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## Role of self-help processes in achieving abstinence among dually diagnosed persons

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### Abstract

The effectiveness of participation in dual-focus groups (i.e., focusing on both mental health and substance use) has not been studied empirically. The study examined whether three hypothesized active ingredients of self-help (helper-therapy, reciprocal-learning, and emotional-support processes) are associated with drug/alcohol abstinence outcomes for members of a 12-step dual-focus fellowship, Double Trouble in Recovery (DTR). The study was able to control for member attitudes and behaviors at baseline, which might be related to both self-help processes and outcomes, i.e., extent of participation in DTR and traditional 12-step groups, prior drug/alcohol use, severity of psychiatric symptoms, motivation for change, stressful life events, perceived coping, self-efficacy for recovery, and social support. Members of 24 DTR groups in New York City were recruited, interviewed, and reinterviewed after 1 year. Drug/alcohol abstinence in the past year increased from 54% at baseline to 72% at follow-up. Helper-therapy and reciprocal-learning activities were associated with better abstinence outcomes, independent of other attitudes and behaviors of the members. However, emotional support was not related to outcome. We conclude that specific elements of self-help participation contribute substantially to progress in recovery for members of dual-focus groups; facilitating such self-help processes should be encouraged by clinicians and senior fellowship members.

### Keywords

Self-help; Substance use; Mental health; Dual diagnosis; 12-Step groups

### 1. Introduction

Self-help groups are based on the premise that a group of individuals who share a common behavior they identify as destructive can collectively support each other and eliminate that behavior. Members learn more about their problem and share their experiences, strengths, and hopes for recovery. The group is a setting where socially stigmatized behaviors can be discussed in an accepting, trusting environment. It also provides a source of strategies to cope with the behavior and, as a person's recovery progresses, the opportunity to become a role model. Many self-help groups follow some version of the 12-step recovery model originally developed by the founders of Alcoholics Anonymous [AA] (1952).

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There is research-based evidence that self-help can contribute to achieving or maintaining abstinence from alcohol and drugs. Most such studies have examined the association between 12-step group (usually AA) participation during or after formal treatment and subsequent outcomes (Devine, Brody, & Wright, 1997; Humphreys, Moos, & Cohen, 1997; Humphreys, Huebsch, Finney, & Moos, 1999; Rosenheck & Leda, 1997; Thurstin, Alfano, & Nerviano, 1987; Timko, Finney, Moos, & Moos, 1995). For instance, Moos, Finney, Ouimette, and Suchinsky (1999) found that stronger 12-step affiliation (i.e., more meetings made, speaking with sponsor, reading 12-step literature, etc.) was related to abstinence from alcohol and drugs, less psychological distress, and more employment at 1 year after treatment. The benefits of self-help affiliation before, during, and after treatment, as well as the additive benefits of treatment and self-help, have been shown for drug-dependent persons (Fiorentine, 1999; Fiorentine & Hillhouse, 2000a, 2000b).

However, very little research has examined the processes by which mutual aid and especially 12-step participation may lead to positive outcomes. For example, it appears that 12-step attendance alone is less effective than greater involvement in 12-step, including practices and activities such as having between-meeting contacts with other members, reading 12-step literature, “working the steps,” and having or being a sponsor (Caldwell & Cutter, 1998; Cross, Morgan, Moony, Martin, & Rafter, 1990; Humphreys, Kaskutas, & Weisner, 1998; Montgomery, Miller, & Tonigan, 1995; Vaillant, 1995). In addition, the influence of AA affiliation on abstinence appears to be mediated by a set of “common change factors,” specifically the maintenance of self-efficacy and motivation, and increased active coping efforts (Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997).

