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Self-help group participation among substance use disorder patients with posttraumatic stress disorder

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Abstract

Debate has ensued about whether substance use disorder (SUD) patients with comorbid posttraumatic stress disorder (PTSD) participate in and benefit from 12-step groups. One hundred fifty-nine SUD–PTSD and 1,429 SUD-only male patients were compared on participation in 12-step activities following an index episode of treatment. Twelve-step participation was similar for SUD patients with and without PTSD. PTSD patients with worldviews (e.g., holding disease model beliefs) that more closely matched 12-step philosophy participated more in 12-step activities. Although greater participation was associated with better concurrent functioning, participation did not prospectively predict outcomes after case mix adjustment. An exception was that greater participation predicted decreased distress among PTSD patients whose identity was more consistent with 12-step philosophy. In summary, PTSD patients participate in and benefit from 12-step participation; continuing involvement may be necessary to maintain positive benefits.

Keywords: Posttraumatic stress disorder; Substance use disorder; Self-help groups; Program evaluation; Treatment course

1. Introduction

Twelve-step self-help groups are considered an essential component of continuing care for substance use disorder patients, and most professionally treated substance use disorder (SUD) patients are referred to 12-step groups (Humphreys, 1997). Yet, debate has ensued about whether SUD patients with comorbid posttraumatic stress disorder (PTSD) participate in and benefit from 12-step groups (Evans & Sullivan, 1995; Satel, Becker, & Dan, 1993).

Based on their clinical work, Evans and Sullivan (1995) argue that 12-step group involvement is an essential component of treatment for patients with traumatic stress and substance use problems. They identify several aspects of 12-step activities that may address core issues of trauma-related symptoms and enhance treatment outcomes. For example, the disease model approach to addiction may help decrease the shame that is often associated with PTSD, and the spiritual aspect of 12-step fellowship may enhance purpose in life for trauma survivors who feel hopeless about their future.

Other authors, however, have raised concerns about the effectiveness of 12-step self-help for SUD–PTSD patients. Based on clinical experience with male patients suffering from both alcohol dependence and PTSD, Satel concluded that many of these patients have difficulty affiliating with 12-step groups. Specific conflicts that inhibit SUD–PTSD patients from engaging in 12-step groups include contrasting views of which problem is primary (i.e., patients viewing the PTSD as primary, whereas 12-step members view substance dependence as primary) and of the need for psychotropic medications. The latter is problematic as PTSD patients are often prescribed medication for significant psychiatric symptoms, whereas 12-step group members may ''frown upon'' psychotropic medication use. In addition, the trauma and PTSD-specific symptom of loss of faith and hope for the future may impair an SUD–PTSD patient from embracing the view of a ''higher power,'' and PTSD-associated interpersonal avoidance may make the fellowship

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of 12-step groups problematic. Satel and colleagues suggest that 12-step groups are engaging and effective only for the minority of PTSD patients who identify as substance abusers, are more comfortable with social situations, and have less severe psychological symptoms. Thus, patients who exhibit these characteristics should have better outcomes following 12-step participation.

Two empirical studies (Ouimette, Ahrens, Moos, & Finney, 1998; Ouimette, Moos, & Finney, 2000) have examined the association of self-help group participation and SUD–PTSD patients' treatment outcomes. Among SUD–PTSD patients receiving SUD treatment, involvement in 12-step activities during treatment (e.g., reading 12-step literature, associating with peers who are involved in self-help, attending meetings) was associated with more adaptive coping and decreased psychological symptoms at discharge. In a second study of these same patients, posttreatment self-help group attendance during the two years after the index episode was related to stable remission from substance abuse (Ouimette et al., 2000). Based on these findings, self-help group participation was recommended as a potential adjunct to treatment for SUD–PTSD patients (Ouimette, Brown, & Najavits, 1998).

SUD–PTSD patients have multiple psychiatric and medical comorbidities and poorer treatment outcomes, and use more costly care options than SUD patients without PTSD (Brown, Recupero, & Stout, 1995; Brown, Stout, & Mueller, 1999). The complexity of these patients creates both clinical and cost challenges for health care systems, as frequent contact with care providers is needed. Hence it is critical to evaluate whether self-help groups are an effective adjunct to formal therapy for SUD–PTSD patients. In this study, we extend previous work by examining the concurrent and predictive (prospective) associations between engagement and specific indices of treatment outcomes, including substance use, psychological, employment, and social outcomes. We examine four interrelated questions regarding self-help group participation among SUD–PTSD patients:

1. Among SUD patients, is PTSD associated with less 12-step group participation during the 2 years following an index episode of inpatient treatment?

