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The influence of family and social problems on treatment outcomes of persons with co-occurring substance use disorders and PTSD

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Abstract

Objective—Family and social problems may contribute to negative recovery outcomes in patients with co-occurring substance use and psychiatric disorders, yet few studies have empirically examined this relationship. This study investigates the impact of family and social problems on treatment outcomes among patients with co-occurring substance use and posttraumatic stress disorder (PTSD).

Method—A secondary analysis was conducted using data collected from a randomized controlled trial of an integrated therapy for patients with co-occurring substance use and PTSD. Substance use, psychiatric symptoms, and social problems were assessed. Longitudinal outcomes were analyzed using generalized estimating equations (GEE) and multiple linear regression.

Results—At baseline, increased family and social problems were associated with more severe substance use and psychiatric symptoms. Over time, all participants had comparable decreases in substance use and psychiatric problem severity. However, changes in family and social problem severity were predictive of PTSD symptom severity, alcohol use, and psychiatric severity at follow-up.

Conclusions—For patients with co-occurring substance use and PTSD, family and social problem severity is associated with substance use and psychiatric problem severity at baseline and over time. Targeted treatment for social and family problems may be optimal.

Keywords

family and social problems; posttraumatic stress disorder; substance use

INTRODUCTION

Social problems are common for patients in substance abuse treatment and are characterized by high levels of interpersonal conflict and violence, isolation and abandonment, and marital discord (Sugaya et al., 2011; Thompson & Bland, 1995; Whisman, 1999). Involvement in high risk social networks and unstable family situations contributes to stress and increases substance use vulnerability (Harris, Fallot, & Berley, 2005; McLellan, Cacciola, Alterman, Rikoon, & Carise, 2006). Research suggests that problems with family and social relationships may decrease addiction treatment benefit and contribute to high rates of relapse and re-hospitalization (Benda, 2001; Brewer, Catalano, Haggerty, Gainey, & Fleming, 1998; Kline-Simon et al., 2013; Sanchez-Hervas et al., 2012).

For individuals in mental health treatment, family and social problems are likewise associated with high rates of anxiety, depression, and violent behavior (Jordan et al., 1996; Taft et al., 2009; Tracy, Munson, Peterson, & Floersch, 2010). Significant social problems contribute to worsening psychiatric symptoms (Bryant-Davis, Ullman, Tsong, & Gobin, 2011; Marsden, Gossop, Stewart, Rolfe, & Farrell, 2000; Tracy & Biegel, 2006). Additionally, family and social problems are predictors of recurrent depressive episodes and suicide attempts (Beach, Wamboldt, Kaslow, Heyman, & Reiss, 2006; Hooley & Teasdale, 1989; Vilhjalmsdottir, Kristjansdottir, & Sveinbjarnardottir, 1998).

Social problems also add to treatment complications for individuals with co-occurring substance use and psychiatric disorders (Dutton, Adams, Bujarski, Badour, & Feldner, 2014; Peirce, Kindbom, Waesche, Yuscavage, & Brooner, 2008). For dually diagnosed patients, social problems appear to decrease quality of life and the chance of maintaining sobriety (Marsden et al., 2000; Nayback-Beebe & Yoder, 2011; Tracy & Biegel, 2006). Individuals with comorbid disorders have more family and social problems than individuals with only a single disorder (Peirce et al., 2008). Although substance use and psychiatric symptoms may impact levels of social problems, research shows that social problems also increase subjective distress and may negatively impact both psychiatric and addiction treatment outcomes (Alterman, McLellan, & Shifman, 1993; Moylan, Jones, Haug, Kissin, & Svikis, 2001; Peirce et al., 2008).

