HHS Public Access

Author manuscript

Drug Alcohol Depend. Author manuscript; available in PMC 2017 May 01.

Published in final edited form as:

Drug Alcohol Depend. 2016 May 01; 162: 64–71. doi:10.1016/j.drugalcdep.2016.02.028.

Recovery benefits of the "therapeutic alliance" among 12-step mutual-help organization attendees and their sponsors

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Abstract

Background—The "therapeutic alliance" between clinicians and patients has been associated with treatment response and outcomes in professionally-delivered psychotherapies. Although 12-step mutual help organizations (MHOs), such as Alcoholics Anonymous, are the most commonly sought source of support for individuals with substance use disorder (SUD), little is known about whether a stronger alliance in comparable MHO relationships between 12-step sponsors and those they help ("sponsees") confers benefits similar to those observed in professional contexts. Greater knowledge could inform clinical recommendations and enhance models that explain how individuals benefit from 12-step MHOs.

Method—Young adults ($N = 302$) enrolled in a prospective, clinical effectiveness study of residential SUD treatment were assessed at treatment entry, and 3, 6, and 12 months after discharge on whether they had a sponsor, contact with a sponsor, and degree of sponsor alliance. Hierarchical linear models (HLM) tested their effects on 12-step MHO attendance, involvement, and percent days abstinent (PDA).

Results—Approximately two-thirds of the sample ($n = 208$, 68.87%) reported having a sponsor at one or more follow-up time points. Both having sponsor contact and stronger sponsor alliance were significantly associated with greater 12-step participation and abstinence, on average, during follow-up. Interaction results revealed that more sponsor contact was associated with increasingly higher 12-step participation whereas stronger sponsor alliance was associated with increasingly greater abstinence.

Conclusions—Similar to the professional-clinical realm, the "therapeutic alliance" among sponsees and their sponsors predicts better substance use outcomes and may help augment explanatory models estimating effects of MHOs in SUD recovery.

Keywords

Young adults; 12-step mutual-help organizations; Sponsorship; Therapeutic alliance

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Contributors: Dr. Kelly was responsible for study design. Dr. Kelly and Bergman and Ms. Greene contributed to manuscript preparation and interpretation of the results. Ms. Greene was responsible for statistical analyses.

Conflict of interest: No conflict declared.

1. Introduction

In both the general psychotherapy (Horvath and Luborsky, 1993; Wampold, 2001) and addiction-specific treatment literature (Beutler et al., 1994; Kiluk et al., 2014; Moos, 2007; Urbanoski et al., 2012), the “therapeutic alliance” is viewed as an essential factor in treatment. This working relationship between therapist and patient is purported to create the necessary climate and conditions in which other intervention contents, from whichever specific theoretical orientation, can be successfully delivered by the therapist and absorbed by the patient (Kelly et al., 2016; Luborsky et al., 1988; Miller and Moyers, 2015; Wampold, 2001). Variously referred to as the “working”, “helping”, or “therapeutic” alliance, it is defined as the degree to which clinicians and patients agree on the goals, tasks, activities, and pacing of treatment and also possesses relational elements of perceived trust, empathy, and caring (Barrett-Lennard, 1962; Horvath and Luborsky, 1993; Luborsky et al., 1988; Wampold, 2001). Research supports the value of establishing a strong therapeutic patient-clinician bond since it has been consistently associated with improved treatment engagement and substance use outcomes independent of the presumed “active” ingredients of treatment, such as teaching of cognitive and behavioral relapse prevention skills (Orlinsky et al., 2004).

In the addiction treatment arena, most treatment programs refer patients to free community-based recovery mutual-help organizations (MHOs), such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) to help prevent relapse and support long-term recovery (Greenfield et al., 1998; Hacker and Walker, 2013; Humphreys and Moos, 2001; Kelly and Yeterian, 2013, 2012; Maust et al., 2013; Public Health England, 2013; Weisner et al., 1995). In addition to recommending regular AA/NA meeting attendance, most treatment programs recommend also obtaining an AA or NA “sponsor”. A sponsor is a fellow 12-step MHO attendee who is typically in long-term stable recovery from substance use disorder (SUD) and who agrees to serve as a recovery role model and supportive guide. These individuals often make themselves available 24 h a day in order to help new members get through the challenges of early recovery and beyond (Narcotics Anonymous World Services 2004; Alcoholics Anonymous World Services, 2010).

