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Is it Beneficial to Have an Alcoholics Anonymous Sponsor?

J. Scott Tonigan and Samara Lloyd Rice

Center on Alcoholism, Substance Abuse, and Addictions (CASAA) Department of Psychology
University of New Mexico Albuquerque, New Mexico 87106

Abstract

Alcoholics Anonymous (AA) attendance is predictive of increased abstinence for many problem drinkers and treatment referral to AA is common. Strong encouragement to acquire an AA sponsor is likewise typical, and findings about the benefits associated with social support for abstinence in AA support this practice, at least indirectly. In spite of this widespread practice, however, prospective tests of the unique contribution of having an AA sponsor are lacking. This prospective study investigated the contribution of acquiring an AA sponsor using a methodologically-rigorous design that isolated the specific effects of AA sponsorship. Participants were recruited from AA and outpatient treatment. Intake and follow-up assessments included questionnaires, semi-structured interviews, and urine toxicology screens. Eligibility criteria limited prior treatment and AA histories to clarify the relationship of interest while, for generalizability purposes, broad substance abuse criteria were used. Of the 253 participants, 182 (72%) provided complete data on measures central to the aims of this study. Overall reductions in alcohol, marijuana and cocaine use were found over 12-months and lagged analyses indicated that AA attendance significantly predicted increased abstinence. During early AA affiliation but not later logistic regressions showed that having an AA sponsor predicted increased alcohol-abstinence and abstinence from marijuana and cocaine after first controlling for a host of AA-related, treatment, and motivational measures that are associated with AA exposure or which are generally prognostic of outcome.

Keywords

Alcoholics Anonymous; AA sponsors; self-help; mutual-help

Introduction

Twelve-step (TS) therapy, based upon Alcoholics Anonymous (AA) doctrine and practice, is the prevailing alcohol treatment model in the United States, and a primary objective of TS therapy is to facilitate community-based AA affiliation. Four meta-analytic reviews have

Correspondence concerning this article should be addressed to J. Scott Tonigan, Center on Alcoholism, Substance Abuse, and Addictions (CASAA), 2650 Alamo S.E., University of New Mexico, Albuquerque, New Mexico, 87106. phone # 505-925-2384, fax # 505-925-2392, jtonigan@unm.edu.

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provided relatively consistent estimates of the magnitude of AA-related benefit in terms of frequency of AA attendance and increased abstinence, e.g., $r_w = .31$ (Emrick, Tonigan, Montgomery & Little, 1993; Forcehimes & Tonigan, 2008; Tonigan, 2001; Tonigan, Toscova & Miller, 1995), and prospective studies indicate that AA-related benefit includes both reduced drinking intensity (e.g., Kelly, Stout, Zywiak & Schneider, 2006) and increased abstinence (e.g., Fiorentine & Hillhouse, 2000; Moos & Moos, 2006). Given these findings, attention has focused on the investigation of the mechanisms that account for AA-related benefit.

Social support for abstinence in AA is an important factor accounting for AA-related benefit (see Groh, Jason & Keys, 2008 for a review). Humphreys & Noke (1997), for example, first reported that 12-step involvement in a VA sample was associated with enlarged social networks supportive of abstinence at 1-year follow-up, a finding that has been replicated with a broader-based sample of adult substance abusers seeking outpatient treatment (Kaskutas, Bond & Humphreys, 2002). Work has also shown that social support for abstinence statistically mediated the positive and significant relationship between AA involvement and substance use reductions (e.g., Humphreys, Huebsch, Finney & Moos, 1999; Laudet, Cleland, Magura, Vogel & Knight, 2004). Here, evidence suggests that both structural aspects of AA social networks differentially influence and mediate increased abstinence among 12-step participants (Bond, Kaskutas, & Weisner, 2003), and that AA social networks may be more beneficial than non-AA social networks during early efforts to change behavior (Kaskutas et al., 2002).