Family and social problems are particularly prevalent among patients with the specific comorbidity of posttraumatic stress disorder (PTSD) and substance use (Nayback-Beebe & Yoder, 2011). Individuals with social problems have increased risk for exposure to traumatic events and subsequent development of PTSD (Brewin, Andrews, & Valentine, 2000; Nayback-Beebe & Yoder, 2011; Ozer, Best, Lipsey, & Weiss, 2003). After experiencing a trauma, individuals with more significant social problems also have more severe PTSD symptoms than individuals with fewer social problems (Dutton et al., 2014; Golding, Wilsnack, & Cooper, 2002; Wright, Kelsall, Sim, Clarke, & Creamer, 2013). While social support appears to protect individuals against worsening PTSD symptoms, preliminary

evidence shows that social problems may contribute to increased PTSD symptom severity over time (Charuvastra & Cloitre, 2008; DiGangi et al., 2013; Ozer et al., 2003). Unfortunately, severe PTSD and substance use symptoms can also influence levels of social problems, contributing to a cycle of worsened mental health (Fontana, Rosenheck, & Desai, 2012).

Past research suggests that having significant social problems negatively impacts treatment outcomes for patients with either a substance use or PTSD (Brewer et al., 1998; Charney, Zikos, & Gill, 2010; Evans, Cowlishaw, & Hopwood, 2009). Despite this, it's unclear how social problems affect treatment outcomes for patients with comorbid substance use and PTSD. Therefore, the present study sought to evaluate the impact of social problems on treatment outcomes among patients with co-occurring PTSD and substance use disorders. This study aims to address the following questions:

1. Are social problems associated with substance use outcomes?
2. Are social problems associated with psychiatric symptom outcomes?
3. Does improvement or deterioration in social problems predict change in substance use or psychiatric symptoms (or vice versa)?

METHODS

Procedure

A secondary analysis was conducted using data from a randomized controlled trial investigating the efficacy of an integrated therapy for patients with co-occurring substance use and PTSD (McGovern et al., Under Review). All newly admitted substance use patients from seven community addiction treatment centers were screened at intake using the PTSD Checklist-Civilian (PCL-C). Those scoring 44 or above were eligible for a baseline assessment. At baseline, consenting participants were assessed for PTSD by research staff. To be eligible for randomization, participants had to meet current diagnostic criteria for PTSD. Participants were excluded if they had current acute psychotic symptoms, had attempted suicide in the past 30 days, or were under 18 years of age. Participants who consented and met eligibility requirements were randomized to receive one of three treatment options. Assessments were performed at baseline, 3-month, and 6-month follow-up intervals.

Information on substance use, PTSD, psychiatric symptoms, and family and social problems was collected at all three assessments. Demographic data were obtained using the ASI and chart review. Substance use was assessed using the Timeline Follow Back (TLFB), Addiction Severity Index (ASI), and toxicology screens. The Clinician Administered PTSD Scale (CAPS) and ASI were administered to collect data on psychiatric symptoms. Family and social problems were assessed using the ASI.

Study design, maintenance, and consent procedures were all monitored and approved by the Trustees of Dartmouth College Committee for the Protection of Human Subjects (CPHS). All research was conducted in accordance with CPHS protections and good clinical practice.

Participants and sampling

Participants were recruited from seven community-based addiction treatment programs in Vermont and New Hampshire between December 1, 2010 and January 31, 2013. Three-hundred fifty-eight participants were assessed for eligibility, 75 of whom did not meet inclusion criteria, primarily due to failure to meet diagnostic criteria for a current PTSD diagnosis. Two-hundred eighty-three participants were randomized to the study. Of the 283, 3- and 6-month follow-up data were obtained from 78.5% and 71.9%, respectively.

Treatment interventions

All study participants were enrolled in intensive outpatient programs (IOP) for substance abuse. The recruitment sites were state-funded and used the American Society of Addiction Medicine criteria for Level II Intensive Outpatient services (9–12 hours per week), and Level I Outpatient services (at least one hour per month) (American Society of Addiction Medicine, 2013). IOP and aftercare services included both group and individual modalities. The seven programs did vary on several factors, including organizational and staff stability, leadership, access to mental health services and medications, provision of instrumental support, expertise of clinical staff, and finances. Though the sites were heterogeneous, utilizing multiple IOP programs for recruitment enhanced generalizability and external validity.