The relationship between a sponsor and those they help (“sponsees”) has some similarities and some differences to the professional relationship between a therapist and their patient. Both a clinician and a sponsor possess and impart knowledge and recovery skills, they provide accountability, empathy, and support, and may guide and instruct those they help using a specified behavior change program (e.g., a sponsor may guide a sponsee through the 12 steps in AA/NA and a therapist through a treatment protocol, such as in cognitive-behavioral therapy). In addition, however, a sponsor necessarily possesses the lived experience of addiction and recovery and offers greater accessibility and flexibility (via phone/text/in-person “check-ins”). He/she also serves as a role model for success through purposeful self-disclosure and providing visible demonstration of how to live a sober and satisfying life in recovery (Kelly and Yeterian, 2012; Tonigan and Rice, 2010). AA's own surveys estimate that 80% of AA members have a current sponsor, and 72% obtained one within the first 90 days of starting AA (Alcoholics Anonymous World Services, 2014). Research, too, supports this 12-step specific recommendation of obtaining and using an AA/NA sponsor as it is associated with better substance use outcomes, especially during

early AA engagement (Bond et al., 2003; Emrick et al., 1993; Kelly and Urbanoski, 2012; Tonigan and Rice, 2010; Witbrodt et al., 2012).

Despite the significance of the therapeutic alliance in the formal psychotherapy literature, and the central therapeutic role of sponsors within MHOs like AA, little is known regarding the sponsee–sponsor "therapeutic alliance" within the peer-based 12-step recovery community. Also not known is whether this relationship is of similar value in widely accessed MHOs as it is in formal psychotherapies, and whether a stronger sponsor–sponsee alliance confers additional benefit even when accounting for frequency of contact with a sponsor. In prior work, we developed a measure of the sponsor–sponsee alliance using the Sponsor Alliance Inventory, with strong internal reliability and criterion validity (Kelly et al., 2016). We conceptualize the alliance between a sponsor and those they help as the extent to which the sponsee perceives the sponsor to be trustworthy and empathic, as well as sensitive to, and supportive of, their recovery goals. In this study, we use this measure to test associations among the sponsor–sponsee alliance construct, and 12-step attendance, involvement, and abstinence. Given it was expected that sponsorship would help facilitate continued AA/NA engagement, it was hypothesized that indices related to sponsorship (having a sponsor, contact with one's sponsor outside meetings, and sponsor alliance) each would be associated with more 12-step meeting attendance, greater 12-step involvement, and more abstinence over the follow-up period. It was hypothesized also that a stronger sponsor alliance, in particular, would be associated with more attendance, involvement, and abstinence, even when accounting for contact with one's sponsor.

2. Methods

2.1. Participants

Participants were 302 young adults (18–24 years old) from a single residential treatment facility enrolled in a naturalistic study of treatment process and outcome. At admission, participants were 20.4 years old on average (SD = 1.6). Most were Caucasian (95.0%), male (73.8%), and single (100.0%). Many were employed part-time, full-time, or were students (56%), and a majority had at least a high school diploma (83%). The most commonly reported "drug of choice" was alcohol (28.1%) and marijuana (28.1%), followed by heroin or other opiates (22.2%). Participants in this private treatment sample were more likely to be Caucasian than young adults (18–24 years old) in public sector residential treatment (76%), or adults (18+ years old) in the broader private treatment sector (71%) (Roman and Johnson, 2004). They were, however, comparable in terms of gender, marital status, and employment status.

2.2. Index treatment episode

Participants attended a comprehensive and multi-faceted residential treatment program, based in a 12-step philosophy of recovery. In addition to the 12-step orientation, motivational enhancement and cognitive-behavioral therapeutic approaches, as well as family therapy, were used to facilitate problem recognition and treatment engagement, and to support recovery. Integrated mental health care was available, including clinical assessment, therapy, and medication management. Participants' average length of stay at the

residential treatment center was 25.5 days (SD = 5.7, ranging from 4 to 35 days). The majority (83.8%) were discharged with staff approval, indicating a high rate of treatment completion.

2.3. Procedure

Participants were enrolled in the study shortly after admission. Among young adults approached to be in the study (384 between October, 2006 to March, 2008), 64 declined or withdrew participation. Following enrollment, an additional 17 participants withdrew prior to the baseline assessment and the consent for one participant was misplaced. The final sample of 302 represents 78.6% of those approached for participation.

Research staff conducted assessments at baseline and 3, 6, and 12 months post-discharge for which participants were reimbursed $30, $30, $40, and $50, respectively. Each assessment included an interview portion, completed either in person or by telephone, and self-administered surveys, which were returned by mail. Study retention rates were 81.8% (n = 248) at 3-month follow-up, 74.3% (n = 225) at 6-month follow-up, and 71.3% (n = 216) at 12-month follow-up.

At each time point, those who did not complete the assessment were compared to those who were retained in terms of gender, age, race, education, employment status, and baseline psychological symptoms, dependence severity, and percent days of abstinent (from all substances except nicotine) in the 90 days prior to treatment (α =0.05). Relative to those with post-secondary education, those with a high school education or less were more likely to be missed at all time points. Thus, education was retained as a control variable in inferential longitudinal analyses.

