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General and Religious Coping Predict Drinking Outcomes for Alcohol Dependent Adults in Treatment

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Abstract

Background—Religiosity is associated with improved treatment outcomes among adults with alcohol dependence; however, it is unknown whether religious coping predicts drinking outcomes above and beyond the effects of coping in general, and whether gender differences exist.

Methods—We assessed 116 alcohol-dependent adults (53% women; mean age = 37, *SD* = 8.6) for use of religious coping, general coping and alcohol use within two weeks of entering outpatient treatment, and again 6 months after treatment.

Results—Religious coping at 6 months predicted fewer heavy alcohol use days and fewer drinks per day. This relationship was no longer significant after controlling for general coping at 6 months.

Conclusion—The relationship between the use of religious coping strategies and drinking outcomes is not independent of general coping. Coping skills training that includes religious coping skills, as one of several coping methods, may be useful for a subset of adults early in recovery.

Introduction

Religion and spiritual practice has long played a role in the treatment and recovery of those who struggle with an alcohol use disorder. National surveys reveal that 55% of Americans identify that religion is a “very important” part of their life, and that most (92%) report believing in a God or a universal spirit.[1,2] One widely used approach to sobriety is the twelve-step program of Alcoholics Anonymous (AA), and at the core of the AA program is spiritual growth. Although many people use spirituality in their sobriety efforts, the importance of religious coping for maintaining abstinence is still unclear. Operational

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definitions of religiosity and spirituality range from one-question assessments of religious affiliation or attendance [3] to standardized measures of various dimensions of religion and spirituality.[4]

A stressful situation is one which the person judges to exceed his/her resources and endanger his/her well-being[6]; coping is the cognitive and behavioral efforts to manage such situations. A variety of both urge-specific and general coping strategies have been shown to be associated with increased abstinence after treatment for alcohol dependence. [7–11] However, while many empirical studies, including reviews, [12,13] have investigated the relationship between alcohol use and spirituality, purpose in life, or existential well-being, [14–16] few have examined the relationship between alcohol treatment outcomes and spirituality over time. [4, 16–18] Although some studies have focused on this relationship among minority samples, [19–22] fewer still have specifically explored the relationship between religious coping and treatment outcomes. Moreover, while the literature generally supports greater likelihood for women than men to affiliate with religious institutions and to seek religious consolation, [23] it is unclear whether gender differences exist in the use of religious coping during alcohol treatment.

Spirituality and religiousness are positively associated with alcohol treatment outcome in some studies. In one such study, spirituality scores increased during treatment for all patients, but spirituality scores declined at follow-up for those who relapsed, while scores for those who stayed abstinent did not decline. [15] Existential well-being and intrinsic religiosity (defined as beliefs that are internalized, as opposed to extrinsic religiosity, which is religiosity for external reasons) have also been found to increase over the course of outpatient treatment, [17] Further, abstinence at one year after treatment has been strongly predicted by existential well-being scores at discharge from treatment. [17] Increases in spirituality and religiousness have been associated with increased likelihood of no heavy drinking six months after treatment, [4] and spirituality and religiousness changes at six months have been predictive of drinking outcomes nine months after treatment, after controlling for AA involvement and baseline drinking.[24] Spiritual coping is one of many coping strategies associated with increased abstinence during the year after starting treatment. [8]

A limitation of the literature to date has been that studies have primarily relied upon measures that assess passive experiences and beliefs that are stable over time, [4] rather than assessing behaviors which can be adapted or encouraged as part of sobriety. Evidence of religious coping as a means of dealing with stress may be useful to guide practitioners in helping clients find new and better ways of coping with high-risk situations for relapse. To develop evidence-based guidance, we examined the relationship between alcohol use and religious coping among treatment-seeking adults with alcohol dependence. We hypothesized that religious coping would be correlated with improved drinking outcomes during the 6 months after entering treatment for alcohol problems. We also investigated whether the effect of religious coping is predictive above and beyond the effects of general coping strategies. Finally, we explored the relationship of specific religious coping strategies and drinking outcomes to identify the most useful skills.

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Methods

Participants ($N = 116$) were drawn from a larger study examining predictors of relapse [25] and were recruited from an inner-city substance abuse treatment facility in Rhode Island. The WORCS was added after the parent study was underway, resulting in this subsample who completed it. The facility included a unit with a separate women's program, thus allowing us to obtain a more balanced distribution of gender. All participants met the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) [26] criteria for alcohol abuse (2%) or dependence (98%) during the past year. Alcohol was not necessarily the substance for which patients were seeking treatment. Individuals with an active diagnosis of psychosis or organic brain impairment were excluded from the study. Participants completed assessments within 2 weeks of entering outpatient treatment and again 6 months later, with compensation for the follow-up assessment. The research study was approved by the Institutional Review Board of Brown University.

