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Impressions of Alcoholics Anonymous (AA) Group Cohesion: A Case for a Nonspecific Factor Predicting Later AA Attendance

SAMARA LLOYD RICE, MS and J. SCOTT TONIGAN, PhD

Center on Alcoholism, Substance Abuse, and Addictions, University of New Mexico,
Albuquerque, New Mexico USA

Abstract

Social support for abstinence in Alcoholics Anonymous (AA) has been reported to be a consistent factor accounting for AA benefit. However, the nonspecific or unintended effects of such support remain poorly understood and rarely investigated. This prospective study investigated how one nonspecific factor—perceived AA group cohesiveness—predicted increased practice of AA-related behaviors. Findings indicated that impressions of AA group cohesion predicted increased AA attendance, the practice of prescribed AA activities, and self-reported AA usefulness. It appears that a sense of belongingness predicts subsequent engagement in the AA social network that, in turn, is predictive of increased abstinence.

Keywords

Alcoholics Anonymous; group cohesion; nonspecific factors; self-help; mutual-help

INTRODUCTION

A majority of problem drinkers in the United States that seek help do so by attending Alcoholics Anonymous (AA), and a majority of treatment programs routinely refer patients to attend AA (Morgenstern, Bux, Labouvie, Blanchard, & Morgan, 2002). Prospective studies (e.g., Kelly, Stout, Zywiak, & Schneider, 2006; Moos & Moos, 2006; Tonigan, 2001) and meta-analytic reviews (e.g., Forcehimes & Tonigan, 2008; Tonigan, Toscova, & Miller, 1995) report modest yet positive benefits associated with AA exposure, with the important footnote that measures of AA engagement and commitment often are stronger and more consistent predictors of positive outcome relative to sheer AA meeting attendance (e.g., Montgomery, Miller, & Tonigan, 1995; Weiss et al., 2000). Given these findings, attention has focused on the psychological and social mechanisms that account for AA-related benefit (e.g., Bond, Kaskutas, & Weisner, 2003; Forcehimes & Tonigan, 2008; Humphreys, Huebsch, Finney, & Moos, 1999; Humphreys & Noke, 1997; Kaskutas, Bond, & Humphreys, 2002; Kelly, Myers, & Brown, 2000; Laudet, Cleland, Magura, Vogel, & Knight, 2004; Robinson, Cranford, Webb, & Brower, 2007).

The abstinence-based AA social network is an important factor accounting for AA-related benefit (see Groh, Jason, & Keys, 2008 for a review). Humphreys and Noke (1997), for example, reported that 12-Step involvement in a Veterans' Administration treatment sample predicted increases in the size of social networks supportive of abstinence at one-year follow-up, a finding that was replicated with a broader-based sample of adult substance abusers seeking outpatient treatment (Kaskutas et al., 2002). Timko, Finney, and Moos (2005) further demonstrated that the benefits associated with AA social networks may continue to exert positive influence for up to 8 years after the initiation of AA attendance. Work has also shown that increased social support for abstinence statistically mediates the positive relationship between AA involvement and substance use reductions among male substance abusers (Humphreys et al., 1999) and dually diagnosed individuals (Laudet et al., 2004). Also interesting, evidence suggests that structural aspects of AA social networks, (e.g., size), differentially influence and mediate increased abstinence among 12-Step participants (Bond et al., 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).

To date, primary interest has focused on the nature and effects of the abstinence support found in the AA social network. In so doing, investigations have focused on the specific or intended actions associated with the AA social network, for example, behaviors prescribed in the AA literature chapter, "Working with Others" (AA, 2001). Frequently documented in the group therapy literature, however, nonspecific or unintended processes in groups are also important predictors of outcome. The influence of perceived social group dynamics, for example, on later behaviors and outcome is well documented in the mental health literature. Here, impressions of therapy group cohesiveness have been found to predict improvements in mental health and general life functioning (e.g., Burlingame, Fuhrman, & Johnson, 2001; Castonguay, Pincus, Agras, & Hines, 1998). Likewise, the study of self-help groups addressing overeating, multiple sclerosis, and support groups for the family members of HIV adults have pointed to the importance of perceived group cohesion, climate, and leadership in reducing undesirable behaviors and symptoms (e.g., Budman, Soldz, Demby, & Feldstein, 1989; Maton, 1988; Meredith, 1987; Wilson et al., 2008). Often confused, (e.g., Hubble, Duncan, & Miller, 1999) it is important to recognize the fundamental distinction between common and nonspecific factors. By definition, common therapeutic factors may or may not be intentional, but they are present across all therapeutic interventions and/or change processes. In contrast, nonspecific factors are, for practical purposes, unintentional and may or may not be present across therapeutic interventions, for example, perceived group cohesiveness is a nonspecific factor in group therapy and has no direct analog in individual-based therapy.