The study was conducted in accordance with the Institutional Review Board at Schulmann Associates IRB, an independent review board, and all participants signed informed consent documents.

2.4. Measures

Background sociodemographic information, including age, gender, marital status, race and ethnicity, employment status, educational attainment, and student status, was obtained, with full permission, from the medical record.

2.4.1. Diagnoses—Structured Clinical Interview for DSM-IV-TR (SCID; First et al., 2002) was conducted by trained personnel (including ongoing supervision of audiotape recordings) at baseline to assess Axis I diagnoses.

2.4.2. Psychiatric symptoms—Brief Symptom Inventory–18 (BSI-18; Derogatis, 2001) assesses psychological symptomatology, yielding a global index of severity. Raw summary scores (between 0 and 72) are converted to normalized (T) scores for interpretation and analysis, with higher scores indicating greater distress. The measure has demonstrated adequate internal consistency and test-retest reliability as well as solid construct, convergent, and discriminant validity (Derogatis, 2001). Cronbach's alphas ranged from 0.91 to 0.96.

2.4.3. Recovery motivation—Commitment to Sobriety (CSS) is a 5-item self-report measure that assesses level of client commitment to alcohol and drug use cessation and continued abstinence. Each item is rated on a 6-point Likert scale from *strongly disagree* (1) to *strongly agree* (6). This scale has shown good internal consistency ($\alpha \geq 0.89$) and criterion validity in this sample (Kelly and Greene, 2014). Cronbach's alphas in the current sample ranged from 0.89 to 0.95 across administrations.

2.4.4. Addiction severity—Leeds Dependence Questionnaire (LDQ; Raistrick et al., 1994) is a brief, 10-item self-report measure of dependence severity that is not specific to particular substances (scores range 0–30; higher scores reflect greater severity). The measure has shown high internal consistency ($\alpha = 0.93$) and good construct validity in the present sample (Kelly et al., 2010), as well as in other adult and youth samples (Lennings, 1999; Raistrick et al., 1994). Cronbach's alphas in the current analysis ranged from 0.93 to 0.94 across administrations.

2.4.5. Frequency and quantity of substance use—The Form-90 (Miller and Del Boca, 1994; Project MATCH Research Group, 1993) was used to determine percentage of days abstinent (PDA). The recall period for the baseline interviews was 90 days. Modifications were made to subsequent assessments to capture the entire time period elapsed since the previous interview (i.e., averaging 60 days for the 3-month follow-up, 90 days for the 6-month follow-up, and 180 days for the 12-month follow-up). The Form-90 has been tested with adult and adolescent samples and has demonstrated test-retest reliability and validity (Slesnick and Tonigan, 2004; Tonigan et al., 1997).

2.4.6. Substance-related consequence—Inventory of Drug Use Consequences—Recent Consequences (*InDUC-2R*; Tonigan and Miller, 2002) is a 50-item self-report measure assessing consequences of alcohol and/or drug use during the past 90 days (scores range 0–150). The InDUC-2R has been shown to be sensitive to changes in consequences over a 3-month period (Tonigan and Miller, 2002). Cronbach's alphas in the current sample ranged from 0.95 to 0.98 across administrations.

2.4.7. Mutual-help participation—Multidimensional Mutual-help Activity Scale (MM-HAS) is a 32-item, interview-based index assessing multiple dimensions of 12-step mutual-help group activity. Responses for each item are provided separately for four types of 12-step groups: Alcoholics Anonymous (AA), Narcotics Anonymous (NA), Cocaine Anonymous (CA), and “other”, which can be specified by respondents. Items assess frequency of attendance, as well as level of active involvement (e.g., contact with 12-step members (other than sponsor), step work, reading 12-step literature, speaking at meetings), perceived importance and helpfulness of the groups to recovery, perceived safety at meetings, and degree of legally mandated participation. The 12-step attendance variable was calculated as a sum of the number of all 12-step meetings attended divided by the number of days in each follow-up period (i.e., percent days attending). The 12-step involvement index is a 6-item sum of involvement items derived from the original 8-item measure (assessed dichotomously, i.e., yes/no, with scores ranging from 1–6; see Kelly et al., 2011) with items on sponsorship and sponsor contact removed to avoid multicollinearity. Interviews captured

the entire time period elapsed since the previous interview. This measure has very good psychometric properties (Cronbach's alphas ranged from 0.85 to 0.94 across administrations, Kelly et al., 2011).

