

TIME-VARYING PREDICTORS OF HELPING BEHAVIORS AMONG INDIVIDUALS IN TREATMENT FOR ALCOHOL USE DISORDERS: FINDINGS FROM PROJECT MATCH



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BACKGROUND

A large body of research in psychology, sociology, and medicine demonstrates that helping others is associated with better health outcomes, both physical (e.g., lower blood pressure, risk of ulcers, and risk of coronary artery disease) and mental (e.g., higher life satisfaction, well-being, and self-esteem). Empirical evidence has also begun to surface linking helping to better recovery outcomes among substance abusing populations. Some research attention has been focused on sponsorship in 12-step groups, such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA); sponsorship involves partnering with another alcoholic to help him or her stay sober. Studies have found that 12-step members who sponsor peers or do service work of other kinds are less likely to relapse than individuals who do not do these things (Crape et al., 2002; Pagano et al., 2004). Despite this evidence, we know little about what distinguishes individuals inclined (vs. disinclined) to help during recovery from substance abuse, and relatedly, what conditions facilitate helping.

STUDY AIMS

The current study examines predictors of helping other alcoholics in the context of AA participation. Use of a longitudinal design facilitated this aim, since this design permits causal time-ordering of our predictor variables in relation to outcome.

METHODS AND SAMPLE

Study data were derived from Project MATCH, a longitudinal investigation of the efficacies of three interventions for individuals with alcohol use disorders delivered over 12 weeks (see Babor & Del Boca, 2003). This investigation included 1593 individuals with follow-up data on predictor variables (see Table 1). Participants in the outpatient arm (N=858) were recruited directly from community or outpatient centers; aftercare participants (N=735) were enrolled from intensive inpatient or day hospital programs. Participants were randomly assigned to one of three treatments: twelve-step facilitation (TSF), cognitive behavioral therapy (CBT), or motivational enhancement therapy (MET). Static demographic and clinical predictors, assessed only at baseline, included gender, race, marital status, employment status, age, education, drinking severity prior to treatment, treatment history, treatment setting, motivation to change, and antisocial personality disorder. Time-varying psychological predictors, assessed at baseline, the end of treatment, and 6 and 12 months following the end of treatment, included depression, religious behaviors, self-efficacy, and purpose in life. To distinguish predictors unique to helping from predictors of AA involvement more broadly, cox proportional hazard regression models controlled for AA meeting attendance, completed Step work, and having a sponsor. (We also examined effects for assignment to TSF and length of sobriety.) Time-varying predictors were lagged such that likelihood of helping others was dependent on predictor information gathered in the prior assessment.

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Table 1. Intake Characteristics of Study Participants

Intake Characteristic		Total
		1593 (100%)
Demographic Factors		
Gender	Male	1207 (76%)
	Female	386 (24%)
Race	Caucasian	1316 (83%)
	Black	151 (9%)
	Other	126 (8%)
Marital status	Married	555 (35%)
	Single	1038 (65%)
Employed full-time	No	791 (50%)
	Yes	802 (50%)
Age	M (SD)	40.3 (10.0)
Years of education	M (SD)	13.3 (2.1)
Baseline Clinical Factors		
Drinks per drinking day	M (SD)	16.7 (10.7)
Number prior treatments	M (SD)	1.3 (2.2)
Treatment setting	Outpatient	858 (54%)
	Aftercare	735 (46%)
SOCRATES	M (SD)	11.9 (4.1)
Antisocial personality disorder	No	1381 (87%)
	Yes	212 (13%)
Timevarying Psychological Factors		
Beck Depression Inventory	M (SD)	10.1 (8.2)
Religious Background and Behaviors	M (SD)	36.8 (11.2)
Alcohol Abstinence Self-Efficacy	M (SD)	3.1 (0.9)
Purpose in Life	M (SD)	93.9 (18.9)
AA Factors		
Number of AA meetings attended	M (SD)	0.03 (0.01)
Number of AA Steps worked	M (SD)	1.9 (2.9)
Has AA sponsor	No	1162 (73%)
	Yes	427 (27%)
TSF treatment	No (CBT)	520 (33%)
	No (MET)	532 (33%)
	Yes	541 (34%)

STUDY OUTCOME

Our key outcome was the onset of helping behaviors over the course of this 15-month investigation. Following Pagano et al.'s (2004) investigation linking helping to better treatment outcomes in Project MATCH, participants were considered to be helping if they endorsed the item: "Have you been a sponsor in the last 90 days?" and/or reported completing Step 12 in the last 90 days. Twelfth Step work is considered service work. Step 12 reads, "Having had a spiritual awakening as a result of these steps, we tried to carry this message to other alcoholics, and to practice these principles in all our affairs."