2. Among PTSD patients, what predicts engagement in 12-step groups during the 2 years after the index episode of treatment? As proposed by Satel et al. (1993), we expect that PTSD patients with views/goals consistent with 12-step philosophy (e.g., having more religious beliefs and behaviors), who are not using psychotropic medication, who are more socially involved, and who have fewer psychological symptoms will participate more in 12-step groups.

3. Among PTSD patients, does greater self-help group participation predict a greater likelihood of abstinence and employment, a lower likelihood of psychological distress, and more social support from friends during these 2 years?

4. Among PTSD patients, do specific patients gain more benefit from 12-step participation on 2-year outcomes? Specifically, as proposed by Satel et al. (1993), we expect that PTSD patients who identify as alcoholics/addicts, engage more in social activities, and have fewer psychological symptoms to evidence greater associations between participation and enhanced 2-year outcomes than PTSD patients without these characteristics.

2. Methods

2.1. Participants

Participants were selected from male VA patients in a multisite program evaluation of cognitive-behavioral, 12-step, and eclectic inpatient treatment for substance abuse (Moos, Finney, Ouimette, & Suchinsky, 1999; Ouimette, Finney, & Moos, 1997). Patients were asked to participate in the evaluation after they had completed medical detoxification and were admitted to the programs. Due to their small numbers, women were excluded from the evaluation. Procedures followed in this evaluation were in accord with the institutional review boards at the coordinating center of the study and at the individual sites.

The initial intake sample included 159 SUD–PTSD patients, of whom 146 (91.8%) completed a Discharge Information Form (DIF) at the end of the index treatment episode, 140 (88.1%) completed a 1-year Follow-up Information Form (FIF), and 135 (84.9%) completed a 2-year Follow-up Information Form. Identification of SUD–PTSD patients has been described in detail previously (Ouimette, Ahrens, Moos, & Finney, 1997, 1998; Ouimette, Finney, & Moos, 1999; Ouimette et al., 2000), but to summarize briefly: Patients were classified into diagnostic categories using intake and discharge chart diagnoses given by doctoral-level program staff. These diagnoses were based on the Diagnostic and Statistical Manual of Mental Disorders-III-Revised (American Psychiatric Association, 1987). Only patients with psychiatric diagnoses on which there was 100% agreement at both assessments were retained as participants. Exclusion criteria were the presence of organic disorders, developmental disorders, impulse control disorders, and eating/sleep disorders.

The comparison group consisted of 1,429 patients with only substance use disorders. PTSD patients were older ($M = 44.96$, $SD = 4.57$) than SUD-only patients ($M = 42.76$, $SD = 10.22$). PTSD patients had slightly higher levels of education ($M = 13.07$, $SD = 1.64$) than did SUD-only patients ($M = 12.60$, $SD = 1.78$). Significantly fewer PTSD patients were from African American and other minority groups (42.1%) than were SUD-only patients (57.1%). No significant differences emerged between the groups on the proportion of patients married or living with a partner (PTSD patients, 38.6%; SUD-only patients, 32.1%) or on the completion rates for the follow-ups.

2.2. Measures

2.2.1. Twelve-step group participation

Because 12-step group participation can be conceptualized as a multidimensional construct (Mankowski, Humphreys, & Moos, in press), we created a 12-step participation measure at intake and at 1- and 2-year follow-ups (Ouimette, Ahrens, et al., 1998). This measure consisted of five items: (1) The first item asked, "In the past 3 months, how many A.A./N.A./C.A. meetings did you attend?" and had a 5-point response scale (0 = no meetings; 1 = 1–9 meetings; 2 = 10–19 meetings; 3 = 20–29 meetings; and 4 = 30 or more meetings). (2) A second item assessed the degree of working the 12 steps by asking whether the person had tried to incorporate each step into his daily life in the past year (yes/no response for each step; summed and coded to produce a 5-point scale ranging from 0 = 0 steps, 1 = 1–3 steps, 2 = 2–4 steps, 3 = 7–9 steps, and 4 = 10–12 steps). Additional items assessed the frequency of (3) reading 12-step materials, such as the Big Book, and (4) talking with a 12-step sponsor, using a 5-point response scale ranging from "never" to "several times a week." Finally, we asked about (5) the number of the respondents' friends active in 12-step (0 = "none" to 4 = "four or more"). The five items were summed, and scores could range from 0 to 20, with higher scores denoting higher levels of engagement in 12-step behaviors and activities. Cronbach's alpha was 0.61 with this sample's baseline data.