2.4.8. Sponsor, sponsor contact, and sponsor alliance—Sponsor and Sponsor Contact were measured as dichotomous indicators describing whether the participant had a sponsor and whether they had contact with their sponsor during the assessment period respectively. Sponsor Alliance Inventory is a 10-item self-report measure adapted from the Working Alliance Inventory-Short Form (WAI-S; Horvath and Greenberg, 1989; Busseri and Tyler, 2003) to assess client perspectives of the sponsor alliance at each follow-up assessment. It assesses the degree of relational bonding between the sponsee and sponsor as well as the extent of mutual agreement on 12-step goals, tasks, and activities (e.g., “My sponsor and I agree about the things I will need to do in AA/NA to improve my situation”; “I believe my sponsor likes me”). Each item is rated on a scale from 1 (never) to 7 (always) with higher scores indicating a more positive alliance with a 12-step sponsor. This scale has shown good internal consistency (α ranged from 0.95 at 3-months to 0.96 at 6-and 12-months) and criterion validity (Kelly et al., 2016).

2.4.9. Biological assay—To verify self-reported abstinence from alcohol and other drugs, saliva tests (Cone et al., 2002) were administered on a subsample of subjects that lived within 50 miles of the treatment facility (n = 57; 19% of sample) and could attend follow-up interviews in-person. Abstinence was confirmed in 94.5%–100% of subjects who self-reported abstinence from all substances during the assessment period prior to each follow-up. Positive tests results were obtained for 1 subject (PCP) who reported abstinence prior to the 3-month follow-up. This person was excluded from analyses.

2.5. Analysis plan

First, we compared baseline demographic and clinical characteristics between individuals who had a sponsor during baseline or follow-up to those who never reported having a sponsor using independent samples *t*-tests and *chi-squared* analyses. Second, we described sponsor acquisition by calculating the proportion of individuals who reported having a sponsor at one follow-up, but did not have a sponsor at the prior assessment. To describe sponsor continuity, we calculated the proportion of participants who reported a sponsor at 3-months that maintained a sponsor at 6- and 12-month assessments respectively. Third, we created a subsample of complete cases, which was defined as participants that had each of the three sponsor-related variables (having a sponsor, sponsor contact, and sponsor alliance) at one or more of the follow-up periods (n = 153). In this subsample we conducted bivariate analyses between PDA and the independent variables of interest using spearman correlations for sponsor alliance (a continuous variable) and independent samples *t*-tests for having a sponsor and sponsor contact (dichotomous variables). Fourth, to account for confounding by loss to follow-up and baseline levels of the outcomes of interest (e.g., controlling for the possibility that individuals with higher PDA at baseline would have better alliances with their sponsors), we constructed hierarchical multivariate linear models (HLMs) to test the hypothesis that the sponsor related variables are related to greater 12-step attendance, 12-step involvement, and better substance use outcomes (i.e., higher PDA) controlling for the

aforementioned predictor of attrition (education), baseline levels of the dependent variable (12-step attendance, 12-step involvement, PDA), and other statistically significant demographic and clinical predictors of the outcomes (age, sex, commitment to sobriety). Length of treatment stay was not a predictor of outcome and so was not included as a covariate. We first constructed three parallel models that evaluated the sponsor-related main effect of interest (sponsorship, sponsor contact, sponsor alliance) on each of the outcomes. Subsequently, we produced a parallel set of models with an added interaction term between the sponsor-related independent variable and time to examine whether the association between the sponsorship-related variable and the outcome changed over the follow-up year. Lastly, we wanted to compare the relative importance of sponsor contact versus sponsor alliance on the outcomes of interest. Thus, we tested a model containing the main effects for *both* sponsor contact and sponsor alliance and, subsequently, a model describing each of their interactions with time.

3. Results

3.1. Demographic and pre-treatment characteristics by sponsorship at baseline or any follow-up assessment

Individuals who reported a sponsor at any point in the study were more likely to report higher levels of substance use consequences and dependence severity, but not PDA, at baseline than those without a sponsor (Table 1). Also, as might be expected, they reported greater 12-step attendance and 12-step involvement as well as greater likelihood of sponsor contact at baseline (Table 1). Furthermore, individuals with a sponsor were more likely to meet criteria for a lifetime anxiolytic use disorder or polysubstance dependence. These participants were also more likely to report use of a psychotropic medication at baseline despite similar levels of psychiatric symptoms.

3.2. Sponsor acquisition and continuity over the follow-up period

Approximately two-thirds of the sample reported having a sponsor at baseline or at any follow-up time point (n = 208, 68.87%; see Table 2). The highest proportion of participants reported having a sponsor at the 3-month post-treatment assessment (65.3%) followed by the 6-month (61.0%), 12-month (57.0%) and baseline (13.6%) assessments. With respect to acquisition, the largest proportion of the sample reported acquiring a sponsor at the 3-month follow-up period (62.9%). This number dropped to approximately one-quarter of the remaining participants who didn't have a sponsor obtaining one at each of the 6- and 12-month follow-up periods. Among participants who had a sponsor at 3-months, 80% continued to report having a sponsor at 6-months and 77% continued to report having a sponsor at 12-months post-treatment. This suggests participants who had a sponsor early post-treatment were likely to maintain this relationship or obtain another sponsor during the post-treatment year.