Only three studies of nonspecific processes in AA were identified in the peer-reviewed literature, and all of these used cross-sectional designs. Using the Group Environment Scale (GES; Moos, 1986), for example, Montgomery et al. (1993) reported that three AA groups differed in perceived group cohesiveness and aggressiveness, and in a follow-up study also using the GES, Tonigan, Ashcroft, and Miller (1995) reported that AA groups perceived as being more cohesive were also seen as endorsing the practice of the prescribed 12 Steps more than an AA group viewed to be less cohesive and more aggressive. Consistent with these findings, Sandoz and Dupuis (1998) reported that AA prescribed behaviors, for

example, exchanging telephone numbers, distributing meeting schedules, and offering sponsorship to newcomers, was associated with recovery topics discussed in AA meetings. In spite of the serious limitations in these studies—not the least of which was that nonspecific factors were not investigated in relation to substance use—two important features should be noted. First, these studies demonstrated that nonspecific aspects of the AA group social network could be reliably measured and, second, that there is likely to be variation in particular non-specific factors across AA meetings.

This study aimed to prospectively investigate the contribution of one nonspecific factor, perceived AA group cohesiveness, in predicting the practice of prescribed 12-Step behaviors and alcohol use. Based on prior cross-sectional research, we first hypothesized that perceived AA group cohesion would predict later AA meeting attendance and the practice of 12-Step behaviors. The identification of this temporal linkage was deemed a necessary litmus test to the determination of whether impressions of this nonspecific process in AA were relevant for future study. The second aim investigated whether impressions of AA group cohesion collected at 6 months predicted proportion of abstinent days from alcohol during months 9 to 12 after statistically controlling for concurrent AA participation (months 9–12).

METHOD

Participants

This study was conducted in the context of a larger prospective study investigating AA-related behavior change (R01AA014197, Tonigan). The parent study was a longitudinal, assessment-only study that recruited 253 alcohol-abusing or dependent adults. To be eligible for the study, participants must have met *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2000) criteria for alcohol abuse or dependence, consumed alcohol in the prior 90 days, and attended at least one AA meeting in the prior 3 months. The purpose of the parent study was to investigate how participants change their alcohol use within the context of AA. Thus, recruitment strategies targeted those who were beginning the change process for the first time. Participants were excluded if they had attended AA for more than 16 weeks, or had achieved abstinence for 12 months or longer after they had first realized they needed to change their alcohol use. Illicit drug abuse and dependence were not exclusion criteria.

Procedures

Each assessment period began with a breathalyzer test to ensure that a participant's blood alcohol content (BAC) did not exceed .05 prior to the consent or interview process. The baseline interview consisted of 15 self-report questionnaires, and three semistructured interviews. Follow-up interviews were conducted at 3, 6, 9, 12, 18, and 24 months after the baseline assessment. The current study utilized data from the baseline, 3-, 6-, 9-, and 12-month interviews only. No intervention was offered in the parent study, although study protocol allowed for clinical referral if judged beneficial by the clinical staff or if requested by the participant. Follow-up rates for the 3-, 6-, 9-, and 12-month interviews were 93.7,

94.1, 93.7, and 91.7%, respectively. All procedures and assessments were approved by the institutional review board at the University of New Mexico (UNM Protocol #24028).

Assessments

AA social group environment—The unmodified GES (Moos, 1986) has 10 dimensions and three second-order factors (90 items). The GES has been normed on more than 25 samples, and each scale has good psychometric properties (Moos, 1986). The research version of the GES has 56 five-point Likert-type scaled items (*strongly disagree* to *strongly agree*). This shorter assessment was used and it yielded seven scales of social environment: Cohesion, Expressiveness, Innovation, Anger and Aggression, Order and Organization, Independence, and Self-discovery. Only scores from the Cohesion scale were used as they were the most relevant to the goals of the current study. Sample items include, “There is a feeling of unity and cohesion to this group,” “Members of this group feel close to each other,” and “This group is a good place to make friends.”