Randomized participants received one of three treatments: Integrated Cognitive Behavioral Therapy (ICBT) plus treatment-as-usual (TAU), Individual Addiction Counseling (IAC) plus TAU, or TAU only. ICBT is a manual-guided individual therapy for co-occurring PTSD and substance use. IAC is a manual-guided individual therapy adapted from the Individual Drug Counseling treatment used in the NIDA Cocaine Collaborative Study. Standard care (TAU) consisted of participation in an addiction-focused intensive outpatient treatment program and aftercare following program completion.

Measures

PTSD Checklist - Civilian (PCL-C)—The PCL-C is a 27-item, self-report screening measure used to indicate a probable PTSD diagnosis (Weathers, Litz, Herman, Huska, & Keane, 1993). A score of 44 or greater on the PCL-C indicates probable PTSD (Weathers, Litz, Huska, & Keane, 1994).

Self-Administered Addiction Severity Index (SA-ASI)—The SA-ASI is a standardized questionnaire assessing problem severity across seven dimensions: medical, employment, alcohol, drug, legal, family/social, and psychiatric (McLellan et al., 1985; Rosen, Henson, Finney, & Moos, 2000). Problem severity scores for the SA-ASI are computed using the same algorithms as the interviewer-administered ASI (McGahan, Griffin, Parente, & McLellan, 1986). The SA-ASI has acceptable validity and internal consistency and was administered at all three assessment periods (Denis, Cacciola, & Alterman, 2013).

The ASI family/social problem severity score is comprised of five questions on relationship satisfaction, and conflicts with family and friends. The baseline ASI family/social problem

severity score was used to split participants into terciles of family and social problem severity. Participants were categorized as having low, moderate, or high severity of social problems.

Toxicological data—Both urine drug screen and breathalyzer data were collected at all three assessment periods to confirm active substance use. The AlcoHawk ABI breathalyzer was used to test for recent alcohol use. The One Step Multi-Drug Screen Test Card with Integrated iCup was used to test for recent cannabis, cocaine, benzodiazepine, amphetamine, methamphetamine, and opiate use.

Clinician Administered PTSD Scale (CAPS)—The CAPS is a structured diagnostic interview for PTSD (Blake et al., 2000; Weathers, Keane, & Davidson, 2001). A total score of 44 or greater indicates a positive PTSD diagnosis. CAPS total scores between 44 and 64 indicate moderate PTSD. Any CAPS score of 65 or greater is considered severe (Blake et al., 2000). For this study, we focused on current PTSD symptoms (past 30 days). CAPS data were gathered at all three assessment periods.

Systematic chart review—Demographic, medication, hospitalization, and treatment services data were extracted from the agencies' patient records based on common federal requirements for the U.S. Substance Abuse and Mental Health Services Administration Treatment Episode Data Set (TEDS) reporting.

90-day Timeline Follow Back (TLFB)—The TLFB is a structured interview surveying frequency and amount of alcohol and illicit substance use over the past 90 days (Sobell, Maisto, Sobell, & Cooper, 1979). The TLFB was administered at all three assessment periods.

Data analyses

Descriptive statistics were used to examine baseline demographic, substance use, and psychiatric characteristics. Analyses of variance (ANOVA) and chi-square tests compared baseline demographics, substance use, and psychiatric characteristics between the three levels of family/social problem severity. A Tukey HSD post-hoc test of tercile group differences was used for significant ANOVAs. To investigate study attrition, t-tests and chi-squared tests were used to compare baseline demographic, substance use, and psychiatric characteristics between participants who attended and did not attend the 6-month follow-up.