3.3. Bivariate relationships between sponsorship, sponsor contact, sponsor alliance and percent days abstinent

Sponsor alliance at 3 months, 6 months, and 12 months was associated with PDA concurrently (i.e., at the same time point; Spearman's r= 0.28, 0.27, and 0.39, respectively;

Table 3). Regarding prospective associations (i.e., the association between sponsor alliance and PDA at a later time point), sponsor alliance at 3 months was associated with PDA (at 6 months (r = 0.24), though not at 12 months, and sponsor alliance at 6 months was associated with PDA at 12 months (r=0.15)). Also, sponsor alliance at 6 months was significantly associated with PDA concurrently (r=0.27) and prospectively (r= 0.20). Reverse prospective associations between PDA at 3 and 6 months, and sponsor alliance at 6 and 12 months respectively, were not significant (ps > .05; Table 3).

Those with a sponsor at 6 months and 12 months had higher concurrent PDA than those without a sponsor. Those with sponsor contact at 6 and 12 months had higher concurrent PDA than those without sponsor contact. There were no other significant group differences in PDA as a function of having a sponsor or sponsor contact.

3.4. Hierarchical linear models examining the relationship between sponsor-related variables on 12-step attendance, 12-step involvement, and PDA

3.4.1. The effects of having a sponsor—The main effects of having a sponsor on increased 12-step attendance, 12-step involvement and PDA were significant, on average, over the follow-up period (ps < 0.05). As shown in Table 4, however, the main effects for 12-step involvement and PDA were nullified with the addition of the interaction (with time) in the models. The interaction was significant in the 12-step involvement model (p < 0.0001), such that having a sponsor was associated with increasingly greater levels of 12-step involvement over time.

3.4.2. The effects of sponsor contact—The main effects of sponsor contact on increased 12-step attendance, 12-step involvement, and PDA over the follow-up period were significant (ps < 0.05), The interactions were significant in 12-step involvement and PDA models (p < 0.05), such that sponsor contact was associated with increasingly greater levels of 12-step involvement and PDA over time. The effects of sponsor contact resembled those of having a sponsor foreshadowed by the high correlations between having a sponsor and having contact with a sponsor (see Table 3).

3.4.3. The effects of sponsor alliance—The main effects of sponsor alliance on increased 12-step attendance, 12-step involvement and PDA were significant, on average, over the follow-up period (ps< 0.05). As shown in Table 4, however, the main effects on 12-step involvement and PDA were nullified with the addition of the interaction to the model. The interactions were significant for 12-step involvement and PDA models (ps < 0.01), such that sponsor alliance was associated with increasingly greater levels of 12-step involvement and PDA over time.

3.4.4. The combined effects of sponsor contact and sponsor alliance—The unique main effects of sponsor contact and sponsor alliance on PDA were significant, on average, over the follow-up period while sponsor alliance was also significantly associated with 12-step attendance (ps < 0.05) and sponsor contact was significantly associated with 12-step involvement (ps < 0.05). With respect to the relative magnitudes of sponsor contact and sponsor alliance, the test statistic for sponsor contact was larger in the 12-step

involvement model, while the test statistics for sponsor alliance was larger in the PDA and 12-step attendance models. However, the main effects of sponsor contact on each of the outcomes were nullified with the addition of the interaction in the models, while the main effects of sponsor alliance on 12-step involvement and PDA were nullified. The interaction for sponsor contact was significant in the 12-step involvement model, while the interaction for sponsor alliance was significant in the PDA model (ps = .007). Specifically sponsor contact was associated with increasingly greater levels of 12-step involvement over time, while sponsor alliance was associated with increasingly greater PDA.

3.4.5. Effect of having a sponsor, sponsor contact and sponsor alliance on 12-step and substance use outcomes prospectively—Parallel lagged models were also tested to see if sponsor-related variables had an effect on future 12-step attendance, involvement or PDA. There were no main effects of having a sponsor, sponsor contact or sponsor alliance on these outcomes of interest possibly due to large time interval between assessments.

4. Discussion

This paper examined the clinical and recovery utility of the sponsor–sponsee "therapeutic alliance" among 12-step MHO participants. In keeping with other studies (e.g., Tonigan and Rice, 2010), findings here suggest a 12-step sponsor may play helpful role in young adult recovery. We also found that a stronger sponsor–sponsee alliance was associated with significant and growing benefit over time in terms of increasing abstinence. Findings suggest that, in parallel with studies showing the value of relational factors between helper (i.e., therapist) and helpee (i.e., patient) in formal clinical psychotherapy studies, the alliance between a 12-step MHO member and his/her sponsor may be important to assess.

