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Family Composition and Symptom Severity among Veterans with Comorbid PTSD and Substance Use Disorders

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Abstract

Posttraumatic stress disorder (PTSD) and substance use disorders (SUD) frequently co-occur and affect a substantial proportion of military Veterans. Although the impact of parental PTSD and SUD on child development is well-documented, little is known about the influence of family composition on PTSD/SUD symptom severity. The present study investigated children in the home as an independent risk factor for symptom severity in a sample of treatment-seeking Veterans ($N = 94$; 92% male) with comorbid PTSD/SUD. Twenty-seven percent of the sample had minor children (age 18 or younger) living in the home. Veterans with children in the home evidenced significantly higher PTSD symptomatology as measured by the Clinical Administered PTSD Scale (CAPS; $M = 82.65$ vs. $M = 72.17$; $t = -2.18$; $p < .05$), and reported using marijuana more frequently than Veterans without children in the home (34% vs. 13% of past 60 days; $t = -2.35$, $p < .05$). In a multivariate model, having children in the home accounted for unique variance ($R^2 = .07$) in PTSD severity after accounting for a range of covariates; however, having children in the home did not account for unique variance in substance use. Directions for future research as well as potential clinical implications for parents seeking treatment for PTSD/SUD are discussed.

Keywords

PTSD; posttraumatic stress disorder; substance use disorders; military; parenting; family

Parenting involves numerous challenges and there is evidence that these challenges are amplified among parents diagnosed with posttraumatic stress disorder (PTSD; Berz, 2008;

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Samper, Taft, King, & King, 2004), substance use disorders (SUD; Bagner et al., 2009), and mental health problems in general (Crnic & Low, 2002; Nicholson et al., 2001). Little is known, however, regarding the family composition of individuals with comorbid PTSD/SUD, and how family composition might influence their clinical profile. The present study was designed, therefore, to preliminarily investigate PTSD and SUD symptomatology among treatment-seeking Veterans with and without children living in the home.

Parental PTSD/SUD and Child Development: A Bidirectional Relation?

There is a large body of literature substantiating the adverse impact of parental psychopathology on child development. Children of parents with PTSD are at significantly increased risk for emotional and behavioral problems, including the development of PTSD following trauma exposure, evidenced as early as infancy and continuing into adulthood (Leen-Feldner et al., 2013). Similarly, children of parents with alcohol use disorders are at increased risk for conduct disorder, emotional problems, and SUD (Chen & Weitzmen, 2005; Christensen & Bilenberg, 2000). Mechanisms of influence linking parental PTSD, parental SUD, and child outcomes have not been fully explicated, however genetic, physiological, socioeconomic, and parenting (e.g., harsh parenting; diminished sensitivity) influences are implicated (Chemtob & Carlson, 2004; Glenn et al., 2002; Gold et al., 2007; Koenen, Nugent, & Amstadter, 2008; Yehuda, Blair, Labinsky, & Bierer, 2007). Research demonstrates that successful treatment of parental psychopathology is associated with significant improvements in child emotional and behavioral problems (for meta-analytic findings, see Siegenthaller, Munder, & Egger, 2012), even in the absence of direct treatment of the child (e.g., SSRI treatment for adult depression; couples-based therapy for SUD; Wickramaratne et al., 2011; O'Farrell & Schein, 2011).

Data suggest that the relation between adult psychopathology and child development is bidirectional. For example, Pelham, Lang, and colleagues (Lang et al., 1999; Pelham & Lang, 1999) found that, among social non-problem drinking parents, interactions with a confederate child behaving in an oppositional/hyperactive manner resulted in increased amount of alcohol consumed, as compared to social drinking parents interacting with a well-behaving child confederate. In addition, recent research among parents using methamphetamine shows that the number of children living in the home is positively correlated with parental depressive symptoms (Semple et al., 2011). To our knowledge, no studies have examined parenting status, family composition and mental health symptom profile among individuals with comorbid PTSD/SUD. Addressing this gap in the literature is critical to better understand potential avenues to improve treatments for individuals with comorbid PTSD/SUD.