Dual diagnosis is highly prevalent among individuals with chemical dependency or psychiatric disorders, e.g., of respondents with lifetime illicit drug dependence or abuse, 59% also had a lifetime mental disorder (Kessler, 1995). Dually diagnosed individuals face more challenges than those with a “single” disorder (Laudet, Magura, Vogel, & Knight, 2000a). Yet, for several reasons, the potential benefits of 12-step self-help participation are not always available to them. Identifying and bonding with other group members may be difficult for dually diagnosed individuals insofar as they feel different from other members. Dually diagnosed persons who are newcomers to 12-step meetings often find a lack of acceptance and empathy (Noordsy, Schwab, Fox, & Drake, 1996; Vogel, 1993). Dually diagnosed individuals’ experiences when attempting to use self-help as a recovery resource include avoiding initial attendance, dropping out or finding it hard to make a regular commitment, and difficulties identifying with other members (Noordsy et al., 1996). Some dually diagnosed members report receiving misguided advice about psychiatric illness and the use of medications, which are viewed as “drugs” (e.g., Hazelden Foundation, 1993), although this is not the official view of AA or Narcotics Anonymous (NA) (e.g., AA, 1984). However, aversion remains against the use of medication in local 12-step chapters, where the potential for abuse of certain psychiatric medications makes use of any psychoactive medications unacceptable to the membership.

Noordsy et al. (1996) concluded that few dually diagnosed individuals use self-help consistently over time. The recognition of the limitations of “single-focus,” 12-step groups for dually diagnosed persons has led to the development of several “dual-focus,” self-help groups. AA holds meetings for individuals with a mental disorder; Kurtz et al. (1995) reported that dually diagnosed members not only participated in those groups but subsequently became involved in traditional AA groups as well. In addition to specialized AA groups, several fellowships have emerged specifically to address dual-focus recovery: Double Trouble in Recovery (DTR; Vogel, Knight, Laudet, & Magura, 1998); Dual Recovery Anonymous (DRA; Hazelden Foundation, 1993); and Dual Disorders Anonymous (DDA). The effects of participating in such dual-focus groups have not been studied empirically, and indeed,

clinicians surveyed often question whether the 12-step model is suitable and feasible for persons with dual diagnoses (e.g., Humphreys et al., 1997; Meissen, Mason, & Gleason, 1991), who as a group are relatively more impaired than persons with single diagnoses (Kessler, 1995).

DTR is a mutual aid program adapted from the 12 steps of AA, specifically embracing those who have a dual diagnosis of substance abuse/dependency and mental health disorder. DTR seeks to create “a safe environment where members can discuss openly the issues of mental disorders, medication, medication side effects, psychiatric hospitalizations, and experiences with the mental health system, without shame or stigma” (DTR, 1998). The present study examines the association between participation in DTR groups and drug/ alcohol abstinence outcomes within a prospective longitudinal study design. DTR attendance and involvement are distinguished in the analysis, and several self-help group processes often identified in the theoretical literature are hypothesized to be associated with abstinence outcomes.

### 1.1. Conceptual framework

The study measured three self-help processes often identified in the literature as plausible active ingredients mediating the effect of self-help group participation on members’ outcomes: helper-therapy, reciprocal-learning, and emotional-support processes. Each of these processes is known by several different names in the literature, depending on the author and the underlying theory, but as shown below, we suggest that there is considerable consensus on the existence and potential importance of these processes.

**1.1.1. Helper-therapy process**—This key component of the mutual aid process, first defined by Frank Reissman (Gartner & Reissman, 1979), states that assuming a helping role actually strengthens a group member’s emotional and behavioral commitment to change. By assisting, advising, and supporting others—through sharing and testifying at meetings, through informal contacts outside meetings, and by eventually sponsoring other members and becoming a meeting facilitator—a member reinforces his/her own learning of the valued attitudes, skills, and behaviors. Yalom (1985) terms a similar therapeutic element of the group process as “altruism,” the process by which giving something useful to others boosts the giver’s self-esteem. Altruism also has a spiritual aspect, bringing a person out of his/her self-absorption by transcending personal problems in the act of serving others. In social learning theory, helping oneself through helping others is a type of “enactive attainment” that signals to the person a sense of his/her competence (Bandura, 1995). In cognitive consistency theory, advocating change in others could be dissonant if a person is ambivalent about personal change; the dissonance can be resolved by changing one’s own attitudes and behaviors to conform to those being advocated (Petri, 1996). In self-psychology, instructing or advocating for change would reinforce a person’s own self-concept as a changed person (Kaplan, 1996). Self-help participants perceived the change of role from being helped to being a helper to be one of the most important benefits of self-help (Carpinello & Knight, 1991). Although the terms used to describe this process vary among these different authors and researchers, the underlying construct that we call the helper-therapy process seems to be described by all of them.