2.3. Predictors of participation

2.3.1. Religiosity/spirituality

Religious beliefs and behaviors were assessed at intake by six items asking about the frequency with which the patient engaged in religious activities or held religious beliefs (Conners, Maisto, & Zywiak, 1996; alpha = 0.83 at intake). Intrinsic religiosity was measured at intake using a nine-item scale developed from Allport's intrinsic–extrinsic perspective of religious commitment (Allport & Ross, 1967). Those patients who reported that they internalized or embraced their religious beliefs scored higher on intrinsic religiosity, signifying a more primary position for religion in their lives. Coefficient alpha for intrinsic religiosity was 0.88.

2.3.2. Alcohol/addict identity and disease model beliefs

A patient's identity as an alcoholic or addict was assessed at intake and follow-up with two items asking, (1) "Do you consider yourself to be an alcoholic?" or (2) "... a drug addict?", with responses of "no" to both items being coded as 0 and responses of "yes" to either or both items being coded as 1. The patient's belief in a disease model of alcoholism and addiction was assessed at intake and follow-up using a four-item subscale of the Short Understanding of Substance Abuse Scale (Humphreys, Greenbaum, Noke, & Finney, 1996; Moyers & Miller, 1993). The disease model holds that alcoholism and drug addiction are incurable diseases that can be managed only through complete abstinence. Alpha at intake was 0.65 in this sample.

Abstinence as a treatment goal was assessed at intake on a six-point scale from "I have no personal goal for treatment" to "I want to achieve total abstinence and never use alcohol or drugs again" (Marlatt, Baer, Donovan, & Kivlahan, 1988). Patients received a 1 if they marked total abstinence as their treatment goal; otherwise, they were coded 0.

2.3.3. Social involvement

A friend interpersonal resources subscale was adapted from the Life Stressors and Social Resources Inventory (LISRES; Moos & Moos, 1994). This measure, administered at intake and follow-up, has 10 items assessing patients' involvement and attendance at clubs, organizations, and religious services, and the number of close friends and frequency of contact with those friends. Higher scores indicate more social involvement. Alpha at intake was 0.85.

2.3.4. Psychological symptoms

Twenty-two items from the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983), measuring depression, anxiety, paranoia, and psychotic symptoms, were summed as a measure of general distress; each item was rated on a five-point scale (0 = not at all to 4 = extremely). Intake alpha was 0.94 for the total BSI score.

2.3.5. Psychotropic medication use

After patients were discharged from the substance abuse program, project assistants recorded whether they had received medication during the index episode treatment (a) for their alcohol or drug use problem or (b) for emotional or mental health problems (no = coded 0; yes = coded 1).

2.4. Posttreatment substance use, symptom, employment, and social outcomes

Abstinence from alcohol and drugs at the 1- and 2-year follow-ups was reflected by reports of no alcohol or drug use during the past 3 months on items adapted from the Health and Daily Living Form (HDL; Moos, Cronkite, & Finney, 1990) and the Treatment Outcome Prospective Study inventories (TOPS; Hubbard, Marsden, Cavanaugh, & Ginzburg, 1989).

Significant psychological distress was assessed at the 1- and 2-year follow-ups by responses of "quite a bit" or "extremely" on five or more of 12 items on the Depression and Anxiety subscales (e.g., "feelings of worthlessness," "spells of terror or panic") of the BSI.

2.4.1. Employment status

Patients were asked if they were currently employed at the 1- and 2-year follow-ups. Patients were scored 1 if

they were employed full- or part-time, and 0 if they were not employed.

2.4.2. General friendship quality

Participants reported on their number of close friends and on their frequency of contact with them (response options ranged from "never" to "several times a week"). The six-item friendship resources scale from the LISRES was used to measure level of support by friends. These eight items were summed to create a measure of general friendship quality (alpha = 0.89 at intake).