Treatment of Comorbid PTSD/SUD: Does Parenting Status Matter?

It is estimated that up to half of adults seeking treatment for SUD also meet criteria for PTSD (Mills et al., 2005), and that the clinical course of this comorbidity is characteristically more severe and difficult to treat than either disorder alone (Back et al., 2008; Back et al., 2000). Specifically, research has shown poorer treatment outcomes in comorbid patients (compared to those with either disorder alone) related to worse

compliance with aftercare (Brady et al., 1994), quicker relapse (Brown, Stout, & Mueller, 1996), and more social and interpersonal problems (Ouimette, Brown, & Najavits, 1998). The self-medication hypothesis (Khantzian, 1985) posits that individuals with PTSD use substances to help mitigate trauma-related symptoms. Waldrop and colleagues (2007) found that individuals with PTSD/SUD are at greater risk of using substances to cope with negative situations (e.g., negative emotions, interpersonal conflict) than individuals with SUD alone. This is particularly relevant for parents given the daily challenges associated with parenting (Breslau, Davis, Peterson, & Schultz, 1997; Chilcoat & Breslau, 1998). Parents with SUD are often aware of the potential for adverse consequences of their substance use on their children, and for some parents children can be a motivating factor for seeking treatment (Richter & Bammer, 2000; Swift, Copeland, & Hall, 1996). There also may be a link between parenting status and treatment response: preliminary data suggest that being the primary caretaker of a child during SUD treatment is associated with less improvement in comorbid psychiatric symptoms following treatment for SUD (e.g., depression and anxiety; Stewart, Gossop, & Trakada, 2007). Thus, it is important to better understand the parenting context of individuals seeking treatment for *comorbid* PTSD/SUD.

The present study aimed to (1) characterize the family home environment with regard to parental relationship status (e.g., married, separated, cohabitating), number and ages of children, and biological status of children (i.e., whether or not children are biological children), and (2) investigate whether or not, and to what extent, having children in the home accounts for independent variance in PTSD and SUD symptomatology among Veterans with PTSD/SUD. We also undertook exploratory aims related to investigating number and age of children and symptom severity, as well as potential differences on family-related items of a measure of addiction severity for those with vs. those without children in the home. We hypothesized that participants with children living in the home would report significantly higher substance use and symptoms of PTSD than parents without children in the home. The current study focuses on children living *in the home* as opposed to having children (i.e., minor or adult children outside of the home) as we based our hypothesis on the impact that having children present in the home might have on daily schedules, responsibilities, and stressors, all of which may significantly relate to symptom severity.

Method

Participants

Participants were 94 treatment-seeking Veterans (92% male; 52% Caucasian, 45% African American) completing a baseline interview as part of a randomized controlled trial (RCT) targeting the integrated behavioral treatment of Veterans with comorbid PTSD/SUD. Inclusion criteria for the RCT included: (1) Veteran, Active-duty Military, Reservist, or member of the National Guard; (2) aged 18–65; (3) meet DSM-IV (APA, 1994) diagnostic criteria for current (i.e., past 6 months) PTSD and have a score of 50 or higher on the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995); (4) meet DSM-IV diagnostic criteria for current (i.e., past 6 months) substance use disorder and report substance use during the past 90 days; and (4) speak fluent English. Exclusion criteria

included: (1) current or history of psychotic or bipolar affective disorders; (2) active suicidality or homicidality; (3) current eating disorder or dissociative identity disorder; (4) participation in ongoing PTSD or SUD treatment; and (5) organic mental syndrome as indicated by a Mini Mental Status Exam (Folstein, Folstein, & McHugh, 1975) score ≥ 21 . A total of 117 potential participants attended a baseline interview, and the 94 participants retained in the present analysis represent those with complete baseline data on variables of interest. The large majority (97.9%) of the sample were Veterans or inactive Reservists, and 2.1% were active military.

