized in the current study. More comprehensive measures tend to show stronger relationships between violence and substance use (e.g. Chermack et al., 2010). Fourth, our data included a small sample of women. Future research should include more female veterans. Finally, this study utilized a sample of veterans seeking treatment through the VA which may reduce the generalizability of the findings to other populations.

Despite these limitations, this was the first study to investigate the association between probable PTSD and multiple forms of violence directed at partners and non-partners in a veteran, treatment-seeking sample. The relatively large sample and strong measures of aggression were strengths of the current study. These findings add to the literature by identifying important differences across partner and non-partner violence. Specifically, when accounting for other variables, probable PTSD is associated with only non-partner violence, whereas depression is associated with partner aggression. These findings suggest that PTSD and depressive symptoms are risk factors for violence perpetration among veterans in substance use treatment, and highlight the importance of screening for PTSD, depression, substance use, and both partner and non-partner violence in veterans presenting to treatment. The results also underscore the need for future research to utilize longitudinal designs to disentangle associations between PTSD, depression, substance use, and interpersonal violence. Finally, it will be important to examine which treatments are effective at decreasing not only partner, but also non-partner violence in veterans, and develop and test integrated interventions aimed at reducing both symptom burden and violence.

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Highlights

- The study examined PTSD and partner/non-partner aggression in substance using veterans.
- Probable PTSD was associated with non-partner aggression at different severity levels.
- Probable depression was significantly associated with more severe partner aggression.
- Future research is needed to determine what treatments may be effective in decreasing aggression.

Table 1Demographic characteristics of the full cohort ($N = 810$).

Characteristics	<i>n</i>	%	Mean (SD)
Age	810		48.10 (13.27)
Partner status			
Partnered	252	31.1	
Not Partnered	558	68.9	
Gender			
Male	756	93.3	
Female	54	6.7	
Race			
White	587	72.5	
Non-White	223	27.5	
Income			
less than 20,000	369	45.6	
20,000 – 60,000	341	42.1	
more than 60,000	100	12.3	
Probable PTSD			
PTSD	317	39.1	61.94 (8.30)
No PTSD	493	60.9	34.19 (10.70)
Probable Depression			
Depression	257	31.7	19.31 (3.29)
No Depression	553	68.3	7.18 (4.21)
Heavy drinking	465	57.4	8.99 (11.28)
Marijuana	253	31.2	4.47 (9.32)
Cocaine	125	15.4	1.72 (5.58)
Partner physical aggression	187	23.1	
Non-partner physical aggression	274	33.8	
Partner injury aggression	76	9.4	
Non-partner injury aggression	148	18.3	

Table 2

Associations between PTSD and violence perpetration in veterans.

PTSD group	Partner physical aggression				Non-partner physical aggression			
	Total <i>n</i>	<i>n</i>	%	χ^2	<i>p</i>	ϕ	<i>p</i>	ϕ
No PTSD	493	94	19.1	11.46	0.001	0.12	120	24.3
PTSD	317	93	29.3				154	48.6
Non-partner injury aggression								
Partner injury aggression								
PTSD group	Total <i>n</i>	<i>n</i>	%	χ^2	<i>p</i>	ϕ	<i>n</i>	%
No PTSD	493	36	7.3	6.41	0.011	0.09	55	11.2
PTSD	317	40	12.6				93	29.3

Table 3

Multivariate models of violence perpetration in veterans ($N = 810$).

Factor	Partner physical aggression			Non-partner physical aggression			Partner injury aggression			Non-partner injury aggression		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
Age	0.98	.96–.99	0.001	0.96	.95–.97	< 0.001	0.97	.95–.99	0.002	0.96	.94–.97	< 0.001
Partner status												
Partnered	2.01	1.38–2.92	< 0.001	0.75	.52–1.08	0.121	1.76	1.04–3.03	0.035	0.64	.40–1.03	0.065
Not Partnered	REF			REF			REF			REF		
Gender												
Male	REF			REF			REF			REF		
Female	1.32	.70–2.48	0.384	0.84	.45–1.55	0.576	1.95	.90–4.20	0.089	0.27	.10–.72	0.009
Race												
White	REF			REF			REF			REF		
Non-White	2.03	1.39–2.97	< 0.001	1.77	1.23–2.55	0.002	1.9	1.11–3.25	0.019	1.73	1.12–2.69	0.015
Income												
less than 20,000	1.65	.92–2.95	0.092	1.3	.76–2.21	0.334	2.79	1.03–7.56	0.044	1.6	.78–3.19	0.208
20,000 – 60,000	1.23	.69–2.18	0.489	1.01	.60–1.72	0.962	2.18	.81–5.87	0.122	1.52	.76–3.05	0.239
more than 60,000	REF			REF			REF			REF		
Probable PTSD												
PTSD	1.34	.91–1.99	0.141	2.82	1.97–4.05	< 0.001	1.19	.68–2.08	0.546	3.96	2.56–6.13	< 0.001
No PTSD	REF			REF			REF			REF		
Probable Dep.												
Depression	1.4	.94–2.08	0.101	0.9	.62–1.31	0.573	1.76	1.01–3.07	0.047	0.56	.35–.88	0.012
No Depression	REF			REF			REF			REF		
Heavy drinking	1.01	.99–1.03	0.191	1.01	.99–1.02	0.348	1.02	.99–1.04	0.083	1.02	1.00–1.04	0.017
Marijuana	1.00	.98–1.02	0.842	1.00	.99–1.02	0.643	1.00	.97–1.02	0.904	1.01	.99–1.03	0.624
Cocaine	1.02	.99–1.05	0.121	1.05	1.02–1.09	< 0.001	1.02	.98–1.05	0.430	1.03	1.00–1.06	0.048