AA sponsorship represents the intersection between the social network supportive of abstinence and the purported active ingredients of AA, working the 12 steps (AA World Services, 2001). Defined, the primary role of an AA sponsor is to guide a junior member through the prescribed 12 steps of AA; a role identified in approved AA literature and recently confirmed in a qualitative study of the perceived roles of 38 AA sponsors (Whelan, Marshall, Ball & Humphreys, 2009). In this endeavor, two AA members may have frequent social contact outside of AA meetings, and it is commonly recommended that AA members contact a sponsor when abstinence is at risk. Given the importance of general abstinence social support in AA it seems on face value that the sponsor/sponsee dyad would be important for mobilizing and sustaining increased abstinence.

What is known about the prevalence, practice and benefit associated with AA sponsorship? Regarding prevalence, Caldwell and Cutter (1998) reported that 75% of the adults in 12-step treatment had a sponsor in the first 3-months after treatment. This figure is consistent with the 2007 Triennial AA survey that reported that 73% of new AA members acquire an AA sponsor within a 90-day period. It seems, however, that while a majority of AA exposed adults may initially acquire an AA sponsor this percentage decays over the course of 12 months. In Project MATCH, for example, about 1 in 5 participants (17.5%) reported having an AA sponsor at 9-month follow-up (Tonigan, Connors & Miller, 2003), and Kaskutas et al. (2002) found in a naturalistic study of the 10 largest treatment centers in northern California that about 26% of the participants reported having an AA sponsor at 1-year follow-up. Consistent with these estimates, Mankowski, Humphreys & Moos (2001) reported that 19.7% of a large Veterans Administration (VA) sample indicated talking with an AA sponsor

once or several times per week while 73.5% indicated that they never talked with an AA sponsor.

Predictably, AA sponsorship is positively associated with other AA-related prescribed behaviors and practices. Kelly and Moos (2003), for example, reported that acquiring an AA sponsor during treatment was a significant predictor of continued AA attendance at 1-year follow-up. Likewise, Morgenstern, Kahler, Frey & Labouvie (1996) found that talking with a sponsor was significantly associated with working the 12 steps, seeking the advice of other AA members, doing AA prescribed service work, and prayer. Expanding this list, Thomasson (2002) found significant and positive associations between having a sponsor, reading aloud at AA meetings, and using the phone to talk with other AA members, and Pagano, Friend, Tonigan & Stout (2004) reported that having an AA sponsor was predictive of later helping behaviors, with such behaviors defined as working with other alcoholics. Finally, at a more global level in investigating social support for abstinence in AA among female members in general (Rush, 2002) and residents of an Oxford House residential program in particular (Majer, Jason, Ferrari, Venable & Olson, 2002) it has been reported that having a sponsor was significantly predictive of increased perceptions of social and personal social support.

In spite of identifying 18 studies that, to some degree, investigated AA sponsorship, the actual benefits *specific* to having a 12-step sponsor are not clear. In a *retrospective cross-sectional* and community-based study of AA members, for example, Sheeren (1988) reported that relapse was significantly more likely when AA members did not have a sponsor and/or when they reported accessing their sponsor less often. Bond et al. (2003) provided a more rigorous test of this question by examining the *bivariate associations* between having a sponsor and abstinence in the 90-day period before a 1 and 3-year follow-up interview. Having a sponsor significantly and positively covaried with abstinence at both 1 and 3-year follow-ups (1-year: 42% abstinent with sponsor, 13% abstinent without sponsor; 3-year: 36% abstinent with sponsor, 12% abstinent without sponsor). Witbrodt & Kaskutas (2005) improved on this covariation strategy by statistically controlling for a host of correlated AA-related behaviors when examining *associations* between sponsorship and abstinence, e.g., reading AA literature. Here, they reported that across several substance dependence categories, having an AA sponsor significantly increased the odds of abstinence at 6 and 12 month follow-up interviews. In contrast to these positive findings, in a large longitudinal health services study Zemore and Kaskutas (2008) found that having a sponsor at 2, 4, and 8 weeks after presentation for treatment did not increase the odds of complete abstinence at 6-month follow-up, with abstinence defined as the *30-day period* before the 6-month interview. Consistent with this negative finding, in a 1-year naturalistic single-group design of inner-city drug injection users Crape, Latkin, Laris & Knowlton (2002) reported that while 12-step attendance was strongly predictive of complete abstinence at 1-year follow-up (24.2% versus 48.7% abstinent), having a 12-step sponsor was unrelated to abstinence.