4.1. Characterizing sponsorship in the sample

Young adults obtaining a 12-step sponsor in the year following discharge from residential treatment were clinically more severe and had experienced a greater degree of prior 12-step participation before entering treatment. This finding is consistent with research primarily among adolescents and adults which has found that greater clinical severity is a major predictor of 12-step MHO participation and help-seeking for SUD more generally (Bogenschutz, 2008; Emrick et al., 1993; Finney and Moos, 1995; Kelly et al., 2008).

Of note was that just over two-thirds of this sample obtained a sponsor at some point over the follow-up period with about 60% of these doing so within the first 3 months following residential treatment discharge. This proportion is a little lower than the 72% obtaining an AA sponsor within the first 90 days of participation reported in AA's own national surveys (Alcoholics Anonymous World Services, 2015). The lower sponsor acquisition rate within the first 90 days could be due to developmental barriers related to this sample's younger age relative to most AA/NA members, which can make it harder to find suitable sponsors (Kelly et al., 2005; Labbe et al., 2014). In addition, given this sample went to NA as well as AA (Kelly et al., 2014; Kelly et al., 2011), a lower proportion of NA attendees may obtain a sponsor within the first 90 days, though this has not yet been assessed. Although about a quarter of those who had not obtained a sponsor by the 3 month follow-up did so by the 6

month and 12 month follow-ups, comparatively few patients obtained a sponsor if they did not do so early after treatment discharge. Clinically, this underscores the recommendation for rapid efforts in acquiring a sponsor following a patient's return to their community.

4.2. The effects of sponsor-related variables on 12-step participation and abstinence

Consistent with prior research (e.g., Tonigan and Rice, 2010), having a sponsor was associated with salutary recovery behaviors, on average, including greater 12-step attendance, 12-step involvement, and higher PDA. In addition, the effect of having a sponsor on 12-step involvement increased in magnitude over the follow-up period. Similarly, contact with a sponsor and a stronger sponsor alliance each were associated with greater 12-step attendance, 12-step involvement, and higher PDA, on average, across the follow-up period. Important to note is that the effects between these sponsor-related variables and both 12-step involvement and greater PDA may become stronger over time. As illustrated by zero-order correlations in Table 3, for sponsor alliance and PDA, the correlation was 0.28 at 3 months and 0.27 at 6 months, but 0.39 at 12 months. Comparing those with and without sponsor contact on PDA, mean differences grew from 1.26 at 3 months, to 10.88 at 6 months, and to 21.86 at 12 months. These findings highlight the sponsor's role in facilitating his/her sponsee's 12-step MHO participation, as outlined in AA and NA program materials (Narcotics Anonymous World Services, 2004; Alcoholics Anonymous World Services, 2010). They also suggest the impact of these sponsor-mediated activities may be magnified as patients move further in time from the structure, support and professional influence of the index treatment episode and related continuing care services.

When examined simultaneously to determine whether a stronger alliance was associated with additional benefit even when accounting for sponsor contact, whether one had sponsor contact was more strongly related to greater 12-step involvement, whereas one's sponsor alliance was more strongly related to greater abstinence, on average, during follow-up. Indeed, that contact with one's sponsor outside of a formal 12-step meeting predicts positive behaviors appears to tell only part of the sponsor–sponsee story. Specifically, these novel findings also suggest that the nature and quality of the sponsor–sponsee relationship may also be important in predicting positive recovery outcomes – and perhaps more important in understanding factors that influence abstinence.

Taken as a whole, this set of findings underscores the significance of not only having a sponsor but also spending time with one's sponsor outside of formal meetings, and in having a good working alliance with one's sponsor. Building on research that has shown 12-step MHOs and professionally-delivered treatments confer benefit through similar mechanisms (Kelly et al., 2014; Kelly et al., 2009), it is possible that the working alliance between sponsor and sponsee in the 12-step MHO context may have a similar salutary influence on outcomes to that of the therapist-patient alliance in the context of professional psychotherapy. Of note, we did not find this pattern of results in prospective, lagged, models. It may be that 3–6 month time windows are too long to observe the effects of these variables, which may have a more proximal effect.