Substance use—The Form 90 was used to gather daily calendar-based alcohol use (Miller, 1996). One reliability study (Tonigan, Miller, & Brown, 1997) indicated good reliability on abstinent days from alcohol ($r = .79$ for outpatients and $r = .97$ for aftercare patients), heavy drinking days ($r = .96$, and $.97$), and number of drinks per drinking day ($r = .94$, and $.95$). The current study utilized a measure of percent days abstinent, calculated from the Form 90, for Aim 2 of this study.

AA attendance—AA attendance was also calculated from the Form 90 (Miller, 1996). The number of days of reported AA attendance was divided by the total number of days in the assessment period as a measure of the proportion of days attending AA.

12-Step exposure—The Alcoholics Anonymous Involvement (AAI) questionnaire was developed to measure the amount of AA program and fellowship behaviors practiced by participants (Tonigan, Connors, & Miller, 1996). The 12-item instrument yields a composite score depicting overall utilization of AA as well as two subscales. Normative data have been published on the AAI, and psychometric analyses indicate that the AAI scales are reliable and valid. Test–retest exercises show that the frequency of AA meeting attendance collected on the AAI is reliable ($r = .87$; Tonigan et al., 1997). A sum of items 1 through –8 was used in the current study as a measure of the amount of 12-Step exposure. Example items from this measure include, “Have you considered yourself a member of AA?” and “Have you celebrated an AA sobriety birthday?”

Perceived AA usefulness for maintaining sobriety—Item 12 from the AAI, “How would you rate the importance of attending AA meetings for your sobriety?” was used to not only gauge the participants’ view of how useful AA is for them, but also as a measure of the potential for ongoing AA attendance, as it was assumed that participants who did not find attending AA meetings useful would also be less likely to report subsequent attendance. This item was answered on a Likert-type scale from 1 to 5, with 1 (*not at all helpful*), 3 (*somewhat helpful*) and 5 (*very helpful*).

Practice of prescribed AA-related behaviors—The sum of all 24 items from the General Alcoholics Anonymous Tools of Recovery (GAATOR) was used as a measure of the practice of prescribed AA-related behaviors (Montgomery et al., 1995). Sample items from the GAATOR include “I have shared my personal inventory with another person” and “I have watched for selfishness, dishonesty, resentment and fear, and when these have appeared, I have asked my Higher Power to remove them.”

RESULTS

Characteristics of Included and Excluded Participants

The goals of the current study led to the inclusion of GES in the assessment battery of the parent study after the baseline assessment had already been administered. Thus, the GES was administered to the final 66 recruited participants at the 6-month assessment. Concerns about the generalizability of results from the portion of the sample administered the GES (26%) to the total sample ($N = 253$) led to initial analyses examining possible group differences. Table 1 shows demographic information about included and excluded participants. There were no statistically significant differences in demographic characteristics between included and excluded participants except for unemployment. Included participants were significantly more likely to be unemployed, Pearson's $\chi^2(1, N = 253) = 3.12, p < 0.01, \kappa = .132$. Participants also did not differ in many measures of alcohol use. Included and excluded participants were similar on measures of drinks per drinking day, alcohol dependence, alcohol-related consequences, drug use, and AA attendance. However, independent t tests indicated that included participants were less abstinent in the 90 days prior to inclusion in the study and reported less problem recognition about their drinking.

Aim 1: Perceived AA group cohesion and later practice of 12-step behaviors—

Four bivariate linear regression models were conducted to evaluate if perceived AA group cohesion, measured at month 6 of the study, predicted AA attendance, a composite score of AA participation, ratings of the helpfulness of AA for sobriety, and a composite score of 12-Step step work (all collected months 7–9). The first model tested whether impressions of AA group cohesion were predictive of subsequent AA meeting attendance. Group cohesion was a significant predictor of later AA meeting attendance (standardized $\beta = .336, p < 0.01$), indicating that higher impressions of group cohesion were related to more days of AA meeting attendance. The adjusted R^2 was 0.098; approximately 10% of the variance in AA meeting attendance was accounted for by group cohesion. The second model examined if AA group cohesion was related to the subsequent practice of prescribed AA-related behaviors as measured by the AAI. Group cohesion was related to subsequent 12-Step behaviors (standardized $\beta = .430, p < .001$), and accounted for 17% of the variance in the sum of items 1 through 8 of the AAI (adjusted R^2 was .172).