Procedures

Potential participants were initially screened by telephone and those meeting preliminary eligibility criteria were invited to complete a comprehensive baseline assessment in person. Participants were recruited using a combination of newspaper and internet advertisements and flyers from a local Veterans Affairs Medical Center, treatment clinics at a large medical university, and other local mental health clinics and universities. All study procedures were IRB-approved and participants provided informed consent prior to participation. Participants received \$60 for completing the baseline assessment.

Measures

Demographic information was collected using a self-report questionnaire designed for the present study. In addition to basic demographic information (see Table 1), participants listed the ages of their children, identified whether each child was their biological child, and indicated whether the child(ren) lived in the home.

Clinician Administered PTSD Scale (CAPS; Blake et al., 1995). The CAPS assesses past 30-day symptom frequency and severity across PTSD symptoms based on DSM-IV criteria and is considered the “gold standard” in the assessment of PTSD. Items are rated on a scale from 0–4, ranging from “none of the time” to “all of the time” for frequency and from “absent” to “extreme/incapacitating” for severity items. Severity scores reported in the present study represent sums across both frequency and severity items (obtained range: 21–115) and internal consistency (Cronbach’s alpha) was .92 in the present sample. The life events checklist portion of the CAPS was used to assess lifetime exposure to traumatic events.

Time-line Follow Back (TLFB; Sobell & Sobell, 1992). The TLFB is a semi-structured interview in which participants use a calendar to provide retrospective estimates of daily quantity, frequency, and type of substance use over a specified time period. For the present study, participants completed TLFB for 60 days prior to study initiation. The TLFB uses specific anchors to facilitate recall and increase precision of estimated use, including the use of the calendar, anchoring to key events on specific dates (e.g., birthdays, weddings), and converting responses to standard drink or substance units.

Addiction Severity Index-Lite (ASI-Lite; Rosen, Henson, et al., 2000) The ASI-Lite is an abbreviated version of the ASI (McLellan, Luborsky, Woody, & O’Brein, 1980). The ASI-Lite is a widely-used semi-structured interview that assesses severity of impact of addiction

and yields composite scores in the following domains: medical, employment, drug, alcohol, legal, family/social, and psychiatric. The ASI-Lite assesses for lifetime problems as well as problems during the last 30 days and has been shown to be reliable (Cacciola, Alterman, McLellan, Lin, & Lynch, 2007).

Data Analysis

For Aim 1, we report descriptive statistics to characterize the family compositions reported across the sample. For Aim 2, we first conducted univariate tests to compare symptom severity (PTSD and use of substances assessed with Time-line Follow Back and ASI Alcohol and Drug Severity) between those with children in the home and those without children in the home. Finally, to examine children in the home as an independent risk factor (i.e., to determine whether children in the home accounted for unique variance in symptom severity), we conducted three hierarchical multiple regression analyses predicting CAPS severity, alcohol use and marijuana use assessed with the TLFB. At Step 1, age, sex, race, marital status (married vs. not married), years of education, OIF/OEF status, and employment status (employed part or full time vs. not employed) were entered. At Step 2, number of stressful life events reported and severity of comorbid symptoms (e.g., CAPS severity was entered into regression analysis predicting substance use severity and TLFB and ASI-Alcohol severity was entered into regression analysis predicting CAPS severity) were entered. Variable representing whether children lived in the home was the only variable entered in Step 3. Finally, we conducted two exploratory analyses to further contextualize the family and symptom context in this sample. First, we investigated correlations between the number of children, age of youngest child, and symptom severity. Second, we conducted item-level analyses for the family subscale of the ASI-Lite, given the potential relevance of the content to parenting status.

Results

Descriptive Statistics

Approximately 25% of the sample reported no children, 23% reported adult children only, 21% reported having minor children (i.e. age 18 or younger) who did not live in the home, and 27% reported having minor children living in the home. Table 1 includes descriptive statistics regarding the number, age, biological status, and living arrangements for all children 18 years old and under. Across all participants, 114 total children ages 18 and under were described (see Table 1), and 203 total children were described when those over the age of 18 were included. Of those children over the age of 18, 39% fell into the emerging adulthood age range (ages 19–24) and 61% were over the age of 25.