4.3. Limitations

Findings from this study should be interpreted cautiously in light of certain limitations. First, the sample was comprised of mostly male, White, young adults. The findings should be replicated in other treatment and non-treatment samples. Second, the sample was exposed to a multidisciplinary 12-step focused residential treatment which strongly advocated for, and facilitated, 12-step MHO participation following discharge; parameter estimates of observed relationships among these variables may vary depending on the type of index treatments received. Third, the Sponsor Alliance Inventory was adapted in a relatively straightforward way from an existing measure intended to capture the patient-therapist alliance in a professional context. The sponsee–sponsor alliance in 12-step MHOs may contain other 12-step-specific elements that are not effectively captured in this measure. Also, although our assessment procedure and instruments for assessing outcomes have been validated extensively, recall of prior behavior can be susceptible to bias, and saliva testing can confirm only recent use. Lastly, we report contemporaneous relationships between sponsor alliance and substance use outcomes over the follow-up period thus providing the opportunity for our results to be interpreted in reverse: PDA resulting in greater sponsor alliance, due to reverse causation. However, upon examining the bivariate relationships (Table 3), there appears to be no significant association between PDA at 3- or 6-months and sponsor alliance measured at the subsequent time point. In contrast, sponsor alliance is significantly associated with PDA at the subsequent time point, supporting our interpretation of the contemporaneous relationship between these constructs.

5. Conclusions

With the knowledge that clinical linkage to free and widely available community-based 12-step MHOs can enhance remission rates while simultaneously reducing health care costs (Humphreys and Moos, 2007, 2001; Kaskutas et al., 2009; Litt et al., 2009; Mundt et al., 2012; Project MATCH Research Group, 1997; Timko et al., 2006; Walitzer et al., 2009), continued research on key 12-step MHO components, such as sponsorship, could help enhance the specificity of clinical recommendations for MHO participation. A novel and important finding from this paper is that the alliance between a 12-step member and their sponsor may have independent recovery significance, and is thus conceptually similar to the “therapeutic alliance” measured so often in the professional treatment realm. The sponsor alliance should be assessed in 12-step research contexts. It may also have clinical significance as well. For example, measurement of the sponsor alliance could help clinical TSF efforts by informing clinicians to advise patients with a low sponsor alliance to potentially look for a new sponsor that they trust more and who they believe has greater empathy and compatibility. Further research is needed in the sponsor alliance realm using other demographic groups (e.g., older adults who make up the majority of 12-step organizations) and in assessing differential effects of sponsor alliance at later stages of the SUD recovery process.

Acknowledgments

The authors wish to thank Cristi L. O'Connor, M.P.H. for helping organize study references.

Role of funding source: This study was supported by funding from the U.S. National Institute of Alcohol Abuse and Alcoholism (R21AA018185 A102; K24AA022136) and by an anonymous donation to the Hazelden Betty Ford Foundation in Minnesota, USA.

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Table 1

Demographic and pre-treatment characteristics between those reporting a sponsor or not at baseline or any follow-up time point ($N = 302$).

	Sponsor ($n = 208$)	No sponsor ($n = 94$)	t/χ^2	p
Demographic				
Age	20.3 ±1.6	20.4 ± 1.6	−0.18	0.857
Male	151 (72.6)	72 (76.6)	0.54	0.464
White	199 (95.7)	87 (92.6)	1.26	0.262
At least some college	90 (43.5)	30 (31.9)	3.61	0.058
Clinical				
Prior year arrest	97 (72.4)	44 (72.1)	0.00	0.970
Prior year SUD hospitalization	59 (28.4)	21 (22.3)	1.21	0.272
Percent days abstinent	24.1 ±28.7	23.7 ±27.1	−0.11	0.909
Substance use consequences	67.7 24.2	60.7 25.1	−2.29	0.023
Dependence severity	18.8 ±8.3	16.3 ±8.0	−2.39	0.017
Commitment to sobriety	24.6 ±4.8	22.7 ±6.0	−2.80	0.006
Self-efficacy	7.0 ±2.4	6.8 ± 2.9	−0.83	0.408
Psychotropic medication use	105 (50.5)	36 (38.3)	3.86	0.049
Other psychiatric medication	104 (50.0)	34 (36.2)	4.99	0.026
Addiction medication	5 (2.4)	3 (3.2)	0.16	0.693
Psychiatric symptoms	63.9 ±10.1	61.9 ± 10.0	-1.59	0.114
1+ comorbid psychiatric disorder	95 (45.7)	46 (48.9)	0.28	0.599
12-step attendance (% days attending)	11.4 ±23.4	2.0 ± 6.3	−5.37	< 0.001
12-step involvement	1.4±1.7	0.6 ± 1.1	−5.08	< 0.001
Sponsor contact	38(18.3)	–	–	–
Substance use disorders (lifetime)				
Alcohol	158 (76.3)	69 (74.2)	0.16	0.690
Cannabis	158 (76.3)	69 (74.2)	0.16	0.690
Cocaine	92 (44.4)	47 (50.5)	0.96	0.328
Anxiolytic	38 (18.4)	8 (8.6)	4.70	0.030
Amphetamine	44 (21.3)	23 (24.7)	0.45	0.504
Hallucinogen	13 (14.0)	33 (15.9)	0.19	0.662
Polysubstance dependence	33 (15.9)	5 (5.4)	6.48	0.011

Table 2

Sponsor acquisition and continuity at baseline, 3, 6 and 12 months in full sample ($N = 302$).