2.4.3. Course of remission from substance abuse

Remission was determined by three criteria: (a) consumption of 3 ounces or less of ethanol consumed per day as measured by the HDL; (b) no problems resulting from alcohol and drug use as measured by the Problems from Substance Use Scale; and (c) no illicit drug use as measured by the TOPS. We then classified SUD–PTSD patients into three "course" groups: stably remitted (n = 26), partially remitted (n = 39), and nonremitted (n = 60), based on their responses to the 1-year and 2-year FIFs. Stably remitted patients were abstinent or remitted from alcohol and drug use at both follow-ups. Partially remitted patients were abstinent or remitted at one of the two follow-ups and nonremitted patients consumed alcohol in excess of 3 ounces of ethanol per day, had problems as a result of their substance use, and/or used illicit drugs at both follow-ups.

2.5. Covariates

Discharge to group housing was assessed by a dichotomous variable indicating group housing (i.e., halfway house or group home, or hospital inpatient program, or in a shelter or domiciliary), coded as 1, or individual housing (house or apartment, or rooming house in a hotel, or jail or on the street), coded as 0.

Total number of visits to VA substance abuse outpatient clinics during the 2 years following discharge from the index episode was obtained from VA nationwide computerized outpatient databases.

2.6. Data analytic plan

Correlation and regression analyses were used (1) to compare SUD–PTSD and SUD-only patients on 12-step participation and, among PTSD patients, (2) to examine associations among participation, predictor variables, and outcomes. Linear models were used for continuous dependent variables, whereas logistic models were used for dichotomous dependent variables. Generalized estimating equations (GEE; Zeger & Liang, 1986) were used to estimate regression parameters and their standard errors. For our fourth question, to examine subgroups of PTSD patients and participation, interactions between each predictor variable (e.g., disease model beliefs) and participation were examined as predictors of each outcome. Using multiple regression, the predictor variable, 12-step participation, and the zero-centered product term for these two variables were entered as predictors of outcomes.

The covariate set across all analyses (unless otherwise noted) included two variables associated with PTSD status and the participation/outcome variables, race and education, the intake value of the outcome variable, and discharge to group housing. In previous work, the latter has been significantly associated with 12-step participation (Mankowski et al., in press).

3. Results

3.1. Twelve-step group participation for PTSD and SUD-only patients

Table 1 presents the means for the SUD–PTSD and SUD-only patients on the five participation items and the composite measure. SUD–PTSD patients, on average, attended between five and six self-group meetings at each follow-up, had incorporated about five steps into their lives, were reading 12-step materials and talking to their sponsor less than once a month, and had about one friend active in

Table 1
Individual 12-step participation items and composite among substance use disorder patients with and without PTSD

12-step measure	SUD–PTSD	SUD-only
Number of meetings attended		
Intake	5	3
1-year	6	6
2-year	5	6
Number of steps incorporated		
Intake	2	2
1-year	5	5
2-year	5	5
Reading 12-step materials (0 — never; 4 — several times a week)		
Intake	1.11	.89
1-year	1.24	1.43
2-year	1.24	1.26
Talking to sponsor (0 — never; 4 — several times a week)		
Intake	.38	.25
1-year	.68	.77
2-year	.57	.73
Number of friends involved in 12-step (0 — none; 4 — 4 or more)		
Intake	1.15	.92
1-Year	1.41	1.51
2-Year	1.21	1.42
Participation composite (0–20)		
Intake	5.50	4.54
1-year	6.63	7.03
2-year	6.16	6.78

Note. PTSD = Posttraumatic Stress Disorder.

Table 2
Significant effects of group and time on participation composite using general estimating equations

Outcome	*B*	*SE*	*P*
Participation composite			
group	− .28	.48	ns
group × intake	1.34	.49	.006
group × 2-year	− .41	.47	ns

Note. The substance use–posttraumatic stress disorder group and 1-year participation are the comparison categories. Covariates include education and race.

SE = standard error.

12-step. SUD–PTSD patients' engagement in 12-step activities did not vary across the assessment points.