In the present sample, 84% reported using alcohol in the last 60 days, 29% reported using marijuana, 20% reported using stimulants, 9% reported using opiates, and 5% reported using prescription medications. Due to small group sizes (those with and without children in the home) for substances other than alcohol and marijuana, comparisons in level of use between those with and without children in the home were not conducted for less commonly used substances (e.g., stimulants, opiates). Chi-square analyses indicated that those with and

without children in the home did not differ on binary indicators (yes/no) of using stimulants, opiates, or prescription medications at all in the last 60 days.

Univariate Comparisons

Participants with and without children in the home were compared across demographic characteristics and presenting symptom severity (CAPS total scores, TLFB percent days using and average amount of substance used per day on days using; see Table 2). Regarding demographic differences, participants with children in the home were younger ($t = 2.51$; $p < .05$), more likely to be African American ($\chi^2 = 8.13$, $p < .01$), and more likely to be married ($\chi^2 = 10.07$, $p < .01$). There were also non-significant trends towards those with children in the home being more likely to have served in OIF/OEF/OND and more likely to be employed full or part time as compared to those without children in the home.

Differences in symptom severity also emerged between participants with vs. without children living in the home. Participants with children in the home evidenced significantly higher CAPS total scores ($M = 82.65$) as compared to participants without children in the home ($M = 72.17$; $t = -2.18$; $p < .05$). Participants with children in the home reported using marijuana on significantly more days during the past 60 days (i.e., percent days used) as compared to participants without children in the home (34% of days vs. 13% of days; $t = -2.35$, $p < .05$). Differences in percent of days using alcohol were not statistically significant by group (57% of days for those with children in the home vs. 44% of days for those without children in the home). No significant differences in amount of alcohol use (drinks per day on drinking days) by group were revealed. Finally, alcohol and drug composite scores for the ASI-Lite were compared and differences were not statistically significant (alcohol composite $M = .34$ with children vs. $M = .31$, n.s.; drug composite $M = .09$ with children vs. $M = .06$, n.s.). The ASI-Lite alcohol composite was retained as a control variable in multivariate analysis.

Multivariate Prediction of PTSD Symptom Severity

Results of hierarchical multiple regression analysis are presented in Table 3. The overall model was statistically significant (total $R^2 = .24$), and as hypothesized, having children in the home accounted for unique variance in CAPS symptom severity after accounting for demographic, trauma-related, and comorbid symptom severity ($R^2 = .07$).

Multivariate Prediction of Substance Use Severity

Based on univariate results, TLFB percent days using for alcohol and marijuana were modeled as dependent variables. Results for alcohol use are presented in Table 4 and results for marijuana use are presented in Table 5. Number of traumatic life events emerged as a significant positive predictor of percent days used for alcohol, and age and marital status emerged as significant predictors of percent days used for marijuana (age was a negative predictor whereas being married was a positive predictor). Having children in the home did not account for unique variance in the prediction of substance use severity for alcohol or marijuana.

Exploratory Analyses

To further contextualize the findings, we conducted two additional exploratory analyses. First, we investigated the relation between symptom severity and number/age of children in the home. These correlations, including only those participants with children in the home, were not fully powered. However, a small to medium negative correlation was observed between the age of the youngest child in the home and PTSD symptom severity ($r = -.29, p = .11$). A small positive correlation was found between total number of children in the home and PTSD symptom severity ($r = .17, p = .11$). Exploratory analyses regarding SUD symptoms revealed no significant findings. Second, given the potential connection between having children in the home and specific items on the ASI-Lite family/social subscale, item-level comparisons were made between participants with versus without children in the home. Comparisons indicated that (1) Veterans with children in the home were less likely to live with someone using alcohol or drugs than Veterans without children in the home, and (2) Veterans with children in the home spend significantly more time with family and significantly less time alone than Veterans without children in the home.