This paper aims to investigate the direct and specific effects of AA sponsorship on later substance use. In so doing, this study will address many of the methodological ambiguities associated in prior work on AA sponsorship. First, variables of interest will be temporally

and logically sequenced to both minimize issues of measurement covariation as well as clarify the impact, if any, of AA sponsorship on later substance use. Second, to isolate the relationship of interest a comprehensive set of variables reflecting several dimensions of AA participation, formal help-seeking, and motivation will be used as covariates. Third, continuous daily drinking and illicit drug use data will be used to define abstinence, hence avoiding the need to infer that a subset of days adjacent to the interview represents behavior throughout the entire assessment window. Fourth, and related, four measures of substance use outcome will be considered to adequately and sensitively detect potential effects.

Method

Participants

This study was conducted in the context of a larger prospective study investigating AA-related behavior change (R01AA014197, Tonigan, PI). The parent study recruited 253 alcohol dependent adults from community-based AA ($n = 68$) and as they presented for outpatient substance abuse treatment ($n = 185$). Eligibility criteria were narrow in terms of lifetime and recent treatment and AA experiences in order to investigate how substance abusers mobilize and sustain behavior change in AA, unconfounded by prior change histories. Thus, prospective participants were excluded if they reported more than 16 weeks of lifetime AA exposure and/or if they reported having successfully achieved abstinence for 12 months or longer after they had first determined their substance use to have become a problem. To be included, participants had to meet current DSM IV criteria for at least alcohol abuse, consumed alcohol in the prior 90-days, and attended at least one AA meeting in the prior three months. Illicit drug abuse and dependence were not exclusion criteria.

Procedures

Breathalyzers were used to ensure that a participant's blood alcohol concentration (BAC) did not exceed .05 prior to the consent process or at any of the subsequent interviews. Once consented, participants were administered a baseline interview that included 15 self-report questionnaires, three semi-structured interviews, and urine toxicology screens for five classes of illicit drugs. Follow-up interviews were conducted in 3-month increments for the first year (e.g., 3, 6, 9, and 12). No intervention was offered in this assessment-only study although clinical referral could be made when requested by the participant or when deemed warranted by CASAA clinical staff. Follow-up rates for the 3, 6, 9, and 12 month interviews were 98.4, 98.0, 96.0, and 94.7%, respectively. Participants were compensated \$50 for each completed interview. All procedures and assessments were approved by the institutional review board at the University of New Mexico (UNM *Protocol # 24028*).

Assessments

Substance Use—*The Form 90* (Miller, 1996) was used to gather calendar-based alcohol use and other drug use data, ideally collected in 90-day intervals. One reliability study (Tonigan, Miller & Brown, 1997) indicated satisfactory self-report reliability on abstinent days from alcohol ($r = .79$ for outpatients and $r = .97$ for aftercare patients), heavy drinking use days ($r = .96$, and $.97$), and number of drinks per drinking day ($r = .94$, and $.95$), and a second test-retest study (Westerberg, Tonigan & Miller, 1998) with *polysubstance* abusers,

reported that the calendar-based procedure had good reliability on frequency of cocaine use days ($r = .77$) and marijuana use days ($r = .80$). Urine toxicology screens for five classes of illicit drugs were collected at intake and at the 3 and 24-month follow-up interview. The Syva Rapid test employs a one-step solid phase immunoassay technology to rapidly and qualitatively detect the presence of THC, Opiates, Cocaine, PCP, and Amphetamine. Cut-off ng/ml concentrations for the five drugs were: THC, (50), Opiates (300), Cocaine (300), PCP (25), and Amphetamine (1000).

Four outcome measures of substance use were computed using the *Form 90*. Complete abstinence from alcohol was defined as no reported alcohol use between the 3 and 6-month interview (6-month outcome analyses: mean number of days = 93.68, $SD = 24.26$) and no alcohol use between the 9 and 12 month interviews for the 12-month outcome analyses (mean number of days = 102.35, $SD = 41.86$). A parallel definition was used for the 6 and 12-month analyses when determining complete abstinence from alcohol, marijuana, and cocaine. Proportion of days abstinent (PDA), the third outcome measure, was defined as the number of alcohol abstinent days in a period divided by the total number of days in the assessment period. Last, drinks per drinking day (DPDD) was defined as number of drinks consumed per drinking day divided by the number of drinking days in a period (abstinent days not included in the denominator).