The longitudinal relationships between family and social problem severity, substance use, and psychiatric outcomes were investigated using generalized estimation equation (GEE) models. To control for potentially confounding group differences at baseline, initial CAPS score, ASI drug severity, gender, age, and psychiatric problem severity score were added to the GEE model as covariates. Although some participants were randomized to receive one of two individual study therapies, the proportions of participants receiving these therapies did not significantly differ by family/social severity tercile. Therefore analyses were not adjusted for treatment type. SPSS version 22.0 was used to complete these data analyses (IBM Corporation, 2012).

Multiple linear regression analyses were used to determine whether changes in social problem severity predicted substance use and psychiatric outcomes at 6 months. Change in substance use and psychiatric outcomes were included as dependent variables, while change in family and social problems was included as the independent variable. Change scores for family and social problems, PTSD severity, psychiatric severity, and days of substance use were calculated by subtracting scores at the 6-month follow-up from baseline scores. Potentially confounding demographic and clinical variables, such as baseline alcohol severity, drug use severity, psychiatric severity, and CAPS total score, were added to the models as covariates, using a forward selection method. Although race and ethnicity were initially included in the models, these variables were excluded due to high standard error values because of sample homogeneity. Regression analyses were conducted using Stata version 13 (StataCorp, 2013).

RESULTS

Participant demographics and clinical characteristics

Most participants were in their mid-30s, female, Caucasian, not Hispanic or Latino and had never been married (Table 1). The sample endorsed significant social, psychological, and alcohol problems at baseline. All participants met criteria for a substance use disorder diagnosis. At baseline, 21.8% (61) of participants had a positive urine drug or breathalyzer screen. Participants experienced an average of 6.13 (SD=3.42) traumatic events in their lifetime, and 71% (201) had severe PTSD symptoms at baseline.

Demographic characteristics including age, gender, race, and ethnicity were similar across the terciles of social problem severity (Table 2). Current marital status was significantly different between the three groups. A greater proportion of participants with high problem severity were either separated or married; this group was also more dissatisfied with their current marital status.

Baseline demographic, substance use, and psychiatric characteristics were also compared between participants who attended the 6-month follow-up and participants who did not attend. Study completers were significantly older ($m=36.23$ years, $SD=11.09$, versus $m=30.62$ years, $SD=7.47$; $t(281)=4.08$, $p<0.01$) and had more positive toxicology screens at baseline (25.1% ($n=51$) positive versus 13.0% ($n=10$); $\chi^2(1)=4.83$, $p<0.05$). Baseline gender, race, ethnicity, days of alcohol use, days of drug use, ASI family and social problem severity, ASI psychiatric problem severity, and CAPS total score were comparable between participants attending and not attending the 6-month follow-up ($p>0.05$).

Substance use symptom outcomes

As depicted in Table 2, no baseline differences were detected in the average number of days using alcohol or drugs in the past three months, or the proportion of positive toxicology screens across the terciles of family and social problem severity. All three groups had equivalent alcohol problem severity. However, compared to those with low social problem severity, higher social problem severity was significantly associated with higher drug problem severity.

Over time, all three social problem tercile groups had significant decreases in substance use symptoms. From baseline to the 6-month follow-up, days of drug use ($\chi^2(1)=4.02$, $p<0.05$) and alcohol use ($\chi^2(1)=23.14$, $p<0.001$) decreased significantly. At 6 months, fewer toxicology screens were positive across all three terciles ($\chi^2(1)=9.02$, $p<0.01$). Tercile groups had equally significant reductions in ASI alcohol problem severity score ($\chi^2(1)=7.95$, $p<0.01$) and drug problem severity score ($\chi^2(1)=24.82$, $p<0.001$). No social problem tercile group-by-time effects were present for any substance use outcomes.