Discussion

As hypothesized, the presence of children living in the home accounted for unique variance in PTSD symptom severity. Having children in the home accounted for 7% of variance in the model predicting PTSD symptom severity. To contextualize the clinical significance of this finding, the prior step in the model which included total number of traumatic events and co-morbid substance use severity similarly accounted for 7% of the variance in PTSD symptoms. In this sample, our model accounted for 24% of total variance in symptoms. Although being a parent is often a rewarding endeavor, it is also characterized by increased demands: there is evidence that these challenges are amplified for parents with PTSD (Berz, 2008; Samper, Taft, King, & King, 2004). The day-to-day tasks of parenting necessitate a range of characteristics likely compromised in the context of PTSD, including self-regulation, emotional control (e.g., patience), positive affect (e.g., warmth), and appropriate levels of monitoring and alertness. Concrete aspects of daily experiences associated with child-rearing potentially important to consider include sleep disturbances (e.g., children waking in the night or early in the morning; difficult for parents to “catch up” on sleep during the day as compared to non-parents), exposure to child misbehavior and loud noises (e.g., crying, yelling), unable to have close relationships with and engage in additional activities/responsibilities (e.g., interactions with daycares or schools, providing meals and baths to children, spending quality time with children); all of which could be hypothesized to relate to maintenance and/or exacerbation of symptoms. Exploratory analyses indicated that the relation between PTSD severity and children in the home may be further contextualized by having a higher number of children in the home (small positive correlation) and having younger children in the home (small to medium negative correlation with child age). Finally, it is possible that having children in the home makes parents as compared to non-parents more aware of some symptoms, such as emotional numbing and/or emotional avoidance which adversely affect parent-child relationships.

The findings related to substance use were less clear. Having children in the home was not a unique predictor of substance use severity in the multivariate models. There was some evidence that Veterans with children in the home were using substances, in particular marijuana, more often than Veterans without children in the home. Regarding the amount of substances used (considering only those days where substances were used at all), no statistically significant differences were observed. Greater marijuana use observed among those with children in the home was better accounted for by younger age, more recent conflict exposure (i.e., OIF/OEF), and being married in the multivariate model. Cohort effects are likely important to consider in this finding. It is possible that this “snapshot” is similar to the experiences of older participants earlier in their lives after returning from prior conflicts who, at the time of the present assessment, were likely to be divorced with adult children. Yet, assuming the replicability of these findings, the hypothesis that children in the home accounts for substance use severity in a comorbid sample was not supported.

Although research indicates that, for non-problem drinkers, parenting stress and/or child misbehavior is associated with increased drinking (Pelham & Lang, 1999), this connection is likely more complex for illicit substance use and individuals with SUD. Parents attempt to mitigate the impact of their substance use on their children in a number of ways (Richter & Bammer, 2000), and the trends observed in the present study (i.e., using on a higher percentage of days, but not using more on average using days) may indicate these efforts.

The self-medication hypothesis of comorbid PTSD/SUD posits that individuals engage in excessive substance use to cope with symptoms of PTSD (Breslau, Davis, Peterson, & Schultz, 1997; Chilcoat & Breslau, 1998). A recent investigation that tested four models of comorbid PTSD/SUD provided the most support for the self-medication hypothesis (Haller & Chassin, 2014). This could be an explanatory factor in the higher levels of PTSD but not SUD found in the present study. In other words, parents with comorbid PTSD/SUD may be faced with the difficult task of resisting urges to use substances both to cope with PTSD symptoms and parenting stress; potentially leading to PTSD symptom exacerbation as well as ongoing unsuccessful attempts to decrease substance use.

Clinical Implications

Results of the present study may have implications for both individual and family-based treatment approaches for Veterans with comorbid PTSD/SUD. First, additional research is needed to investigate treatment engagement and response for Veterans with and without children in the home. The exploratory findings from the family/social subscale of the ASI-Lite provided some treatment-relevant context into the lives of those with and without children in the home. These comparisons showed that Veterans with children in the home were less likely to live with someone using drugs and alcohol than Veterans without children in the home: it is possible that the presence of a non-using partner could contribute to *better* engagement and/or outcomes in treatment. These comparisons also showed that Veterans with children in the home were spending little time alone. This could be a barrier to completing critical out of session assignments critical to exposure-based PTSD treatments, such as practicing breathing retraining exercises, in vivo exposures, and imaginal exposure homework. Parents may need extra support to plan for such assignments. Other general clinical considerations include offering concrete services (e.g., childcare, time

management) to problem-solve barriers to attending treatment; creating an environment facilitative of non-judgmental discussions related to parenting (e.g., trauma-related emotional reactions to parenting difficulties such as shame or guilt); and increasing collaboration between local adult-focused and child-focused service agencies to facilitate comprehensive and cooperative care for families.