Help-Seeking Behaviors—The *Alcoholics Anonymous Involvement* (AAI) questionnaire (Tonigan, Connors & Miller, 1996) was developed to assess AA program and fellowship behaviors and practices. Normative data have been published on the AAI, and test-retest psychometric analyses indicate that the AAI scales and items are reliable and valid. A single item from the AAI was used at each interview to identify which respondent's currently had an AA sponsor (yes/no). The *General Alcoholics Anonymous Tools of Recovery* (GAATOR: Montgomery, Miller & Tonigan, 1995) is a 24-item four-point Likert scaled self-report survey that was developed to assess commitment to, and practice of, the 12 steps of AA. Sample items include: "I have shared my personal inventory with someone I trust", "I have made a list of my resentments", and "I have prayed and meditated". Psychometric work suggests that the GAATOR has three scales that can be used separately or summed to yield a total score representing the practice of prescribed AA-related behaviors and beliefs (Tonigan, Miller, & Vick, 2000). Readiness for behavior change was measured using the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES: Miller & Tonigan, 1996), a self-report tool with 19 items that yields 3 scales: *Ambivalence* (A: four items), *Problem Recognition* (PR: seven items), and *Taking Steps* (TS: eight items). Both PR and TS scales have demonstrated prognostic value in representing the positive role motivation serves in predicting later substance use (e.g., Miller & Tonigan, 2001), and these two scales were selected as covariates in an effort to further isolate the impact of AA sponsorship.

In addition to calendar-based drinking information, the *Form 90* also collects frequency data on formal and informal health care utilization. Non-overlapping number of day's treatment for alcohol, drug, and emotional problems were summed and divided by the total number of days (outpatient and inpatient) in the assessment period to derive a proportion of day's formal psychosocial treatment in an assessment period. Likewise, the number of days AA

was attended in an assessment period was divided by the total number of days in an assessment window to compute proportion of days that AA was attended. This strategy is an effective and psychometrically sound method to use *Form 90* frequency counts when the actual number of days in an assessment window varies across individuals (Tonigan et al. 1997; Westerberg et al., 1998).

Statistical Analysis—Four dependent measures were separately evaluated at both 6 and 12-month follow-up (two binary and two interval scaled). For the two binary outcomes (1) alcohol abstinence and (2) abstinence from alcohol, marijuana, and cocaine, hierarchical logistic regression analyses were conducted to assess the unique contributions of sponsorship (yes/no) on the binary outcome, with classification of sponsorship group determined by self-report (3 month for the 6-month analyses, and 9 month for the 12-month analyses). Prior to entering the dummy coded sponsorship variable in step two, in step one we entered total GAATOR score, two scales from the SOCRATES (PR and TS), proportion of days attending AA, proportion of days receiving treatment, and baseline PDA and DPDD. Important, the total GAATOR score, the *problem recognition* and *taking steps* scales of the SOCRATES, and the proportion of days attending AA and/or treatment variables were for these time periods: the three months prior to beginning the study, from intake to 3 months, and from 4 to 6 months. The same strategy using hierarchical linear regression analysis was used for the two interval scaled outcomes, PDA and DPDD (6 and 12-months). Prior to analyses, PDA and DPDD were subjected to data transformations, arcsine and square root, respectively. As before, 17 covariates were entered in block one and the sponsorship variable were entered in block two.

Results

Data from five different assessment periods were used to isolate the specific effect of sponsorship on four different substance abuse outcome measures. Seventy-two percent ($n = 182$) of the recruited sample had complete data. Table 1 provides key demographic and drinking variables for included and excluded participants. No significant differences were found between the two groups on any of the demographic or drinking variables. Interesting, men and women in the included group did not differ on any demographic variables except for unemployment. Men were significantly more likely to be unemployed, Pearson's $\chi^2(1, N = 181) = 6.73, p < .01, k = .193$. Regarding substance use measures, the only significant gender difference was that men were higher in Problem Recognition relative to women, $t(179) = 2.06, p < .05$.