Psychiatric and PTSD symptom outcomes

Participants with moderate or high family and social problem severity had more severe psychiatric symptoms at baseline (Table 2). The average CAPS score was significantly higher for participants with moderate or high social problem severity, versus participants with low severity. Primary trauma types were significantly different between groups. Higher proportions of low severity participants reported an accident or tragic death as their primary trauma. Though most participants reported some type of interpersonal violence as their primary trauma (e.g., childhood/adult sexual trauma, childhood/adult physical trauma, etc.), the high severity group had the most participants endorsing interpersonal violence as their primary trauma. While 59.6% (53) of participants with low social problem severity had severe PTSD, 79.8% (71) with moderate and 75.3% (67) with high social problem severity met criteria for severe PTSD ($\chi^2(2)=9.86$, $p<0.01$).

From baseline to the 6-month follow-up, the ASI family and social problem severity score decreased overall ($\chi^2(1)=4.23$, $p<0.05$). Across the entire sample, the number of days of conflict with family members decreased from an average of 4.26 days ($SD=4.40$) to 3.07 days ($SD=6.46$; $t(203)=3.02$, $p<0.01$). Participants also reported a statistically significant increase in the number of close friends at the 6-month follow-up. Participants reported having an average of 2.48 ($SD=3.17$) close friends at baseline and an average of 3.10 ($SD=3.74$) close friends at follow up ($t(205)=2.81$, $p=0.005$). Additionally, a greater proportion of participants were not interested in treatment or counseling for family problems at the 6-month follow-up ($\chi^2(16)=59.07$, $p<0.001$). While 29.6% ($n=83$) of participants were not interested in counseling for family problems at baseline, 48.5% ($n=100$) of participants were not interested at follow-up.

A time by group effect was also present for the ASI family and social problem severity score ($\chi^2(2)=54.26$, $p<0.001$). This interaction indicated that change in social problems differed across the terciles. Participants with moderate and high social problem severity had average family and social problem score decreases of 0.23 ($SD=0.25$) and 0.07 ($SD=0.19$) respectively. Participants with low social problem severity had an average increase of 0.04 points ($SD=0.18$). Although the high social problem severity group had the largest reduction in family and social problems, their family/social severity score remained the highest. All three groups showed significant improvement in psychiatric outcomes from baseline to 6-month follow-up. The CAPS total score decreased significantly ($\chi^2(1)=184.79$, $p<0.001$), as did the ASI psychiatric problem severity score ($\chi^2(1)=39.79$, $p<0.05$). No group-by-time effects were detected for PTSD severity or ASI psychiatric problem severity.

Change in social problems predicting treatment outcomes

After adjusting for confounders, the change in family and social problem severity from baseline to the 6 month follow-up was significantly associated with changes in PTSD total score ($\beta=29.65$, $t(5)=3.85$, $p<0.01$), alcohol days ($\beta=16.39$, $t(5)=2.04$, $p<0.05$), and psychiatric severity ($\beta=0.38$, $t(5)=5.86$, $p<0.01$). Increases in family and social problem severity predicted increases in PTSD symptoms, days of alcohol use, and overall psychiatric severity, after controlling for other covariates. Change in family and social problem severity was not associated with changes in days of drug use ($\beta=11.91$, $t(5)=1.16$, $p>0.05$).

DISCUSSION

This study examined the influence of social problems on treatment outcomes for patients with co-occurring PTSD and substance use disorders. Results showed that higher social problem severity was associated with more severe substance use and psychiatric symptoms at baseline. These findings are consistent with evidence from previous studies that showed a relationship between social problems and substance use or psychiatric severity (Dutton et al., 2014; Nayback-Beebe & Yoder, 2011; Sanchez-Hervas et al., 2012; Sugaya et al., 2011).