**1.1.2. Reciprocal-learning process**—Self-help group members have opportunities to learn new attitudes, skills, and behaviors both through general information sharing at meetings and the example of specific role models. Open meetings are sources of information about coping behaviors, including what has worked for others in advancing their recoveries and what has not. Members share experiences, failures, successes, and hopes. Members listen to others in similar situations and with similar problems to learn what has worked for them. In accordance with 12-step tradition, direct advice is not given from one member to another at meetings, but

may be given on a one-on-one basis. Constructs similar to reciprocal learning in self-help have been previously identified as important in the group psychotherapy and social learning literatures.

Yalom (1985) has identified various aspects of the reciprocal-learning process as active ingredients in group psychotherapy. Yalom's "identification" factor refers to the member's recognizing one or more other members who have histories of similar problems, but are coping better, and thus are suitable for patterning oneself after. We suggest that in social learning theory, this same process is described as the "attentional" process, which determines the relevance of a potential model's characteristics and experiences for oneself (Bandura, 1995). Moreover, Yalom's "imparting information" and "guidance" processes can be interpreted as the instruction and lessons contained in the personal experiences related by members at self-help meetings, as well as the direct advice offered one-on-one by meeting facilitators and other members. Similarly, in social learning theory, these activities constitute opportunities for vicarious learning provided by competent models through example or verbal description (Bandura, 1995).

**1.1.3. Emotional support**—A key function of any mutual aid group is to communicate and demonstrate acceptance of the member as a valued human being. The concept of emotional support encompasses two of Yalom's (1985) therapeutic factors in group psychotherapy: "universality" (defined as learning others have the same type of problem or are in similar circumstances) and "group cohesiveness" (the perception that members of the group understand and accept each other). Carpinello and Knight (1991) found that a "common bond" was a major factor in the effectiveness of mental health self-help as perceived by members. This derives from the "collective experience of being diagnosed with a mental illness...and having survived the (resulting) hurts, abandonment and discrimination..."

Emotional support includes demonstrations of approval by the group for the member's testimony about length of sobriety and other recent attainments, large and small. This form of reinforcement is extensively used in self-help. On the other hand, the group and its members assiduously avoid negative reinforcement or punishing behaviors. Members receive social approval for simply attending. Members who reappear after an absence receive a special welcome. Admonishment or criticism is avoided. As has been observed, the practices of 12-step self-help groups follow accepted behavioral principles (DiClemente, 1993). In the Trans-Theoretical Model of Change, emotional support within the self-help group is located in the process of the "helping relationship... which is marked by an empathic, open and receptive relationship...where the individual is comfortable in exploring the problem..." (DiClemente, 1993). Again, despite using different language, several theoreticians and researchers have identified the potential importance of what we term emotionally supportive experiences in self-help.

The current study hypothesized that three active ingredients of self-help-helper-therapy, reciprocal-learning, and emotional-support processes—are associated with drug/alcohol abstinence outcomes for members of a 12-step dual-focus fellowship, independent of other personal and social factors that might explain such observed associations.

## 2. Methods

### 2.1. Setting

Study participants were recruited from persons attending DTR meetings throughout New York City. DTR is a mutual aid fellowship adapted from the AA 12-step program of recovery, specifically embracing those who have a dual diagnosis of mental and substance use disorders.