Corroboration of Self-report

High agreement was obtained between self-report and urine toxicology (UA) screens, with the frequently observed pattern that self-reported use identified a larger percentage of participants as illicit drug users. Specifically, at intake UA's indicated that one participant had used marijuana while the participant denied such use, and at three months, there were no contradictory reports of marijuana use. Noteworthy, UA's failed to identify 51 participants who reported marijuana use at intake and 21 participants who reported marijuana use at the 3 month interview. For cocaine, five participants were positive via the UA while denying it

at intake, and at 3 months, four participants provided positive UA's while denying such use. In contrast, at intake 47 participants reported cocaine use who did not provide a positive UA, and at 3 months, 19 participants had negative UA's while they reported cocaine use.

Substance Use and AA

Table 2 shows the substance use and AA participation of the sample for 12 months. Large reductions in the intensity of drinking were observed over the 12 months ($d = -.98$) and frequency of abstinent days increased about 25%. Slightly less than half of the participants reported complete abstinence from alcohol for months 10-12 (41%). Forty-six percent of participants had an AA sponsor at intake, and approximately 40% reported having a sponsor at each follow-up assessment. Secondary analyses indicated that having a sponsor at 3 months was unrelated to participant gender ($p < .42$) and problem severity as measured by the Alcohol Dependence Scale, $p < .46$ (ADS; Skinner & Allen, 1982). Readiness for change measured by the *problem recognition* and *taking steps* scales of the SOCRATES at intake, was significantly related to having a sponsor at 3 months, $r = .22$, $p < .01$ and $r = .25$, $p < .01$. Seventy-two percent of those reporting having a sponsor at 3-months also had a sponsor at 9-months, and again, participant gender was unrelated with sponsorship at three and six months. A majority of the participants reported attending AA at each interview and, on average, they attended an AA meeting about once every seven days throughout the course of the study, except for the first three months when AA was attended about twice a week.

Proportion of AA attendance days (months 0-3) was significantly predictive of each of the four substance use outcome measures (months 4-6). Specifically, bivariate correlations between proportion AA days and (1) alcohol abstinence was $r = 0.36$, $p < .0001$, (2) combined abstinence from alcohol, marijuana, and cocaine, $r = 0.29$, $p < .0001$, (3) proportion of days abstinent, $r = .40$, $p < .0001$, and (4) drinks per drinking day, $r = -0.18$, $p < .05$. Use of the Q-statistic indicated that the absolute difference in the magnitude of these four bivariate correlations did not exceed sampling error, $Q(3) = 1.77$, $p < .62$. Thus, the mean weighted bivariate correlation of $r_w = .28$ (95% CI = .14 to .41) is conceptually the most stable estimate of the magnitude of AA-related benefit at early follow-up in this study, an estimate that compares favorably with a prior meta-analytic estimate, e.g., $r_w = .31$ (Emrick et al., 1993).

AA Sponsorship

Two hierarchical logistic regression and two hierarchical linear regression analyses were conducted to investigate the effect of sponsorship from months 0-3 on substance use from months 4-6. The first and second steps of the regression analyses were the same in all four analyses. To isolate the effect of sponsorship, known correlates of reduced substance use were added in the first step. The measures entered in step one were: intake PDA and DPDD and five additional covariates, each of which contributed three measures (collected at intake, 3, and 6 month interviews). The covariates were: proportion days AA attended, total GAATOR score, TS and PR scales, and proportion days any type of treatment. Sponsorship from months 0 to 3 was entered in the second step for each regression analysis in predicting 4 to 6-month substance use.