Although baseline differences were present between the social problem severity groups, the groups had equivalent declines in substance use and psychiatric problem severity during treatment. Participants with the most severe family and social problems at baseline had the largest reductions in social problems during the study. This finding may be due, in part, to regression to the mean. Participants with more severe family and social problems may also have benefitted from the intensive nature of services received. Previous research has shown that more comprehensive and targeted substance abuse treatment improves outcomes for patients with social problems (Hser, Evans, Huang, & Anglin, 2004; Hser, Polinsky, Maglione, & Anglin, 1999; McLellan et al., 2006). Participants entering treatment with more severe family and social problems are also more likely to receive services targeting those problems (Alterman et al., 1993). All study participants received addiction treatment at the intensive outpatient level. The group sessions and case management services may have specifically targeted family and social relationships for participants entering treatment with severe problems. While baseline family and social problem severity was not predictive of treatment outcomes, changes in severity during treatment were associated with outcomes. Improvement or deterioration in family and social problems was related to improvements or deteriorations in PTSD symptom severity, overall psychiatric problem severity, and alcohol use. Changes in family and social problems were not related to changes in drug use. These findings expand upon previous research and show that changes in social problem severity during treatment impact outcomes (Bryant-Davis et al., 2011; Charuvastra & Cloitre, 2008; Evans et al., 2009). Though some previous research suggested a bidirectional relationship between social problems and mental health symptoms (Fontana et al., 2012), studies on patients with PTSD found that social problems predicted PTSD severity longitudinally, while PTSD severity did not predict social problems (Evans et al., 2009; Nayback-Beebe & Yoder, 2011). This relationship appears to be similar in patients with co-occurring PTSD and substance use disorders. Treatment providers should therefore screen and monitor patients for deteriorations in family and social problems. Because treatment can be effective in

improving outcomes for patients with severe social problems, monitoring patients and providing targeted services that involve members of the social network in treatment may improve treatment outcomes (Copello, Templeton, & Velleman, 2006; McLellan et al., 2006).

Several limitations impact the internal and external validity of this study. As the majority of participants were Caucasian, results may not be generalizable to more diverse populations. Also, this study did not measure social support, which could have mediated the relationship between social problems and treatment outcomes. While a measure of social support would have been beneficial, research shows that social support and social problems are distinct domains with unique effects on health (Mavandadi, Rook, Newsom, & Oslin, 2013; Rook, 1984). This study was also unable to evaluate changes in participants' social network characteristics. Though the ASI provides a basic measure of social problems, more detailed and thorough measures of social problems, such as the Inventory of Interpersonal Problems (Ruiz et al., 2004), may have provided more detailed information. Reliance on patient self-report may also limit interpretation in the absence of information from collaterals. Future research should prospectively examine the impact on social problems using a more sophisticated measure of social problems, as well as a measure of social support.

Conclusions

Overall, this study demonstrated that dually-diagnosed patients with more social problems have more severe psychiatric and drug use symptoms upon entry to treatment. Although all baseline social problem severity did not impact response to treatment, participants with the most severe problems at baseline continue to suffer the most persistent social problems over time. Increases in social problems during treatment may also contribute to increasing PTSD symptoms, alcohol use, and general psychiatric problems. Screening and the addition of services specifically targeting family and social relationships may be warranted for patients in addiction treatment with worsening family and social problems.

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Table 1**Patient Characteristics (n=284)**

Demographic Characteristics	
Age <i>m[sd]</i>	34.72 [10.53]
Gender (Male) <i>n(%)</i>	118 (41.5%)
Race (Caucasian) <i>n(%)</i>	269 (94.7%)
Ethnicity (Non-Hispanic) <i>n(%)</i>	278 (97.9%)
Marital Status <i>n(%)</i>	
Married	49 (17.3%)
Separated	22 (7.8%)
Divorced	62 (21.9%)
Never married	145 (51.2%)
Substance Use Characteristics	
Days used alcohol (past 90 days) <i>m[sd]</i>	18.03 [24.63]
Days used any drug (past 90 days) <i>m[sd]</i>	26.91 [27.74]
Substance use disorder (past year) <i>n(%)</i>	
Amphetamine	49 (17.3%)
Cannabis	119 (41.9%)
Cocaine	130 (45.8%)
Heroin	94 (33.1%)
Prescription opioids	154 (54.2%)
Sedatives/Benzodiazepines	62 (21.8%)
Alcohol	171 (60.2%)
Psychiatric Characteristics	
CAPS total score <i>m[sd]</i>	77.29 [19.92]
Primary trauma type <i>n(%)</i>	
Childhood sexual assault	83 (29.2%)
Adult physical assault	67 (23.6%)
Childhood physical assault	45 (15.8%)
ASI Composite Scores <i>m[sd]</i>	
Family/social composite score	0.35 [0.21]
Psychiatric composite score	0.56 [0.16]
Alcohol composite score	0.21 [0.22]
Drug composite score	0.15 [0.10]