DTR was started in New York State in 1989 and currently has about 200 groups meeting in the US, with the most currently in New York, Georgia, Colorado, and New Mexico. New DTR groups are being started continually, some initiated by consumers, others by professionals who believe that mutual help fellowships are a useful complement to formal treatment. Groups meet in community-based organizations, psychosocial clubs; day treatment programs for mental health, substance abuse and dual-diagnosis; and hospital inpatient units. All DTR groups, including those initiated by professionals, are led by recovering individuals.

## 2.2. Participants

Prospective study participants were recruited at 24 DTR meetings (10–20 members each) held in community-based organizations and day treatment programs throughout New York City. Study staff went to the various meetings, explained the study to the members, and invited all members to participate in the study, with the only requirement that they had to be attending DTR for at least 1 month. (Those with less than 1 month of attendance, who might not be continuing, were excluded because the study intended to focus on the effects of long-term DTR participation.) Of the total 360 attendees counted at these meetings, 16 were ineligible due to less than 1 month of attendance, and 34 declined participation, either immediately or when they were subsequently contacted for an interview. Thus, about six out of seven DTR attendees (310/360) participated in the study. The main reasons for declining were a concern about confidentiality (especially for meetings held in treatment facilities), interview length, and scheduling conflicts for some attending intensive day treatment programs. Participation was voluntary based on informed consent; the study was approved by the Institutional Review Board of National Development and Research Institutes (NDRI). Recruitment, baseline interviewing, and follow-up interviewing were performed by five staff, two African American males, one African American female, and two Caucasian females, three of whom had personal experience with DTR and/or traditional 12-step fellowships. Field staff were trained in interviewing skills and confidentiality procedures by senior research staff.

Baseline interviews ( $N=310$ ) were conducted during January–December 1998 and 1-year follow-up interviews ( $N=277$ ) were conducted during January–December 1999, for a follow-up rate of 90.5% (277/306) of those remaining alive (four died). Reasons for no follow-up were: unable to locate or contact (19), refused (6), residential treatment out of state (3), incarcerated (1). The interviews required about 2½ hours and participants received US\$35 at baseline and US\$40 at follow-up for their time. These 277 subjects constitute the sample for the present study.

The sample was 73% male, 27% female; 59% black, 25% white, 13% Hispanic, 3% other ethnicity; 60% single, 33% separated, divorced, or widowed, 7% married/common law; 53% lived in a community residence or apartment program, 22% in their own apartment or house, 10% with friends/relatives, 10% in single room occupancy (SRO), and 5% in a homeless shelter. Their mean age was 40 years (S.D. = 9), ranging from 20 to 63 years. Thirty-three percent graduated from high school or received a GED; 67% did not complete high school. Sixty-six percent were arrested as adults and 38% had multiple arrests. Self-reported psychiatric diagnoses were: schizophrenia (31%), major depression (21%), bipolar (23%), other (13%), unknown (13%); 26% had multiple diagnoses. The primary substance of abuse reported by participants was (abused either in the past and/or currently): cocaine/crack (39%), alcohol (35%), heroin (12%), marijuana (11%), other (3%).

## 2.3. Study measures

The interview was a semistructured instrument administered at study intake (“baseline”) and 1 year later (“follow-up”) as part of a broader prospective longitudinal study of the effectiveness

of self-help for dually diagnosed persons. The variables examined were those that prior theory or research has linked to outcomes for people with addiction problems (for a recent review, see [Magura, 2001]).

The measures were the sociodemographics (as described above) and indices based either on Likert-scaled or dichotomous response items. Alpha reliability coefficients are reported for those composite indices intended to measure a unitary construct. The study measures are all at baseline unless otherwise specified:

*Drug/alcohol abstinence*, at baseline and follow-up (abstinent = 1 vs. any use reported in the past year = 0). (11 items, e.g., “alcohol,” “marijuana/grass,” “crack/rock,” coded as any use vs. no use), adapted from the Addiction Severity Index (ASI) (McLellan, Kushner, Metzger, & Peters, 1992).