Early AA Sponsorship

The first logistic regression investigated the effect of sponsorship (months 0-3) on self-reported abstinence from alcohol (4-6 month). Controlling for variables entered in step one, having a sponsor was significantly predictive of abstinence, $\beta = 1.30$, $p < .01$, *odds ratio* = 3.67, *95% CI* = 1.48 – 9.13. A second logistic regression employed a binary measure of self-reported abstinence from alcohol, marijuana, and cocaine. Again, sponsorship was a significant predictor after first controlling for a host of AA-related and substance use-related variables (0-6 months), $\beta = 1.16$, $p < .05$, *odds ratio* = 3.19, *95% CI* = 1.30 – 7.82. Summarized, having an AA sponsor (months 0-3) increased the probability of complete abstinence at months 4-6 nearly three-fold after first controlling for past and concurrent: AA, treatment, readiness for change, and intake drinking. Two hierarchical linear regressions were then conducted to assess the effect of sponsorship (0-3 months) on the continuous measures of PDA and DPDD (4-6 months). An arcsine transformation was applied to PDA and a square root transformation was used with DPDD. Having a sponsor made a significant and independent contribution to the prediction of PDA, standardized $\beta = 0.19$, $p < .01$, and DPDD, standardized $\beta = -0.17$, $p < .05$. *With a Bonferroni correction to control for inflated Type I error* (.05/4 = .0125), the three abstinence-based outcomes for months 4-6 retained significance while the measure of drinking intensity, DPDD, failed to achieve statistical significance.

Later AA Sponsorship—An identical analytical strategy was used to assess if having a sponsor (months 7-9) predicted substance use outcomes at months 10-12. The same covariates were used, this time collected at months 3-12. Intake PDA and DPDD were, as before, entered to control for pre-study drinking. Sponsorship at months 7-9 was not predictive of any of the four substance use measures at the 12 month follow-up (smallest $p < .12$).

Post Hoc Analyses—Sponsorship involves encouragement to work the 12 steps and the social support for achieving this objective. Independent *t*-tests were done to see if sponsored and non-sponsored adults differed in the mean number of steps completed, with the completion of steps grouped as Surrender steps (1-3, score range 0-3), Action steps (4-9, score range 0-6) and Maintenance steps (10-12, score range 0-3). No mean differences in the number of steps completed in any of the three step categories were found at 6-months contingent upon AA sponsor status at 3-months, smallest p value $< .17$. In contrast, AA sponsor status at 9-months was generally significantly related to step completion at 12-month follow-up. Here, adults with sponsors reported, on average, significantly higher rates of completing Surrender steps $t(96.76) = 2.91$, $p < .01$, Maintenance steps $t(85.92) = 1.91$, $p < .06$, and Action steps $t(107.62) = 2.02$, $p < .05$.

Discussion

Findings offer strong support for the importance and benefits of acquiring an AA sponsor during *early* AA affiliation. Specifically, having an AA sponsor during early AA affiliation was significantly and positively predictive of later abstinence, regardless of whether abstinence did or did not consider the use of illicit drugs. Illustrating the advantage of having

an AA sponsor, for instance, participants with sponsors at 3 months were almost three times as likely to be abstinent from alcohol at 6 months as AA-exposed adults who had not acquired an AA sponsor. Continuing, participants with sponsors at 3 months reported 21% more abstinent days (in a 90-day window) at the 6-month interview and, when drinking did occur, they reported drinking two drinks less than AA-exposed adults without a sponsor. Noteworthy, the benefits associated with sponsorship were found after first statistically controlling for a host of prior and concurrent variables that are associated with AA participation and which are also reported to be prognostic of outcome.

In contrast, no support was found for the unique value of AA sponsorship at 9-months in predicting 1-year abstinence on any of the outcome measures. How can we reconcile the pattern of our findings with the extant literature? In particular, studies have offered mixed conclusions about the benefit, if any, associated with AA sponsorship in the first 6-months of AA affiliation (e.g., Witbrodt & Kaskutas, 2005; Zembore & Kaskutas, 2008) but most studies have reported that, at one year and later, AA sponsorship was significantly associated with increased abstinence (e.g., Bond et al., 2003). Our findings suggested exactly the opposite. In part, we believe that different analytic strategies may account for this disparity in findings. Using a covariation approach, for example, in our study 52.1% of the adults with sponsors (at 12 months) also reported complete alcohol-abstinence at 12 months while only 32.7% of the adults without a sponsor reported abstinence, an important cross-sectional association. The lagged-based findings in this study, however, suggest that this association is simply that; adults in AA who remain abstinent at 12 months also tend to have sponsors more often than AA-exposed adults who do not remain abstinent. In this regard, AA sponsorship appears to be best considered an active ingredient with highest potency during initial efforts to engage in AA.