Measures

The *Timeline Follow-back* (TLFB) [27] interview was administered at start of treatment (for the 90 days prior) and at 6-month follow-up. Procedures increasing the validity of self-report [27] were followed, including ensuring a zero breath alcohol level and creating a set and setting of confidentiality. Percentage of drinking days, percentage of heavy drinking days (5 or more drinks a day for men; 4 or more drinks a day for women), and mean number of drinks per day at baseline and follow-up were calculated from TLFB. The *WORCS*, [5] a self-administered measure of the frequency of use of internal, external, and total religious coping strategies, was administered at baseline and at 6-month follow-up. It includes 40 items measured on a 5-point Likert-type scale ranging from "used not at all" to "used always." Past research indicates that the WORCS is a valid and reliable instrument[5] with a high internal consistency (Cronbach's $\alpha = 0.97$). The *General Coping Strategies for Alcoholics* (GCSA) [7–8] is a self-administered measure of the frequency of use of general strategies to maintain sobriety with good psychometric properties and predictive validity in studies with alcohol-dependent patients [7,8]. It was administered at baseline and at 6-month follow-up. It consists of 21 items measured on a 7-point Likert-type scale ranging from "never" to "always." The *Structured Clinical Interview for DSM-IV Alcohol Use Disorders Section* (SCID-IV) [28] was used for diagnosing alcohol abuse and dependence. Demographic data were assessed by self-report questionnaire.

Data Analysis

Data were analyzed using SPSS version 19 (SPSS, Chicago: SPSS Inc.). All data were assessed for normality and appropriateness of the proposed statistical tests. As a result, average number of drinks per day and percentage of heavy drinking days reported during the 6-month follow-up were both log-transformed to correct for skewness in the distribution.[29] Untransformed values are reported to aid interpretation. First, we tested for gender differences in the use of religious and general coping using t-tests. These tests were significant, so gender was included as a control variable in subsequent analyses. The racial distribution was too uneven to allow analyses by minority status. Since other demographic variables have no expected relationship with religiosity, they were not entered so as to

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maximize power. Second, hierarchical multiple regression was used to model the effect of religious coping at 6 months after treatment on drinking quantity and separately on frequency of heavy drinking during the 6 months following treatment while controlling for pretreatment drinking. Six- month WORCS score, the pretreatment value of the dependent variable, and gender were entered on Step 1, and the 6-month GCSA score was entered on Step 2. Dependent variables were average number of drinks per day and percentage of heavy drinking days reported during the 6-month follow-up, log-transformed. This analysis approach allows us to first determine whether religious coping is associated with drinking outcomes while controlling only for gender, then to test the effect of religious coping on drinking when also controlling for the effects of general coping skills, to see if it adds to the known value of general coping skills. Third, the correlations between individual items on the WORCS with 6-month drinking outcomes were explored using partial correlations that controlled for variance due to pretreatment percent alcohol use, similar to our approach in Dolan et al. (2013).

Results

Participants

Participants ranged in age from 19 to 58 years old, with an average age of 37 (*SD* = 8.6). The majority were female (58%), 84% were without a partner at enrollment, 81% were unemployed, and the mean highest grade completed was 12 (*SD* = 2.1). The majority of the sample identified as Caucasian (75%), 18% as Black, and 7% as mixed race or other, and 12% as Hispanic. Self-identified religious affiliation was 68% Christian (48% Catholic, 10% Baptist, 4% Pentecostal, 3% Episcopal, 3% non-denominational), and the rest said “Other” (15%) or “none” (17%). The sample had an average of 23.1 days (*SD* = 26.3; range = 1 day to 145 days; median = 15 days) of abstinence from alcohol at the time of the baseline assessment. At the 6-month follow-up, 56% (*n* = 65) reported alcohol use; among these, the mean drinks per day was 2.04 (*SD* = 4.17), percentage of drinking days was 25.51 (*SD* = 26.20) and mean percentage of heavy drinking days was 20.24 (*SD* = 25.44).