*DTR attendance* (weekly = 1 vs. less than weekly = 0). Fiorentine (1999) found that “weekly or more frequent 12-step participation is associated with drug and alcohol abstinence at 24 months post treatment. Less than weekly participation is not associated with favorable drug and alcohol use outcomes.”

*DTR involvement* measures participants’ involvement in the DTR fellowship (four items: How often do you share at DTR meetings? How many times have you qualified at a DTR meeting? [i.e., being the main speaker and sharing one’s story of addiction and recovery.] Have you ever chaired a DTR group? Do you ever speak to other DTR members about your issues?) Other important affiliative behaviors in traditional 12-step fellowships (sponsoring, working the steps) were not included, as they were infrequent at the time of the study, given that DTR is a relatively new fellowship. However, sponsorship and step work have since become formalized and these activities are becoming more prevalent. The score is the mean of the four behaviors [responses: 1 (*never*)/5 (*always*)], potential range 1–5.

**Traditional 12-step attendance**—Monthly or more frequent attendance at AA, NA, or Cocaine Anonymous (CA) = 1 vs. less than monthly or none = 0.

*Traditional 12-step involvement* measures participant’s involvement in the AA, NA, or CA fellowship (five items: How often have you: engaged in 12-step activities other than attending meetings? attended a Step meeting? contacted individual fellowship members? read from the Big Book? read other recovery literature?) These items are from the Recovery Interview (Morgenstern, Frey, McCrady, Labouvie, & Neighbors, 1996). The score is the mean of the five items, coded as 5 (*always*)/1 (*never*), with potential range from 1 to 5.

*Psychiatric symptom severity* (13 items, e.g., in the past month, how often have you: felt depressed? forgot important things? felt like seriously hurting someone?  $\alpha = .85$ ). These items are from the Colorado Symptoms Index (CSI), an instrument developed specifically for assessment of symptoms experienced by people diagnosed with severe and persistent mental illness (Shern, Wilson, & Coen, 1994). The score is the mean of the 13 symptoms, coded as 0 (*not at all*) to 4 (*at least every day*), with a potential range 0–4.

*Multiple psychiatric diagnoses* (yes = 1 vs. no = 0).

*Internal motivation for change* (11 items, e.g., I came to DTR because it is important to me; I accept the fact that I need help and support;  $\alpha = .86$ ). Internal motivation was assessed using items from the Treatment Motivation Questionnaire (TMQ) (Ryan, Plant, & O’Malley, 1995). The only change in item wording was changing the references from “treatment” to,

instead, “DTR.” The score is the mean of the 11 items, coded as 1 (*strongly disagree*) to 4 (*strongly agree*), potential range 1–4.

**Perceived coping**—This was originally developed for use in studies of psychiatrically diagnosed populations (Carpinello, Knight, Markowitz, & Pease, 2000). Participants are asked to rate their level of confidence in their ability to deal with potentially difficult or stressful situations (16 items, e.g., deal with symptoms of your illness? deal with feeling lonely?  $\alpha = .89$ ). The score is the mean of the 16 items, coded 1 (*not at all confident*) to 4 (*very confident*), potential range 1–4.

*Recovery self-efficacy* (eight items, e.g., if I work the program and take care of myself I can get better; I am directly responsible for my recovery;  $\alpha = .85$ ). These items were adapted from the Internal items of the Health Locus of Control scale (Wallston, Wallston, Kaplan, & Maides, 1976). The score is the mean of the eight items, coded as 1 (*strongly disagree*) to 4 (*strongly agree*), potential range 1–4.