Patient group (PTSD and SUD-only) and time of follow-up (1 year and 2 years) were dummy-coded and group by time interactions were included in the GEE model to test differential self-help group participation using the composite measure across assessment points (see Tables 1 and 2). Covariates included education and race. The patient group by time interaction predicting the 12-step participation composite was significant. PTSD patients had significantly higher levels of participation at intake, but did not differ from SUD-only patients at the 1-year or 2-year follow-up.

3.2. Predictors of participation among PTSD patients

The following analyses focus on the 159 patients with PTSD. We examined intake and 1-year, when available, variables predicting 12-step participation at the 1- and 2-year follow-ups. The following variables were used as predictors: intrinsic religiosity (intake only), religious behaviors (intake only), alcoholic/addict identity, disease model beliefs, abstinence as a treatment goal, social involvement, psychological symptoms, and use of psychiatric medication (discharge only).

Table 3 presents the zero-order correlations between the predictors and the 1- and 2-year composite index of participation. Greater intrinsic religiosity and more religious beliefs and behaviors at baseline were associated with more participation at 1 year. Patients who had an alcoholic/addict identity at intake and at 1 year reported more participation in 12-step activities at 1 year. Patients who held more disease model beliefs at intake and 1 year reported more participation in 12-step activities at 1 year. Patients who had a goal of abstinence and were more socially involved at 1 year participated more at both 1- and 2-year follow-ups. Lastly, psychological symptoms at 1 year predicted less participation at both the 1- and 2-year follow-ups.

GEE analyses were then used to examine the contribution of each individual predictor in predicting subsequent participation, controlling for education, race, discharge to group housing, and participation at intake. Time was included in the models to determine if the relationship between the predictor and 12-step participation varied over time. The relationship between disease model beliefs and the 12-step participation composite differed significantly at the 1- and 2-year follow-ups ($\beta = -0.29$, $P < 0.04$). PTSD patients who adhered more to the disease model at intake participated more at the 1-year follow-up, whereas 1-year adherence was not associated with 12-step participation at the 2-year follow-up. In addition, a significant interaction emerged for religious beliefs and behaviors by time ($\beta = -0.14$, $P < 0.006$). PTSD patients who had greater religious beliefs and behaviors at intake participated more in 12-step activities at the 1-year follow-up; no association was found between intake religious beliefs and behaviors and 12-step participation at the 2-year follow-up.

3.3. Associations between 12-step participation and functioning among PTSD patients

These analyses examined associations between the composite index of participation at baseline and 1 year, and 1-year and 2-year functioning among the 159 SUD–PTSD patients (see Table 4). Participation in 12-step activities at intake was associated with increased quality of friendships at 1 year. Participation at 1 year was associated with a greater likelihood of abstinence, less psychological distress, and greater quality of friendships at 1 year. In addition, participation at 1 year was associated with friendship quality at the 2-year follow-up.

Table 3
Simple associations between predictors and participation among SUD–PTSD patients

	Participation	
Predictor variable	1 year	2 year
Intrinsic religiosity (intake)	.28***	.13
Religious beliefs/behaviors (intake)	**.32*** **	.11
Alcoholic identity		
Intake	.17 *	.15
1-year	.29**	.14
Disease model		
Intake	**.25** **	.15
1-year	.18 *	.01
Abstinence as a goal		
Intake	.11	.11
1-year	.28***	.26**
Social involvement		
Intake	.14	.17
1-year	.42***	.24**
Psychological distress		
Intake	− .05	− .12
1-year	− .27**	− .23**
Medications	− .05	.01

Bolded zero-order correlations remained significant in GEE analyses controlling for baseline participation, education, and discharge to group housing.

* $P < .05$.

** $P < .01$.

*** $P < .001$.

Table 4
Simple associations between participation and functioning among SUD–PTSD patients

	Abstinence		Distress		Employment		Friendship quality	
	1-year	2-year	1-year	2-year	1-year	2-year	1-year	2-year
Participation								
Intake	− .02	− .05	− .00	.05	.15	.05	.18 *	.06
1-year	.28**	.13	− .27**	− .06	.03	.10	.38**	.22 *

* $P < .05$.
** $P < .001$.

We then examined the contributions of baseline and 1-year 12-step participation in relation to subsequent functioning variables, controlling for the intake value of the outcome, education, race, discharge to group housing, and outpatient substance abuse clinic visits during the follow-up. Time was included in these models to determine if the relationship between participation and functioning varied over time. In these analyses, baseline and 1-year participation were not significantly associated with casemix-adjusted abstinence, psychological distress, employment, or friendship quality during the 2 years following the index episode of treatment.