The findings of the present study also speak to the potential benefits and importance of having family-based interventions available for Veterans. The Veterans' Mental Health and Other Care Improvements Act (2008) includes efforts to increase the availability of couples-based and family-based interventions for Veterans, and the results of the present study also highlight the importance of expanding the number of mental health clinicians with competency to intervene with families. There is evidence that Veterans have high levels of interest in such services (Batten et al., 2009; Khaylis et al., 2011), but also that relations between treatment-seeking, family/relationship distress, and interest in such services are complex (Meis et al., 2013). The diversity of children in the home (e.g., children's age, biological status) as well as other aspects of parenting diversity not assessed in the present study (e.g., caretaking responsibilities, parenting strengths and challenges) should be a focal consideration when designing, selecting, and implementing treatment approaches and parenting interventions that might be relevant for a broad audience of parents.

Limitations and Future Directions

Several limitations should be considered in the interpretation of the present findings. First, inherent to working with data from an RCT, the results are based on Veterans seeking treatment, and therefore may not generalize to non-treatment seeking populations. In addition, the RCT for the current study is ongoing and, therefore, the data included baseline assessments; thus, it is unclear whether having children in the home influences retention or treatment outcome. Further research in this area is needed. Additionally, information regarding level of caretaking responsibility was not obtained in the current study, and it is unclear to what extent children living out of the home were removed from home by child protective services or were not in home due to SUD or other problems. The high number of children living outside of the home points to the importance of considering the impact of SUD and PTSD on family cohesion. Future research aimed to better understand Child Protective Services involvement among Veteran families would add important information to this line of inquiry. Relatedly, this sample was 90% male, and given that primary caretaking responsibilities are often taken on by women, future research should include more women to investigate gender differences.

Additional research is necessary to shed light on mechanisms of influence linking PTSD, SUD, and aspects of the parenting role, and the results of the present study provide a preliminary empirical basis for future research in this area. For example, a thorough test of the self-medication hypothesis as it relates to parenting stress using a variety of methodologies (e.g., qualitative interviews; daily diary methodologies; experimental paradigms).

Given the frequency and severity of comorbid PTSD and SUD among Veterans and their families, attention to the adaptation and tailoring of treatment approaches to the specific needs of parents is needed. The benefits of successful treatment of PTSD/SUD may be experienced in multiple domains of family life and at multiple generations.

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Highlights

- Family composition is important to consider for Veterans with PTSD/SUD
- Children in the home accounted for unique variance in PTSD symptom severity
- Children in the home did not account for unique variance in SUD symptom severity
- Care for Veterans with comorbid PTSD/SUD should be family-informed

Table 1
Age and Biological Status of Children among Veterans with Comorbid PTSD/SUD

	Biological		Not Biological		Total N (% of total)
	In Home N	Out of Home N	In Home n	Out of Home n	
Infants (0–2 years)	8	2	3	--	13 (11.4%)
Preschoolers (3–5 years)	5	8	6	--	19 (16.7%)
Middle Childhood (6–11 years)	14	19	3	--	36 (31.6%)
Early Adolescence (12–15 years)	11	11	4	--	26 (22.8%)
Late Adolescence (16–18 years)	2	15	2	1	20 (17.5%)
<i>Total</i>	40 (35.1%)	55 (48.2%)	18 (15.8%)	1 (0.8%)	114

Note. Children ages 18 and younger.