*Social support* (14 items, e.g., my friends and relatives don’t bother with me; the people in my life are no help at all;  $\alpha = .74$ ). After determining through social science database searches that no existing instrument adequately measured the specific social support construct of interest, an instrument was developed to assess support during the recovery process. Details on psychometric development are in (Laudet, Magura, Vogel, & Knight, 2000b). The score is the mean of the 14 items, scored either as “1 (*not at all supportive*) to 4 (*very supportive*)” or “1 (*strongly disagree*) to 4 (*strongly agree*),” with potential range 1–4.

*Stressful life events* (11 items, e.g., in the past year: were you a victim of a violent crime? Did a close friend/relative die?) This inventory was developed by the authors for a previous study of substance dependency treatment clients (Magura, Laudet, Kang, & Whitney, 1999). Existing life events inventories developed for general population samples, though widely used (e.g., Holmes & Rahe, 1967), were not considered sufficiently pertinent to disadvantaged populations. The study's inventory lists major stressful events that occur to substance-using individuals and to people in low-income, inner-city communities, including loss of entitlements/sources of support and “hitting bottom.” (Because this is an inventory rather than a unitary construct, no alpha is computed.) The score is the count of the 11 items, with a potential range of 0–11.

The DTR self-help process measures were derived from the study’s conceptual framework. Discussions with DTR members yielded a pool of questions that were intended to measure the three theoretical self-help process constructs—helper therapy, reciprocal learning, and emotional support—in the DTR context. A pool of 46 candidate items included on the follow-up interview was factor analyzed (principal components, oblimin rotation), yielding three factors with eigenvalues of 16.5, 7.1, and 2.6 that could be interpreted in terms of the three theoretical constructs. The five nonredundant items with the highest factor loadings for each respective factor were combined with equal weights into an index: higher scores denote a more positive process. The three indices and the items included in each are:

*Helper-Therapy Process Scale* [five items: Sharing in meetings gives me self-confidence; I learn a lot about myself by helping others; Helping others make me feel good about myself; My experiences give hope to other members; Sharing in meetings helps me deal with my issues. Responses: “1 (*strongly disagree*) to 4 (*strongly agree*)”;  $\alpha = .92$ ]. The score was the mean of the five items, with potential range from 1 to 4.

*Reciprocal-Learning Scale* [five items: In the last month that you attended DTR, how often: did another DTR member give you information on how to do something? did another DTR member tell you how they felt in a similar situation? have you offered advice about how to deal with something? have you encouraged another DTR member to do something difficult? have you given information about how to do something? Responses: "1 (*not at all*) to 5 (*almost every day*)";  $\alpha = .91$ ]. The score was the mean of the five items, with potential range from 1 to 5.

*Emotional-Support Scale* (five items: We all respect each other in this meeting; The other members care about me; I don't feel shamed sharing at meetings; I can be myself in this group; We are all here to help each other. Responses: "1 (*strongly disagree*) to 4 (*strongly agree*)";  $\alpha = .81$ ). The score was the mean of the five items, with potential range from 1 to 4.

Although the three DTR process scales represented separate factors, they were moderately related; the mean bivariate correlation was  $r = .46$ .

## 2.4. Statistical analysis plan

Bivariate correlations were used to determine whether the three self-help processes were associated with drug/alcohol abstinence at follow-up. Similarly, correlations were used to determine whether the baseline variables were associated with either the process measures and/or drug/alcohol abstinence.

A stepwise multiple logistic regression analysis was performed for each self-help process measure to help exclude the possibility of a spurious correlation between self-help process and abstinence at follow-up; i.e., to help rule out that an observed bivariate association could be explained by a baseline construct that is associated with both self-help process and abstinence outcome. For instance, it might be expected that members who are abstinent at baseline would be more likely to have better self-help experiences and to remain abstinent at follow-up; this could explain an observed bivariate association between one or more self-help processes and abstinence outcome for members. The given process measure was entered on the first step in a logistic regression with abstinence at follow-up as the dependent variable. On the second step, independent variables significantly associated ( $P \leq .05$ ) in bivariate analysis with the given process measure and/or abstinence at follow-up were entered in the regression. (Although an independent variable might not be associated with both process and outcome in bivariate analysis, this could change for partialled relationships in multivariate analyses; the given procedure is a conservative approach to identifying potential confounds.)