The third model tested if perceived AA group cohesion was related to how helpful the participant felt attending AA meetings was for his or her sobriety. Group cohesion was again a significant predictor of the perceived usefulness of AA meeting attendance (standardized $\beta = .276, p < 0.05$), and accounted for 6% in the variance of these ratings. The fourth model predicted subsequent 12-Step behaviors measured using the sum of items from the

GAATOR. GAATOR scores were significantly predicted from prior impressions of AA group cohesion ($\beta = .336, p < 0.01$), and 13% of their variance was accounted for by prior impressions of group cohesion.

Often, past behavior is the best predictor of future behavior. In this vein, AA utilization during months 4 through 6 may have been more related to AA utilization during months 7 through 9 than prior impressions of AA group cohesion. Four additional linear regression models were tested to examine if impressions of AA group cohesion were predictive beyond what would be expected by including concurrent measures of the AA utilization outcome in the model. Impressions of AA group cohesion from months 4 through 6 and one of the four AA utilization measures from months 4 through 6 were simultaneously entered into the regression models described in Aim 1. Specifically, the first regression model predicted AA attendance during months 7 through 9 of the study from two predictors, impressions of group cohesion from months 4 through 6 and AA attendance from months 4 through 6. The second model tested the prediction of the practice of prescribed AA-related behaviors during months 7 through 9 from impressions of group cohesion and the practice of prescribed AA-related behaviors during months 4 through 6. The third regression model predicted ratings of how helpful AA is for maintaining sobriety for months 7 through 9 from these same ratings given during months 4 through 6 and impressions of group cohesion during months 4 through 6. The fourth model predicted 12-Step behaviors completed during months 7 through 9 from impressions of AA group cohesion and 12-Step behaviors completed during months 4 through 6.

The addition of previous measures of AA utilization into the four regression models resulted in impressions of AA group cohesion becoming a nonsignificant predictor for three of the four outcome variables. Specifically, ratings of how helpful AA is for maintaining sobriety, as well as the practice of prescribed 12-Step behaviors as measured by the AAI and GAATOR, were better predicted during months 7 through 9 by previous reports of these same measures during months 4 through 6 than by impressions of AA group cohesion from months 4 through 6. However, AA group cohesion was still significantly predictive of AA attendance during months 7 through 9, even when AA attendance during months 4 through 6 was also included in the model (standardized $\beta = .196, p < 0.05$). Thus, impressions of AA group cohesion were predictive of later AA attendance beyond what would be expected by prior AA attendance alone.

Aim 2: Perceived AA group cohesion and later abstinence—Paralleling Aim 1 analyses, we first assessed if perceived AA group cohesion (months 4–6) bivariately predicted subsequent proportion of abstinent days (months 10–12). A second analysis addressed the same question, but also statistically controlled for AA attendance (months 7–9).

The outcome variable, proportion of abstinent days, was negatively skewed, violating the assumption of normality required for linear regression. Transformation of a variable prior to analysis is often recommended so that a non-normal variable will better approximate a normal distribution (Tabachnick & Fidell, 2007). An arcsine transformation was first applied to the outcome variable because it was a proportion that ranged from 0 to 1, which resulted

in a reduction of skew. Next, impressions of AA group cohesion during months 4 through 6 were significantly predictive of later proportion of abstinent days during months 10 through 12 ($r = .274, p < 0.05$). A hierarchical linear regression analysis was then conducted to assess the ability of impressions of group cohesion during months 4 through 6 to predict subsequent proportion of abstinent days during months 10 through 12 after controlling for the influence of AA attendance during months 7 through 9. Impressions of group cohesion were entered in Step 1 and AA attendance was entered in Step 2. Impressions of group cohesion ceased to be a significant predictor, but AA attendance during months 7 through 9 significantly predicted the proportion of days abstinent during months 10 through 12 (standardized $\beta = .277, p < 0.05$). When assessed by itself, impressions of AA group cohesion accounted for 7.5% of the variance in subsequent proportion of abstinent days, whereas the inclusion of AA attendance in the model accounted for 14% of the variance.

DISCUSSION

The results of this study demonstrate that one nonspecific aspect of perceived AA group dynamics is relevant for understanding the recovery efforts of substance abusers. Specifically, we found that impressions of AA group cohesion predicted increased AA meeting attendance at a later time, even after taking into account current rates of AA meeting attendance. In turn, these increases in AA meeting attendance significantly predicted subsequent abstinence. The content of the items in the Cohesiveness scale suggests that the more people felt a sense of belongingness, closeness, and ability to make friendships in an AA group the more likely they were to report that an AA group was cohesive. In this light, impressions of cohesiveness appear to be strongly related to perceived ability to become engaged in the AA social network, a strong predictor (mechanism) of AA-related benefit.