Table 2

Demographic and Psychological Symptom Variables among Veterans with Comorbid PTSD/SUD

	Full Sample	No Children in Home	Children in Home
<i>Variable</i>	N=94 (%)	n (%)	n (%)
Gender			
Male	86 (91.5)	61 (93.8)	23 (88.5)
Race			
African American	42 (45.2)	25 (38.5)	16 (61.5)
Caucasian	48 (51.6)	39 (60.0)	7 (26.9)
Other	3 (3.2)	1 (1.5)	2 (7.7)
Ethnicity			
Hispanic	3 (3.2)	2 (3.1)	1 (3.8)
Marital Status			
Never Married	20 (21.3)	17 (26.2)	2 (7.7)
Married	31 (33.0)	15 (23.1)	15 (57.7)
Separated/Divorced	41 (43.5)	31 (47.7)	9 (34.6)
Widowed	2 (2.1)	2 (3.1)	0
Employment			
Part time	10 (10.6)	5 (7.7)	3 (11.5)
Full time	19 (20.2)	11 (16.9)	8 (30.8)
Unemployed	41 (43.6)	30 (46.2)	11 (42.3)
Retired/Disabled	19 (20.2)	17 (26.2)	2 (7.7)
Student	5 (5.3)	2 (3.1)	2 (7.7)
OEF/OIF/OND			
Yes	56 (59.6)	34 (52.3)	19 (73.1)
<i>Variable</i>	M (SD)	M (SD)	M (SD)
Age	41.87 (12.11)	43.95 (12.65)	37.88 (9.40)
Years of Education	13.81 (1.89)	13.83 (2.02)	13.87 (1.62)
LEC Total	9.41 (3.77)	9.49 (3.72)	9.35 (3.94)
CAPS Total	74.97 (23.91)	72.17 (24.45)	82.65 (22.23)
TLFB %DU Alcohol	0.47 (.37)	0.44 (.38)	0.57 (.37)
TLFB %DU THC	0.19 (.39)	0.13 (.35)	0.34 (.46)
TLFB ADU Alcohol ^a	9.37 (7.98)	9.72 (9.05)	7.81 (4.17)
TLFB ADU THC ^b	2.21 (1.71)	2.28 (1.96)	2.22 (1.36)
ASI Alcohol Comp.	0.31 (.25)	0.31 (.27)	0.34 (.21)
ASI Drug Comp.	0.07 (.09)	0.06 (.08)	0.09 (.13)

Note. LEC = Life Events Checklist. CAPS = Clinician Administered PTSD Scale. TLFB = Timeline Follow Back. %DU = percentage of days used. ADU = average daily use on days using.

^{a,b} Only those who reported using the substance during the TLFB period are included here.

^a *n* = 80. Units = standard drinks.

b
 $n = 27$. Units = joints.

ASI Alcohol Comp. = Addiction Severity Index-Lite Alcohol Composite Score. ASI Drug Comp. = Addiction Severity Index-Lite Drug Composite Score.

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Table 3

Hierarchical Multiple Regression Predicting CAPS Total Score

Variable	Model 1			Model 2			Model 3		
	B	95% CI	β	B	95% CI	β	B	95% CI	β
Gender	9.33	-11.70, 30.35	.11	7.21	-13.83, 28.25	.08	5.51	-14.83, 25.85	.06
Race Caucasian = 0	-12.63	-24.24, -1.00	-.27*	-10.80	-22.51, .91	-.23 [†]	-14.55	-26.21, -2.89	-.31*
OEF/OIF	4.77	-10.54, 20.09	.10	1.70	-15.23, 18.64	.04	1.60	-14.74, 8.79	.03
Married	2.44	-9.26, 14.14	.05	-.15	-12.12, 11.82	-.00	-2.95	-14.70, 8.79	-.06
Yrs of Education	-2.95	-5.95, .06	-.24 [†]	-2.95	-5.99, .09	-.24 [†]	-2.92	-5.85, .02	-.23 [†]
Employed	1.71	-10.35, 13.76	.03	.54	-11.73, 12.81	.01	.51	-11.33, 12.36	.01
Age	.11	-.53, .75	.06	.10	-42.63, 138.64	.05	.22	-.42, .87	.11
Life Events Total				.88	-.59, 2.34	.14	.73	-.69, 2.14	.11
ASI Alcohol Composite				23.08	-3.40, 49.56	.25 [†]	22.67	-2.89, 48.22	.24 [†]
TLFB %DU Alcohol				.82	-17.41, 17.80	.01	.20	-17.41, 17.80	.00
TLFB %DU Marijuana				9.02	-6.77, 21.25	.15	7.24	-6.77, 21.25	.12
Children in Home							15.56	3.62, 27.49	.29*
R ²		.10			.17			.24	
F		1.24			1.47			2.01*	