Table 2

Baseline differences in demographic, psychiatric, and substance use characteristics among terciles of family and social problems

	Low Severity (n=89)	Mild Severity (n=90)	High Severity (n=89)	X ² /F Value ^a
Demographic Characteristics				
Age <i>m[sd]</i>	34.76 [11.62]	33.99 [9.31]	35.06 [9.88]	0.26
Gender <i>n(% Male)</i>	43 (48.3%)	39 (43.3%)	30 (33.7%)	4.03
Caucasian <i>n(%)</i>	82 (92.1%)	87 (96.7%)	85 (95.5%)	8.24
Not Hispanic or Latino <i>n(%)</i>	88 (98.9%)	88 (97.8%)	86 (96.6%)	1.03
Marital status <i>n(%)</i>				20.74*
Married/living as married	14 (15.7%)	13 (14.4%)	21 (23.6%)	
Separated	3 (3.4%)	6 (6.7%)	13 (14.6%)	
Divorced	22 (24.7%)	19 (21.1%)	16 (18.0%)	
Never married	47 (52.8%)	52 (57.8%)	38 (42.7%)	
Satisfaction with current marital status <i>n(%)</i>				41.55***
Satisfied	58 (65.2%)	34 (37.8%)	21 (23.6%)	
Neutral	21 (23.6%)	41 (45.6%)	34 (38.2%)	
Dissatisfied	10 (11.2%)	15 (16.7%)	34 (38.2%)	
Substance Use Characteristics				
Days of alcohol use <i>m[sd]</i>	16.83 [23.96]	15.84 [23.13]	20.82 [26.19]	1.90
Days of drug use <i>m[sd]</i>	24.30 [26.46]	26.03 [27.64]	32.66 [28.63]	2.28
ASI drug problem severity <i>m[sd]</i>	0.13 [0.10] ^a	0.14 [0.09]	0.18 [0.10] ^b	4.46**
ASI alcohol problem severity <i>m[sd]</i>	0.18 [0.22]	0.18 [0.19]	0.24 [0.23]	2.35
Positive toxicology <i>n(%)</i>	17 (19.5%)	17 (19.3%)	25 (28.1%)	2.55
Psychiatric Characteristics				
CAPS score <i>m[sd]</i>	72.88 [19.56] ^a	79.69 [19.53] ^b	79.73 [19.51] ^b	3.64*
Primary trauma type <i>n(%)</i>				32.48**
Childhood sexual assault	21 (23.6%)	28 (31.1%)	30 (33.7%)	
Childhood physical assault	16 (18.0%)	11 (12.2%)	15 (16.9%)	
Adult sexual assault	7 (7.9%)	10 (11.1%)	6 (6.7%)	
Adult physical assault	12 (13.5%)	24 (26.7%)	27 (30.3%)	
Accident	12 (13.5%)	9 (10.0%)	2 (2.2%)	
Tragic death	13 (14.6%)	4 (4.4%)	7 (7.9%)	
ASI psychiatric problem severity <i>m[sd]</i>	0.49 [0.16] ^a	0.56 [0.16] ^b	0.62 [0.14] ^c	15.07***

^aChi Squared/ANOVAs

^bp<0.05* p<0.01** p<0.001***