How can we explain the changing benefit of AA sponsorship? Speculating, it seems reasonable that AA affiliates with sponsors were more likely to have more social support for abstinence than were people without a sponsor, especially during early AA affiliation when group and member-based social relationships were still developing. At 12 months, however, this relative advantage in social support may have become diluted as people without an AA sponsor became increasingly integrated within the AA social context. Encouragement to work the 12-steps, the second role of an AA sponsor, is a less plausible explanation for study findings. Specifically, when sponsorship was associated with increased step work (later follow-up) this did not become manifest in differential improvement. Oppositely, when no difference was found in completed step work between sponsored and non-sponsored groups (early follow-up) the sponsored group reported higher rates of abstinence.

Several points deserve attention. First, overall pre-post reductions in substance use in this sample were substantial and they were observed across three commonly abused drugs; alcohol, marijuana, and cocaine. Illustrating these improvements, pre-post effect size estimates for increased days abstinence ($d = .77$) and reduced drinks per drinking episode ($d = -.98$) were large by most standards, e.g., Cohen, 1988. Second, at 6-months 37% of the participants reported alcohol abstinence and, of these adults, 30% reported abstinence from alcohol, marijuana, and cocaine. This discrepancy in overall sample abstinence rates with and without consideration of illicit drugs was found at all follow-up interviews. While this

study did not assess whether illicit drug use exceeded clinical thresholds of abuse and/or dependence, findings do suggest that alcohol-abstinence does not necessarily imply abstinence from marijuana and cocaine. In this regard, we recommend that AA-focused researchers cast a broad net when assessing 12-step-related benefit. Third, contrary to our expectation the percentage of participants in this study with an AA sponsor remained relatively stable over 12 months. Unlike prior work that reported rapid decay in rates of AA sponsorship over a 12-month interval, we found that 41% of the sample reported having a sponsor at both the 3 and 9-month interviews. The reasons why the rate of AA sponsorship remained high in this study are unclear, but may relate to study inclusion criteria. In particular, study participants had, at most, only limited prior histories in AA and with formal treatment. In addition, at intake none of the participants reported prior success in achieving 1 or more years of abstinence once alcohol had been self-identified to be a problem. The sustaining of a sponsor may be less likely among adults with extensive prior AA histories. And, fourth, a majority of the participants at 9-months with a sponsor (72%, $n = 48$) also reported having a sponsor at 3-months. It therefore seems unlikely that the absence of an AA sponsor effect at 9-months was the result of examining the relationship of interest using participants that systematically differed from those with sponsors at the earlier follow-up. Also surprising was the relative stability in reported practice of the 12-steps as measured by the GAATOR over time, a finding that may be associated with the relatively stable use of AA sponsors.

Some study limitations should be noted. Foremost, while the role of the AA sponsor is relatively clear there is wide variability in how sponsorship is actually structured and experienced. This study did not assess the frequency of sponsor contact and/or sponsee progress through the 12 steps, for example, nor did we assess the extent that individuals perceived how and why sponsors were helpful (or not). We suspect that the direct effect identified between those who did and did not have a sponsor in this study may be influenced by the nature and practice of the sponsor-sponsee relationship. Second, the four outcome measures used in this study were correlated, sometimes highly (e.g., two binary abstinence measures, $r = .84$ at the 6-month). This situation exacerbates the multiple comparison problem, e.g., inflated Type I error. Noteworthy, however, with Bonferroni adjustment to control for inflated Type I error 3 of the 4 inferential tests conducted at the 6-month period retained statistical significance. Third, excluded participants did not appreciably differ from those who provided sufficient information to be included in this study. At intake, the two largest observed differences centered on frequency of marijuana use and one scale on the readiness for change measure. On average, included participants reported lower values on both of these measures although the absolute magnitude of these differences was deemed modest and not statistically significant. Nevertheless, the possibility remains that unintended biases were introduced through study selection criteria.

In sum, acquiring an AA sponsor is highly encouraged within AA, and 12-step therapy frequently uses evidence-based strategies to facilitate the acquisition of an AA sponsor while clients are still in treatment. Findings suggest that these recommendations and practices are justified, especially immediately after treatment when relapse rates are highest. A stronger case can be made that abstinence-related benefit associated with having a sponsor in early

AA affiliation is the result of focused social support, but this inference lacks empirical support at this time.