There are good reasons why nonspecific factors have not been studied in relation to AA, and there is now a compelling practical reason why this ought to change. A common clinical practice used to engage clients into AA is based upon an AA meeting sampling strategy (Nowinski, 2002; e.g., encouragement to sample an array of AA meetings to find one, if any, which seems like an appropriate resource). At heart, this practice recognizes the diversity of the AA experience, and it relies exclusively upon self-matching. Findings from this study offer a clearer prescription about the type of AA social environment that prospective AA members ought to be informed to seek: AA groups that appear cohesive promote a sense of belongingness. Whether an AA meeting is actually more or less cohesive may, in fact, be irrelevant. The important point is that prospective affiliates perceive that a given meeting encourages such emotions. Although it is premature to make firm recommendations at this time, continued study of this nonspecific mechanism in AA offers a significant advancement in comparison to the common practice of encouraging unguided self-matching.

This study had some important strengths. Foremost, the lagged design provided a temporally and logically ordered context to investigate the relationships of interest. Although causality cannot be assumed, the time-ordered assessments and analyses provide substantial confidence to the assertion that impressions of AA group dynamics have direct and indirect unintended effects. Second, the assessment of substance use, AA-prescribed behaviors, and

impressions of AA group dynamics was done using psychometrically strong tools that have been previously applied in mutual-help research. And third, study inclusion criteria were designed to restrict the treatment and AA histories of study participants. Studied relationships were therefore largely unconfounded by historical factors that may have adversely influenced study findings.

A number of study limitations should be noted. First, this study examined participants' perceptions of group dynamics, not the actual group dynamics themselves. Verification from independent raters, for example, would provide evidence that the actual group dynamics were responsible for study findings, and not group members' impressions of them. Second, perceptions of AA group dynamics were not tied to any particular group, but to an unidentified group that the participant attended the most frequently during the assessment period. This study's design was unable to relate impressions of group dynamics to a particular group and disentangle whether it is the behavior of group members that drive perceptions of the group environment, the individual characteristics of those perceiving the group dynamics, or both. And third, the sample size was relatively small, leaving many of the statistical analyses underpowered.

In sum, findings indicate that perceptions of AA group dynamics are an important factor in understanding AA-related benefit. Future studies will need to examine how perceptions of AA group dynamics change over time, and how those changes are related to sobriety or AA disaffiliation. Future research should also investigate if perceptions of AA group cohesion are reflections of individual differences or are attributable to particular AA groups. This may be accomplished by investigating potential mediators or moderators of AA group dynamics and their relationships to outcomes. Certainly, findings reveal that encouraging problem drinkers to "shop around" for the AA group that fits best is still sound advice, but that this advice may be improved by becoming more specific: find the group where you feel most welcome and willing to make friendships with other AA members.

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TABLE 1

Characteristics of Included and Excluded Participants

	Included (<i>n</i> = 66)	Excluded (<i>n</i> = 187)	<i>p</i> ^b	Effect size ^a
Demographic variables				
% Male	57.6%	69.5%	.08	.08
Age in years	40.08 (9.55)	37.91 (9.86)	.13	.22
Years education	12.24 (2.64)	12.94 (2.72)	.07	.26
% Married/cohabitating	23.1%	14.6%	.12	.10
% White, non-Hispanic	28.8%	37.1%	.22	.08
% unemployed	78.8%	59.5%	.01	.13
Baseline measures				
Drinks per drinking day ^a	18.07 (11.96)	17.69 (12.98)	.84	.03
Standard ethanol content	984.3 (804.0)	987.0 (1145.3)	.99	.00
Alcohol dependence score	49.64 (8.73)	48.40 (9.49)	.36	.13
Alcohol-related consequences	13.12 (2.42)	13.53 (3.34)	.37	.13
Proportion of drug use days ^a	0.34 (0.46)	0.27 (0.44)	.27	.16
Motivation-problem recognition	29.65 (5.64)	31.15 (4.82)	.04	.30
Motivation-taking steps	33.12 (2.42)	34.85 (5.50)	.05 ^c	.35
Proportion of abstinent days ^a	0.47 (0.33)	0.56 (0.29)	.04	.30
Proportion Alcoholics Anonymous attendance	0.16 (0.20)	0.17 (0.18)	.65	.05

^aEffect 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.^cExact *p* value = 0.054.