Before constructing the multivariate logistic models, the assumption of linearity in the logit was tested for each of the process measures by means of a Box–Tidwell transformation (Fox, 1997). An interaction term, which was the cross-product of each process measure times its natural logarithm [ $(X) \ln(X)$ ], was added to each regression. Significance of these transformations would indicate nonlinearity in the logit (the transformations were nonsignificant).

All analyses were performed with SPSS Version 6.14.

## 3. Results

### 3.1. Bivariate analysis

At baseline, 54%, and at follow-up, 72% of the sample reported drug/alcohol abstinence. The following variables were correlated ( $P \leq .05$ ) with drug/alcohol abstinence at follow-up: drug/alcohol abstinence at baseline, single psychiatric diagnosis at baseline, more helper-therapy

activities, and more reciprocal-learning activities. The Emotional-Support Process Scale was not correlated with drug/alcohol abstinence at follow-up ( $r=.09$ , n.s.); thus it was not further considered in the analysis.

The following baseline variables were correlated with the helper-therapy process measure: DTR involvement, internal motivation, coping, self-efficacy, social support, and stressful life events. The following baseline variables were correlated with the reciprocal-learning process measure: drug/alcohol abstinence, DTR attendance, DTR involvement, traditional 12-step attendance, traditional 12-step involvement, internal motivation, self-efficacy, and social support.

None of the sociodemographic variables were associated with any of the self-help process measures or with drug/alcohol abstinence at follow-up.

### 3.2. Multivariate analysis

Two multiple logistic regressions were constructed with abstinence at follow-up as the dependent variable, one for helper-therapy and one for reciprocal-learning as the process variable. The covariates entered into each regression on the second step were those associated with either the given process measure and/or abstinence at follow-up. The results are shown in Table 1.

In the first regression, involving helper-therapy process, the variables significantly and independently associated ( $P \leq .05$ ) with drug/alcohol abstinence at follow-up were: helpertherapy process and drug/alcohol abstinence at baseline. Having a single psychiatric diagnosis and less social support showed a trend ( $P \leq .10$ ) toward association with abstinence. The results were essentially the same for the second regression involving the reciprocal-learning process measure.

## 4. Discussion

Two of the study's three hypotheses were confirmed, in that both helper-therapy and reciprocal-learning were associated with drug/alcohol abstinence at follow-up, independent of other personal and social factors that were potential confounds. However, the emotional-support measure was not associated with abstinence outcome. The lack of effect for emotional support might be due to the relatively intense needs for emotional support among many dually diagnosed persons. Despite variability in reported perceptions of support, it may be that even at the highest practicable levels, emotionally supportive experiences were still inadequate for some members. This explanation is consistent with the finding of a trend toward poorer abstinence outcome for the most impaired DTR members, i.e., those with multiple psychiatric diagnoses. In addition, in describing perceived "recovery challenges," members reported the most difficult area for them to deal with was emotions and feelings (Laudet et al., 2000a).

The main findings are that drug/alcohol abstinence increased over the 1-year longitudinal study period, and that two key postulated self-help processes – helper-therapy and reciprocal-learning activities – were associated with increases in abstinence; this has several implications. This is the first research-based evidence that participation in specialized 12-step-based groups can concretely benefit dually diagnosed individuals. The reservations appearing in the literature about the utility of 12-step groups for dually diagnosed persons are not in accord with our results (cited by Humphreys et al., 1997; Meissen et al., 1991). Clinicians should consider inviting dual-focus 12-step groups to meet in their programs and encourage patients to continue such participation in the community after discharge. Patients who are relatively more advanced in their recoveries should be supported in becoming facilitators of such dual-focus groups;

specifically, there is a manual and facilitator training available from the developers of DTR (DTR, 1998). Further, the study results indicate that specific elements of self-help participation contribute substantially to members' progress in recovery; thus facilitating such self-help processes should be encouraged by clinicians and senior fellowship members. For instance, this might justify encouraging earlier than usual attention to the 12th step of DTR ("...try to carry this message to other dually diagnosed people..."), which is consistent with the helper-therapy principle. Finally, although the study was limited to dual-focus groups, the processes examined are not limited to such groups; thus, the results may be applicable to traditional 12-step fellowships and other mutual aid groups.