Note. N = 94. B = Unstandardized regression coefficient. CI = confidence interval. β = Standardized regression coefficient. CAPS = Clinician Administered PTSD Scale. ASI = Alcohol Severity Index-Lite. TLFB = Timeline Follow Back. %DU = percentage of days used.

[†] $p < .10$;

* $p < .05$;

** $p < .01$.

Table 4

Hierarchical Multiple Regression Predicting Alcohol Use (Percent Days Used)

Variable	Model 1			Model 2			Model 3		
	B	95% CI	B	B	95% CI	β	B	95% CI	β
Sex	.12	-.21, .45	.09	.10	-.22, .43	.07	.10	-.23, .42	.07
Race Caucasian = 0	-.01	-.19, .17	-.02	-.02	-.20, .16	-.03	-.03	-.23, .16	-.04
OEF/OIF	-.14	-.38, .11	-.18	-.17	-.40, .07	-.22	-.17	-.40, .07	-.22
Married	.12	-.07, .30	.15	.10	-.08, .28	.12	.09	-.10, .28	.11
Yrs of Education	.01	-.04, .06	.04	.03	-.02, .07	.13	.03	-.02, .07	.13
Employed	.18	-.01, .36	.22 [†]	.15	-.03, .34	.20 [†]	.15	-.03, .34	.20 [†]
Age	-.01	-.02, .01	-.15	-.01	-.02, .00	-.20	-.01	-.02, .00	-.18
Life Events Total				-.03	-.05, -.00	-.26 [*]	-.03	-.05, -.00	-.26 [*]
CAPS Severity				.00	-.00, .01	.17	.00	-.00, .00	.16
Children in Home							.04	-.16, .24	.05
R ²		.10			.17			.17	
F		1.28			1.86 [†]			1.67	

Note. B = Unstandardized regression coefficient. β = Standardized regression coefficient. CAPS = Clinician Administered PTSD Scale.

[†] $p < .10$;

^{*} $p < .05$;

^{**} $p < .01$.

Table 5

Hierarchical Multiple Regression Predicting Marijuana Use (Percent Days Used)

Variable	Model 1			Model 2			Model 3		
	B	95% CI	β	B	95% CI	β	B	95% CI	β
Sex	.22	-.11, .55	.15	.20	-.13, .54	.14	.20	-.14, .53	.13
Race Caucasian = 0	-.03	-.21, .15	-.04	-.02	-.21, .17	-.02	-.05	-.25, .15	-.06
OEF/OIF	-.15	-.39, .09	-.19	-.16	-.41, .08	-.20	-.16	-.40, .09	-.20
Married	.24	.06, .42	.29*	.24	.05, .42	.28*	.22	.03, .41	.26*
Yrs of Education	-.03	-.08, .02	-.15	-.03	-.08, .02	-.13	-.03	-.08, .02	-.14
Employed	.08	-.10, .27	.10	.08	-.11, .27	.09	.08	-.11, .27	.09
Age	-.01	-.02, .00	-.30*	-.01	-.02, .00	-.32*	-.01	-.02, .00	-.29†
Life Events Total				-.00	-.02, .02	-.01	-.00	-.02, .02	-.02
CAPS Severity				.00	-.00, .01	.08	.00	-.00, .00	.05
Children in Home							.09	-.12, .30	.10
R ²		.18			.19			.20	
F		2.65*			2.09*			1.95†	

Note. B = Unstandardized regression coefficient. β = Standardized regression coefficient. CAPS = Clinician Administered PTSD Scale.

† $p < .10$;

* $p < .05$;

** $p < .01$.