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Table 1

Characteristics of Included and Excluded Study Participants

| | Included (<i>n</i> = 182) | Excluded (<i>n</i> = 71) | <i>p</i> ^{<i>b</i>} | effect size ^{<i>a</i>} |
|--|-------------------------------|------------------------------|------------------------------|---------------------------------|
| <i>Demographic Variables</i> | | | | |
| % Male | 63.2% | 74.6% | .08 | .11 |
| Age in Years | 38.86 (9.78) | 37.49 (9.87) | .32 | .14 |
| Years Education | 12.73 (2.44) | 12.83 (3.34) | .82 | -.04 |
| % Married/Cohabiting | 18.2% | 13.0% | .33 | .03 |
| % Caucasian | 37.4% | 27.1% | .13 | .07 |
| % Unemployed | 61.9% | 71.4% | .16 | .09 |
| <i>Baseline Substance Use</i> | | | | |
| Proportion days cocaine ^{<i>1</i>} | 0.07 (0.19) | 0.05 (0.13) | .33 | .11 |
| Proportion days marijuana ^{<i>1</i>} | 0.12 (0.28) | 0.19 (0.32) | .10 | -.24 |
| Alcohol dependence score ^{<i>2</i>} | 48.80 (9.19) | 48.54 (9.61) | .85 | .03 |
| Alcohol-related consequences ^{<i>3</i>} | 13.45 (3.15) | 13.00 (3.11) | .31 | .11 |
| Motivation-problem recognition ^{<i>4</i>} | 30.68 (5.14) | 30.96 (4.95) | .70 | -.05 |
| Motivation-taking steps ^{<i>4</i>} | 34.13 (5.80) | 35.07 (5.81) | .25 | -.16 |
| Proportion of treatment days ^{<i>1</i>} | 0.08 (0.15) | 0.10 (0.15) | .26 | -.13 |

^{*a*} effect size measures are *kappa* for categorical variables and Hedges *d* (adjusted for small sample size) for continuous variables^{*b*} *p*-values have not been corrected for Type I error^{*1*} Form 90-AI^{*2*} Alcohol Dependence Scale^{*3*} Short Inventory of Problems (SIP-2R)^{*4*} Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)

Table 2

Sample Drinking and AA¹ Measures: Intake through 12-Months (*N* = 182)

| Substance Use | Months | | | | | <i>CI</i> ² & <i>d</i> (Pre-Post) |
|--|---------------|---------------|---------------|---------------|---------------|---|
| | Intake | 0-3 | 4-6 | 7-9 | 10-12 | |
| Percent Abstinent (Alcohol only) | <1% | 40% | 37% | 38% | 41% | 34-49% |
| Percent Abstinent (Alcohol Marijuana, Cocaine) | <1% | 33% | 30% | 34% | 34% | 28-41% |
| PDA ³ | .53 (.31) | .77 (.34) | .79 (.32) | .77 (.34) | .78 (.34) | .77 |
| Proportion Therapy Days | .08 (.15) | .12 (.20) | .10 (.22) | .06 (.12) | .05 (.11) | -.23 |
| DPDD ⁴ | 17.45 (12.26) | 7.62 (10.11) | 6.79 (7.75) | 6.93 (8.58) | 6.72 (9.32) | -.98 |
| AA Measures | | | | | | |
| Proportion AA days | .16 (.19) | .27 (.32) | .20 (.26) | .16 (.24) | .15 (.24) | -.05 |
| Percent Attend AA | 98% | 78% | 71% | 61% | 59% | 51-66% |
| Percent Sponsored | 46% | 41% | 43% | 41% | 42% | 35-49% |
| GAATOR score ⁵ | 63.83 (11.26) | 66.07 (12.36) | 65.03 (14.44) | 65.21 (15.34) | 64.53 (16.19) | .05 |

¹ Alcoholics Anonymous² 95% Confidence Interval for post test measure³ PDA: Proportion Abstinent days in 90-day window.⁴ DPDD: Drinks per drinking day in a 90-day window (abstinent days not in the denominator).⁵ GAATOR: General Alcoholics Anonymous Tools of Recovery Scale, total score.