	***N* (%)**
Has a sponsor (# with sponsor/total sample)	
Baseline	41 (13.6)
3 months	158 (65.3)
12 months	122(57.0)
Acquisition of a sponsor (# with new sponsor/# without sponsor at prior assessment)	
6 months	17 (25.4)
12 months	18 (26.5)
Sponsor continuity from 3-month follow-up (# with sponsor at current & previous assessment(s)/# with sponsor at previous assessment(s))	
6 months	108 (80.0)
12 months	77 (77.0)

Table 3

Correlation between having a sponsor, sponsor contact, sponsor alliance inventory (SAI) and percent days abstinent (PDA; $n = 153$).

	M(SD) *N*(%)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Sponsor3 months	125(88.0)	0.202	−0.289	0.983[a]	0.191	−0.098	0.036	0.044	0.113	0.157	−0.061	0.040
2. Sponsor 6 months	118(83.7)	–	0.353[a]	0.129	1.000[a]	0.274	0.096	0.247[a]	0.121	0.006	0.272[a]	0.236[a]
3. Sponsor 12 months	108(75.5)		–	−0.139	0.257	1.000[a]	0.159	0.307[a]	0.225[a]	0.027	0.236[a]	0.371[a]
4. Sponsor Contact 3 months	122(85.3)			–	0.110	−0.014	0.395[a]	0.249[a]	0.219[a]	0.039	−0.052	0.079
5. Sponsor Contact 6 months	111(78.7)				–	0.169	0.067	0.160	0.118	−0.003	0.208[a]	0.152
6. Sponsor Contact 12 months	102(71.3)					–	0.129	0.255[a]	0.358[a]	0.027	0.196[a]	0.383[a]
7. SAI 3 months	56.1(13.8)						–	0.596[a]	0.509[a]	0.276[a]	0.239[a]	0.147
8. SAI 6 months	57.9(11.8)							–	0.578[a]	0.185	0.268[a]	0.203[a]
9. SAI 12 months	59.8(11.4)								–	0.303[a]	0.164	0.386[a]
10. PDA 3 months	96.8(11.5)									–	0.464[a]	0.405[a]
11. PDA 6 months	92.0(21.4)										–	0.607[a]
12. PDA 12 months	87.1(25.8)											–

Point-biserial correlation for binary × continuous correlations.
Tetrachoric correlation for binary × binary correlations.
Spearman correlation for continuous × continuous correlations.

[a] $p < 0.05$.

Table 4

The effect of sponsor variables (Sponsor, sponsor contact and sponsor alliance) on attendance, involvement and PDA over time (3-, 6- and 12-months; n = 153).

Models	Main effect of sponsor variable				Interaction between sponsor variable and time			
	β	**SE**	***F***	***p***	***β***	**SE**	***F***	***p***
IV: Sponsor (Y/N) → Outcome								
Outcome: attendance	0.209	0.033	41.46	0.000	0.007	0.008	0.73	0.394
Outcome: involvement	2.104	0.179	137.73	0.000	0.200	0.047	18.42	0.000
Outcome: PDA	0.788	0.146	29.02	0.000	0.070	0.037	3.62	0.058
IV: Sponsor contact → Outcome								
Outcome: attendance	0.178	0.030	36.13	0.000	0.003	0.008	0.12	0.724
Outcome: involvement	2.116	0.155	186.96	0.000	0.181	0.039	21.20	0.000
Outcome: PDA	0.746	0.132	32.06	0.000	0.097	0.034	8.13	0.005
IV: Sponsor alliance → Outcome								
Outcome: attendance	0.005	0.001	10.69	0.001	0.000	0.000	0.05	0.827
Outcome: involvement	0.014	0.005	6.83	0.010	0.003	0.001	6.04	0.015
Outcome: PDA	0.021	0.006	13.56	0.000	0.004	0.001	10.51	0.002
IV: Sponsor contact + sponsor alliance → Outcome								
Outcome: attendance								
Sponsor contact	0.013	0.053	0.06	0.808	0.009	0.016	0.34	0.561
Sponsor alliance	0.005	0.001	9.73	0.002	0.000	0.000	0.17	0.67
Outcome: involvement								
Sponsor contact	1.406	0.197	50.78	0.000	0.149	0.052	8.24	0.005
Sponsor alliance	0.007	0.005	2.24	0.136	0.001	0.001	1.65	0.201
Outcome: PDA								
Sponsor contact	0.605	0.216	7.87	0.013	0.033	0.062	0.28	0.599
Sponsor alliance	0.017	0.006	8.40	0.004	0.004	0.001	7.61	0.007

IV: Independent variable; control variables in each model are: age, gender, education, commitment to sobriety, and the baseline level of each outcome variable.