Gender Differences in Coping

At pretreatment, females had higher WORCS scores (*M* =69.47, *SD* = 35.66) than males (*M* = 55.08, *SD* = 30.12; $t(156) = 2.65$, $p < 0.01$) and higher general coping scores (*M* = 4.89, *SD* = 1.24) than males (*M* = 4.05, *SD* = 1.36; $t(156) = 4.08$, $p < 0.01$). At 6 months after treatment, females had higher WORCS scores (*M* = 75.66, *SD* = 37.77) than males (*M* = 60.32, *SD* = 32.03; $t(111) = 2.27$, $p < 0.01$).

Religious Coping Predicting Alcohol Use 6 Months after Treatment

Table 1 presents the results of the multiple regression models for WORCS predicting 6 month follow-up drinks per day and percentage of heavy drinking days. WORCS score at 6 months was related to percent heavy drinking days during the 6 month follow-up after controlling for gender, pretreatment percent heavy drinking days and pretreatment WORCS (Step 1; $F(4,111) = 3.22$, $p < .05$). However, with GCSA at 6 months added to the model, WORCS at 6 months no longer predicted percentage of heavy drinking days at 6 months (Step 2: $F(5,110) = 9.20$, $p < .001$).

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Results of the multiple regression models for WORCS predicting 6 month follow-up average drinks per day were similar. WORCS score at 6 months was related to average drinks per day during the 6 month follow-up after controlling for gender, pretreatment average drinks per day and pretreatment WORCS (Step 1; $F(4,111) = 2.74$, $p < .05$); however, with GCSA at 6 months added to the model, the WORCS score at 6 months no longer predicted average drinks per day at 6 months (Step 2: $F(5,110) = 7.91$, $p < .001$).

Specific Religious Coping Items and Alcohol Use Outcomes

Table 2 presents the partial correlations between individual coping skills of the WORCS and alcohol outcomes at 6-month follow-up. Thirteen of the 40 specific items were significantly related to frequency of heavy drinking during the 6-months after starting treatment.

Discussion

Use of religious coping after treatment was related to decreased heavy drinking days and drinks per day during the 6 months after treatment. Use of general coping strategies was related to decreases in these drinking variables as well; when variance due to general coping was controlled, religious coping did not contribute additional variance to heavy drinking outcome days. Thus, religious coping is one aspect of coping used to maintain sobriety but does not add unique variance.

Women in this sample, as compared to men, reported higher use of both general and religious coping strategies. These findings add to the existing literature which supports increased likelihood for women, compared to men, to employ religious coping. [18] This suggests the value of including these coping skills part of treatment in women's recovery programs.

Overall, our results indicate that the relationship between religious coping and drinking outcomes is not independent of the relationship between drinking outcomes and general coping. Religious coping may be just one of many coping methods employed by adults with alcohol dependence who increase their degree of coping across the board. As such, religious coping may reflect an orientation toward using a variety of effective methods to stay sober. Additional research is needed to determine whether results would vary for alcohol dependent adults with different levels of functioning, within different religious orientations, as a function of importance or frequency of one's spiritual practice, and across more diverse communities of individuals. Future studies are needed to assess a wider range of religious coping strategies used in recovery; for example, Aflakseir & Coleman developed and tested a religious coping measure for use with Iranians to assess religious coping within a predominantly Muslim population. [30] Coping skills training that incorporates religious coping skills, in addition to cultural and spiritual values, may be useful for a subset of people early in recovery. [12]

An examination of the relationship between individual items of the WORCS with drinking outcomes after treatment revealed a subset of only 13 items which were significantly related to drinking outcomes. These items reflected the general themes of the AA principles of relying on a higher power. Many of the items that reflected behaviors such as getting help

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from clergy/leader/support group, donating time or money, and atoning for mistakes were not significantly associated with reduced drinking. This can provide some clinical guidance in promoting the religious coping skills that have the most empirical support for success and including those skills in a tailored treatment approach.

The current study has limitations worth noting, including a predominantly Caucasian (75%) and Christian (68%) sample, which limits generalizability to diverse populations. The use of coping strategies was only measured before receiving treatment and again at follow-up, and was not assessed at the end of treatment, at which point it may have been the highest. Moreover, the assessment of participants' history of religious beliefs, or degree of religiosity, throughout lifetime was not included in our study.[12] The strengths of this study include the use of reliable and valid measures of the outcome variables, and an extended follow-up of six months after alcohol treatment Overall, this paper is novel in examining the relationship between religious coping, including examination of gender differences, independent of general coping, and drinking outcomes at six months after treatment for alcohol. The clinical implications of the findings suggest that among individuals with an alcohol use disorder, interventions can be beneficial by teaching general coping strategies, not just religious coping. However, assessing and supporting an individual's religiosity with focus on evidence-based spiritual coping can support the therapeutic relationship, [31] enhance cultural sensitivity, [32] and reinforce the value that religious coping can have in their recovery journey. [33]

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Scientific Significance

This novel, prospective study assessed the relationship between religious coping strategies, general coping, and treatment outcomes for alcohol-dependent adults in treatment with results suggesting that the use of religious coping as one of several coping methods may be useful for a subset of adults early in recovery.