In a previous paper, we examined the course of remission from substance abuse and attendance at 12-step groups among the PTSD patients (Ouimette et al., 2000). We thus conducted subsidiary analyses here to examine the association between the participation composite and the course of remission using multivariate analysis of covariance. The covariate set included intake level of participation, education, race, discharge to group housing, and outpatient substance abuse clinic visits during the follow-up. Results indicated that the three groups significantly differed on participation at both the 1- and 2-year follow-ups [$F(2,106) = 4.14$, $P < 0.05$; $F(2,106) = 6.62$, $P < 0.01$]. Paired contrasts indicated that the stably and partially remitted SUD–PTSD patients participated more than the nonremitted patients at the 1-year follow-up. Moreover, the stably remitted group participated more than both the partially remitted and nonremitted groups at the 2-year follow-up.

3.4. Do specific subgroups of SUD–PTSD patients benefit from 12-step participation?

We next examined if associations between the composite index of participation and outcomes would emerge among specific subgroups of SUD–PTSD patients. Using multiple regression, alcoholic/addict identity, social involvement, and psychological symptoms were each examined as moderators of the association between 12-step participation and casemix-adjusted outcomes. The interactions between alcoholic/addict identity and 1-year participation were significant in the models predicting 1-year ($\beta = -0.54$, $P < 0.05$) and 2-year distress ($\beta = -0.33$, $P < 0.05$). For patients with an alcoholic/addict identity at the 1-year follow-up, high participation in 12-step activities at 1 year was associated with decreased psychological distress at the 1-year and 2-year follow-ups. For example, 53% of high participation patients (high and low participation based on a median split) were distressed at 1 year, compared to 65% of the low participation patients. Conversely, for patients not identifying as an alcoholic/addict, increased engagement at 1 year was associated with greater distress at both the 1- and 2-year follow-ups. For example, 100% of high participation patients (high and low participation based on a median split) were distressed at 1 year, compared to 61.9% of the low participation patients. None of the other analyses were significant.

4. Discussion

Twelve-step self-help groups are clearly not appealing or helpful to every substance-dependent person, but they do show remarkable "elasticity" in their membership. In recent years, a number of assertions have been made that particular characteristics—for example, being an atheist/agnostic and being African American—makes 12-step group participation unlikely. In each case, however, these assertions have proven incorrect when subjected to empirical test. For example, in a national survey of addictions self-help group members, no racial differences in participation were observed (Kessler, Mickelson, & Zhoa, 1997) and less religious patients respond to self-help group referrals as well as do more religious patients (Winzelberg & Humphreys, 1999). In parallel fashion, although it may seem intuitively reasonable that substance use disorder patients with comorbid PTSD would have difficulty affiliating with 12-step groups, the present results do not support this notion. For example, approximately one quarter to one third of the SUD–PTSD patients had attended 10 or more 12-step meetings in 3 months prior to each measurement point. With some minor reservations, one could say that, at least in the sample of male veterans studied here, their participation pattern is similar to that of substance use disorder patients without PTSD.

At baseline, patients with PTSD were actually slightly more actively involved in 12-step groups than non-PTSD patients, but this difference attenuated over time. This may indicate that 12-step groups were not a sufficient intervention for SUD–PTSD patients (i.e., they were involved in such groups prior to treatment but ended up needing

inpatient treatment anyway). These results imply that this severely troubled population needs involvement in formal support services.

In an earlier study of the larger sample of substance use disorder patients from which these patients were drawn, the degree of similarity between personal belief systems and 12-step group philosophy predicted participation (Mankowski et al., in press). Similarly, we found that PTSD patients who were more involved in religious activities and held religious beliefs and reported a stronger adherence to the disease model of addiction were more involved in 12-step activities during the follow-up period. This may indicate an ability to separate substance-related problems from PTSD symptoms that may make 12-step philosophy more amenable to PTSD patients (Satel et al., 1993).