It is surprising that internal motivation was not associated with outcome, since this has received support in the literature (Downey, Rosengren, & Donovan, 2000; Morgenstern et al., 1997; Simpson & Joe, 1993). The TMQ, the instrument adapted to measure motivation in this study, has predicted retention in alcohol treatment settings (Carey, Purnine, Maisto, & Carey, 1999). However, the change of context (and corresponding rewording of the items) from treatment to a self-help group may have affected the results. Development of a motivation for change measure specific to the self-help context would be a worthwhile task.

The study has several limitations. Although prospective longitudinal in design, the data remain essentially correlational. Thus, despite the number of pertinent covariates examined, there may be unmeasured confounding variables, or better indicators of the measured variables that could account for the findings. We can suggest two possibilities for improving the investigation of causal effects in future research. One is to collect longitudinal data at shorter time intervals with larger samples and include selected dynamic relationships in structural equation modeling (Bollen, 1989). The second is to design quasi-experimental studies to compare outcomes for dually diagnosed persons who do and do not have access to dual-focus fellowship participation. Finally, the study relied on self-reports, which may have inflated correlations due to shared methods variance. However, the premium placed by 12-step fellowships on honesty in recovery is presumed to have benefited the validity of the interview responses.

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**Table 1**  
Stepwise logistic regressions on drug/alcohol abstinence at follow-up

Step 1: Helper-therapy process entered; Model chi-square improvement =7.6 (df=1)**				
Step 2: Covariates entered; Model chi-square improvement =39.8 (df=8)***				
Independent variables (Regression #1)	B	S.E.	Wald	R
Helper-therapy process	0.85	0.34	6.34**	.12
Drug/alcohol abstinence at baseline	1.73	0.33	26.96**	.28
DTR involvement	-0.09	0.06	2.29	-.03
Multiple psychiatric diagnoses	-0.62	0.33	3.54 <sup>+</sup>	-.07
Internal motivation	0.32	0.48	0.44	.00
Perceived coping	0.19	0.36	0.27	.00
Recovery self-efficacy	-0.18	0.52	0.13	.00
Social support	-0.52	0.29	3.18 <sup>+</sup>	-.06
Stressful life events	0.12	0.09	1.98	.00
Step 1: Reciprocal-learning process entered; Model chi-square improvement =7.9 (df= 1)**				
Step 2: Covariates entered; Model chi-square improvement = 35.7 (df=9)***				
Independent variables (Regression #2)	B	S.E.	Wald	R
Reciprocal-learning process	0.34	0.15	4.73*	.10
Drug/alcohol abstinence at baseline	1.64	0.33	25.24***	.27
DTR attendance	0.04	0.13	0.09	.00
DTR involvement	-0.09	0.06	2.34	-.03
Traditional 12-step attendance	-0.31	0.38	0.67	.00
Traditional 12-step involvement	0.11	0.16	0.49	.00
Multiple psychiatric diagnoses	-0.55	0.33	2.84 <sup>+</sup>	-.05
Internal motivation	0.44	0.46	0.90	.00
Recovery self-efficacy	0.01	0.48	0.00	.00
Social support	-0.53	0.29	3.20 <sup>+</sup>	-.06

\*  $P \leq .05$ .

\*\*  $P \leq .01$ .

\*\*\*  $P \leq .001$ .

<sup>+</sup>  $P \leq .10$  (trend).