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Table 1

Hierarchical regression predicting drinks per day and percentage of heavy drinking days during the 6-month follow-up

Variable	β	sr^2	R^2 change
6 Month follow-up Average Drinks per Day			
Step 1: Religious Coping and Gender			.09*
Pretreatment Ways of Religious Coping Scale	.22	.17	
Average drinks/day pretreatment	.16	.16	
Gender	.01	.01	
Month 6 Ways of Religious Coping Scale	−.33**	−.26	
Step 2: General Coping			.18***
Pretreatment Ways of Religious Coping Scale	.21	.18	
Average drinks/day pretreatment	.15	.16	
Gender	.02	.02	
Month 6 Ways of Religious Coping Scale	−.11	−.09	
General Coping Strategies for Alcoholics	−.47***	−.44	
6 Month follow-up Percent Heavy Drinking Days			
Step 1: Religious Coping and Gender			.10*
Pretreatment Ways of Religious Coping Scale	.21	.16	
Percent heavy drinking days pretreatment	.17	.18	
Gender	−.04	−.04	
Month 6 Ways of Religious Coping Scale	−.34**	−.28	
Step 2: General Coping			.19***
Pretreatment Ways of Religious Coping Scale	.20	.18	
Percent heavy drinking days pretreatment	.22	.17	
Gender	−.02	−.03	
Month 6 Ways of Religious Coping Scale	−.11	−.10	
General Coping Strategies for Alcoholics	−.50***	−.46	

*p < .05,

**p .01,

***p .001

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Table 2

Relationship of Ways of Religious Coping Scale (WORCS) items with frequency of drinking or heavy drinking at 6-months follow-up after starting treatment

Variable	Drinks per day r	Percent heavy drinking days r
Significantly correlated with heavy drinking frequency		
I put my problems in God's hands	−.23*	−.31***
I ask for God's forgiveness	−.27**	−.28**
I base life's decisions on my religious beliefs	−.21*	−.26**
I count my blessings	−.21*	−.26*
I pray for strength	−.22*	−.24*
I say prayers	−.20*	−.21*
I recite a psalm	−.19*	−.21*
I allow the Holy Spirit to direct my actions	−.18*	−.21*
I talk to church/mosque/temple members	−.15	−.21*
I get support from church/mosque/temple members	−.17	−.20*
I find peace by going to a religious place	−.14	−.20*
I pray for the help of a religious figure	−.18	−.19*
I pray for help	−.17	−.19*
Not significantly correlated		
I donate time to a religious cause or activity	−.14	−.17
I go to a religious counselor	−.13	−.17
I share my religious beliefs with others	−.04	−.17
I get help from clergy	−.15	−.16
I look for a lesson from God in the situation	−.11	−.16
I ask my religious leader for advice	−.16	−.15
I give money to a religious organization	−.15	−.15
I ask someone to pray for me	−.13	−.15
I attend a religious support group	−.13	−.14
I try to make up for my mistakes	−.13	−.14
I talk to my minister/preacher/rabbi/priest	−.13	−.14
I pray to God for inspiration	−.12	−.14
I recall a Bible passage	−.11	−.14
I confess to God	−.13	−.13
I find peace by sharing my problems with God	−.12	−.13
I talk to church/mosque/temple leaders	−.11	−.12
I stop going to religious services	−.11	−.11
I work with God to solve problems	−.09	−.11
I ask for a blessing	−.03	−.09
I think about Jesus as my friend	−.02	−.09

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Variable	Drinks per day r	Percent heavy drinking days r
I try to be a less sinful person	−.03	−.08
I solve problems without God’s help	.09	.07
I read scriptures	−.06	−.07
I use a Bible story to help solve a problem	−.03	−.04
I do not pray	−.08	.03
I get involved with church/mosque/temple activities	−.13	−.02
I stop reading scriptures	.01	.00

Partial correlations controlling pretreatment number of alcohol use days

$^{*}p < .05$,

$^{**}p$ .01,

$^{***}p$ .001