Psychotropic medication did not predict 12-step participation. This finding may surprise those who view 12-step organizations as oriented toward no psychiatric medication use. Recent work indicates that this perception may not be accurate. For example, a recent survey of 125 AA contact persons indicated that the vast majority was comfortable with the dually diagnosed individuals they had met in AA, and, that 93% felt that AA members with psychiatric disorders should continue taking their medication (Meissen, Powell, Wituk, Girrens, & Arteaga, 1999). Similarly, a survey of AA members indicated that few members had ever suggested that another AA member stop taking medication or had been subjected to such pressure themselves (Rychtarik, Connors, Dermen, & Stasiewicz, 2000). Given that negative attitudes about psychiatric medication are common in the culture at large, these results, as well as those of the present study, suggest that a 12-step group member is no more skeptical of psychiatric medication—and perhaps is even less so—than the average person. Thus, PTSD patients, who often are prescribed psychotropic medications, may not face an antimedication bias in 12-step groups, and may even gain some peer support for such treatment.

Self-help participation was positively associated with concurrent functioning, which is consistent with our earlier findings of associations between self-help involvement and improved psychological and substance use outcomes among SUD–PTSD (Ouimette, Brown, et al., 1998; Ouimette et al., 2000) and SUD patients in general (Ouimette, Moos, & Finney, 1998). However, we did not find prospective associations between participation and subsequent outcomes. For comparison with our earlier work (Ouimette et al., 2000), we conducted subsidiary analyses examining the association between 12-step participation and the course of remission from substance abuse during the follow-up. Results indicated that patients with the best outcome—that is, reporting remission from substance abuse at both follow-ups—participated more in 12-step activities than patients who were not remitted at both the 1- and 2-year follow-ups. This supports the idea that SUD patients, including those with PTSD, need to maintain ongoing involvement in self-help if the positive effects of self-help participation are to be sustained.

A specific subgroup of PTSD patients fared better with 12-step participation. Among PTSD patients self-identifying as an "alcoholic or addict," participation predicted less psychological distress at both follow-ups. Being part of a group of individuals with similar self-views may provide various experiences that decrease anxiety and depression. In addition, seeing and experiencing similarity between themselves and a less impaired group may improve SUD–PTSD patients' self-image and increase their optimism about their future. High 12-step participants who did not endorse an identity consistent with 12-step philosophy reported markedly increased distress. It is possible that these patients' engagement in a group that contradicted their self-image increased their discomfort and anxiety. In addition, these patients may have been more identified with having PTSD, such as is often found with Vietnam combat veterans. Being in self-help groups that emphasize the primacy of addictions may invalidate these patients' perceptions of PTSD as their primary problem and consequently increase their distress. On a practical note, clinicians should assess SUD–PTSD patients' identities regarding addictions and PTSD before referring to self-help groups. If a patient is more identified with PTSD, it is important to explore whether the patient could still benefit from participation and to monitor the patient's level of distress associated with 12-step participation.

Some aspects of the design must temper some of the conclusions offered here. First, several variables (e.g., medication status, religiosity) were assessed only early in the study. Hence, their inability to predict 2-year self-help group participation may reflect the fact that they may have changed after the initial assessment, thus leading one to be cautious in concluding that they are inherently unrelated to longer-term outcomes. Second, like any longitudinal study, we could not capture all the reciprocal relationships between variables across measurement points. For example, patient functioning, substance use, and 12-step participation are in constant interplay, with positive and negative reinforcing cycles occurring for different individuals. This issue is more pronounced in the present study because patients selected their post-discharge care options rather than have them randomly assigned. Self-help participation may have enhanced life quality for PTSD patients in ways that may not have been measured by our outcomes, such as improving self-esteem and addressing issues of life purpose. Lastly, our sample included only male patients; our conclusions may not apply to female patients. An important area for future research to address would be the effectiveness of self-help group participation on substance use disorder treatment outcomes of female patients with SUD–PTSD.

The data presented here suggest that substance abuse treatment–seeking PTSD patients engage in 12-step activities. Clinicians working with these patients should encourage maintenance of involvement in 12-step activities,

especially for patients who identify as an "alcoholic" or "addict." Some caution is warranted when encouraging patients without an alcohol/addict identity to participate in 12-step activities, as they may increase distress. Given the treatment needs of SUD–PTSD patients, future work should continue to examine the role of self-help groups in PTSD patients' recovery vis-à-vis formal treatment among different patient populations. Lastly, the identification of subgroups of SUD–PTSD patients for whom self-help groups would be more or less helpful is important.

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