Table 2. Predictors of Helping Behaviors

Variable	Parameter Estimate	Standard Error	Chi-Square	Pr > Chisq	Hazard Ratio	Confidence Limits (95%)
Demographic Factors						
Age	0.00810	0.00651	1.5474	0.2135	1.008	0.995, 1.021
Baseline Clinical Factors						
Drinks per drinking day	0.00892	0.00639	1.9456	0.1631	1.009	0.996, 1.022
Number prior treatments	-0.00095	0.02832	0.0011	0.9731	0.999	0.945, 1.056
Treatment setting	0.03890	0.15741	0.0611	0.8048	1.040	0.764, 1.415
SOCRATES	-0.01102	0.01971	0.3129	0.5759	0.989	0.952, 1.028
Antisocial personality disorder	-0.18581	0.22064	0.7092	0.3997	0.830	0.539, 1.280
Time-varying Psychological Factors						
Beck Depression Inventory	0.02457	0.01009	5.9277	0.0149	1.025	1.005, 1.045
Religious Background and Behaviors	0.01936	0.00690	7.8709	0.0050	1.020	1.006, 1.033
Alcohol Abstinence Self-Efficacy	0.17686	0.07437	5.6554	0.0174	1.193	1.032, 1.381
Purpose in Life	0.00783	0.00486	2.5964	0.1071	1.008	0.998, 1.018
AA Factors						
Number of AA meetings attended	0.92451	0.28690	10.3841	0.0013	2.521	1.436, 4.423
Number of Steps Worked	0.15171	0.02164	49.1412	<.0001	1.164	1.115, 1.214
Has a sponsor	0.59684	0.17268	11.9467	0.0005	1.816	1.295, 2.548
TSF treatment	0.00078	0.08729	0.0001	0.9928	1.001	0.843, 1.188
Experience with Sobriety						
Length of time sober	0.00206	0.00049	17.3992	<.0001	1.002	1.001, 1.003

SUMMARY OF RESULTS

In preliminary analyses, none of the demographic characteristics we measured predicted helping others, except for age, which was positively associated with helping. However, the relationship between age and helping did not replicate in multivariate models (see Table 2). Further, our multivariate analyses (Table 2) showed that helping was not associated with any clinical factors measured at baseline, such as alcohol consumption levels or history of treatment. Nevertheless, helping was associated with all time-varying psychological factors. As hypothesized, greater likelihood of helping was significantly predicted by increased *religiosity/spirituality* and *abstinence self-efficacy*; further, a trend related helping to an increased *purpose in life*. Unexpectedly, increases in *depression symptoms* likewise predicted engagement in helping behaviors.¹ Also as hypothesized, increases in all indicators of *AA involvement* predicted a greater likelihood of helping; still, assignment to twelve-step facilitation (TSF) bore no relation to helping. Greater length of sobriety was a highly reliable predictor of helping.

FOOTNOTE FOR RESULTS:

¹To clarify the finding for depression, we examined depression scores before and after starting to help others in one post-hoc analysis. Random effect regression analyses demonstrated elevated BDI scores in the assessment prior to helping (M=10.29, SD=0.58), significantly lower BDI scores at initiation of helping (M=7.20, SD=0.58; p<.001), and similarly lowered BDI scores at the following assessment (M=7.20, SD=0.63; p<.001).

IMPLICATIONS

Individuals of all demographic backgrounds are equally likely to help in AA. However, increases in religious or spiritual orientation seem to be important instigators of helping, as are experience with sobriety, increased confidence in one's ability to resist temptation, and increased sense of purpose. All of these effects operate independently of the influence of AA affiliation indicators. The relationship between increased depression and the initiation of helping was surprising and may indicate higher compassion or efforts to feel better by helping others. (Post-hoc analyses suggest that helping may indeed have a salutary effect.) Findings are noteworthy for extending prior work relating greater spirituality to greater helping (e.g., Zemore, 2004). Still, readers might note that religious orientation does *not* seem to influence the efficacy of 12-step participation (Tonigan et al., 2002). The null findings for treatment assignment are important, as we expected that assignment to twelve-step facilitation (TSF) would result in greater odds of helping. Results suggest that TSF programs may need to address the process and benefits of helping explicitly and systematically in order to maximize helping activities, and hence outcomes.