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Religious coping in patients with severe substance use disorders receiving acute inpatient detoxification

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Abstract

Background and Objectives—Religious coping, one of the most widely studied components of spirituality among psychiatric populations, has rarely been addressed in patients with severe substance use disorders (SUD). The aim of our study was to elucidate whether religious coping is related to symptom expression and mutual-help participation.

Methods—Self-reported religious coping was assessed in individuals sequentially admitted to a private psychiatric hospital for inpatient detoxification. Target symptoms of SUD included severity of substance use prior to admission and craving during detoxification. Three hundred thirty-one patients (68.6% male) participated in the survey; mean age was 38.0 years, and primary presenting diagnosis was most commonly alcohol use disorder (*n*=202; 61%), followed by opioid use disorder (*n*=119; 36%).

Results—Positive religious coping was associated with significantly greater mutual-help participation, fewer days of drug use prior to admission, and was modestly, yet significantly associated with lower drug craving. Negative religious coping was associated with lower confidence in the ability to remain abstinent post-discharge and higher drug craving.

Conclusions—Consistent with hypotheses, greater positive religious coping was associated with greater mutual-help participation, lower severity of pre-admission drug use, and lower substance craving during detoxification. Use of positive religious coping may modify the course of SUD recovery by promoting engagement in mutual-help activities.

INTRODUCTION

Involvement with spirituality/religion is associated with lower incidence and severity of substance use disorders (SUD).[1–8] Although several factors may contribute to this protective effect—such as access to social support,[9–10] and shared values and beliefs[11–12] —

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spirituality may play a role in SUD recovery that is distinct from the measured impact of social developmental factors, such as family make-up, gender, and age.[13]

Religious coping is defined as "*how* the individual [makes] use of religion to understand and deal with stressors."[14] Religious coping can include both positive and negative ways of dealing with psychological stress: positive religious coping may include benevolent religious re-appraisals, such as belief in a supportive God or higher power, seeking spiritual support and religious forgiveness; whereas negative religious coping is characterized by "spiritual struggles" such as questioning the benevolence of a higher power, feeling abandoned by God, existential crises of a spiritual nature, or interpersonal conflict occurring in a spiritual/religious context.[15] A large and consistent body of literature has identified positive religious coping as a strong predictor of positive mental health outcomes; conversely, negative religious coping is a significant risk factor for emotional distress and mental health decline.[16]

Religious coping is of particular clinical interest with respect to SUD because it appears to be malleable. For example, in a sample of 45 inpatients receiving treatment for opioid use disorder, higher positive coping at baseline correlated with less frequent opioid use pre-admission, and increases in positive coping during treatment predicted more frequent 12-step program participation.[6] Furthermore, decreases in negative religious coping following detoxification were associated with significantly less opioid use at two weeks post-discharge. These results are consistent with prior studies among outpatients suggesting that religious coping can change during SUD treatment and increases in positive coping are associated with more favorable treatment outcomes (e.g., significant decreases in alcohol use at six-month follow-up, compared to baseline).[17–19]

In another study conducted among outpatients entering treatment for alcohol use disorder,[20] greater positive religious coping predicted fewer heavy drinking days at six-month follow-up, compared to baseline. However, religious coping did not add unique explained variance above and beyond the use of other coping strategies. Negative religious coping among outpatients has also been studied, and findings suggest a possible correlation between spiritual struggles and increased alcohol use at baseline.[21–22] An improved understanding of factors associated with positive and negative religious coping during treatment could contribute to the development of focused clinical interventions modifying religious coping to enhance treatment outcomes post-discharge. For example, Lucchetti[8] postulated that the nature and degree of religious coping during SUD treatment could be a useful predictor of potential benefit from spiritually-integrated 12-step programs, such as Alcoholics Anonymous. Notably, prior studies demonstrated that engagement in religion alone is not associated with mutual-help attendance (e.g., Weiss et al., 2000[23]); thus, it is possible that the active use of religious coping is a more important predictor of mutual-help participation than is self-reported religious involvement.

The aim of our study was to investigate the clinical correlates of positive and negative religious coping in a sample of adults receiving inpatient detoxification treatment. We hypothesized that greater positive religious coping would be associated with lower SUD severity (craving, number of days of substance use and number of substances used in the

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past 30 days), and that greater negative religious coping would be associated with greater severity on these indices. Our second aim was to examine the association between positive and negative religious coping and two variables that have been linked to SUD treatment outcomes: abstinence self-efficacy (confidence in the ability to achieve and maintain abstinence) and participation in 12-step mutual-help recovery programs. We hypothesized that greater positive religious coping would be associated with greater abstinence self-efficacy and mutual-help participation, and that greater negative religious coping would exhibit the opposite associations, even when controlling for markers of SUD severity.

METHODS

Participants

Patients presenting to the inpatient drug and alcohol detoxification unit of a private academic psychiatric hospital were recruited between August 2014 and June 2015 for a cross-sectional study. Mean length of stay on this unit was 4 days. Eligible participants were at least 18 years of age and met medical necessity for moderate to severe SUD requiring medical detoxification. Exclusion criteria included the inability to read or provide informed consent, or an acute medical or psychiatric condition that could interfere with the ability to complete a brief battery of self-report measures. Participants were not compensated for this brief survey study.

The study sample consisted of 331 participants (31% female), with a mean age of 38.0 years (SD=14.4). The sample was mostly Caucasian (93.4%). Fewer than half (48.6%) of the sample were employed (full- or part-time). The most common primary diagnoses were alcohol use disorder (61%) or opioid use disorder (36%). See Table 1 for a description of sample characteristics. All study procedures were approved by the local Institutional Review Board.

Procedures

Potential participants were recruited by a member of the research staff. Eligible participants who expressed interest were scheduled for an informed consent meeting. Participants who provided written informed consent then completed a battery of self-report measures administered on a tablet computer. Study procedures were typically conducted on day 2 or 3 of the inpatient stay (i.e., not the day of admission or discharge).

Measures

Participants self-reported demographic characteristics, including age, gender, race, employment status, and marital status. The Brief Addiction Monitor[24] was used to assess alcohol and drug use in the month prior to inpatient hospitalization. The Brief Addiction Monitor has demonstrated good test-retest reliability and strong predictive validity.[24] A brief 8-item self-help questionnaire, a modification of a questionnaire used in previous studies by our group[23,25] and others[26] was used to assess mutual-help group attendance and other mutual-help activities (e.g., speaking at meetings, meeting with sponsor, reading 12-step literature) in the past year.

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The Craving Scale is a 3-item scale (scored 0–9), adapted from the Cocaine Craving Scale,[27] which has been widely used as a brief measure of craving for both alcohol[28] and other substances.[29–30] The Craving Scale was used to assess craving for each participant's primary substance. The Brief Situational Confidence Questionnaire[31] is an 8-item measure (scored 0% to 100%) of self-efficacy for abstinence. It has demonstrated strong reliability and validity among individuals receiving SUD treatment.

General religious/spiritual involvement was assessed by five questions (i.e., "How important is spirituality in your life?", "How important is religion in your life?", "To what extent do you believe in God?", "To what extent do you belong to a faith community/congregation?", and "To what extent would you like to include your spirituality in your mental health treatment?") on a 5-point Likert scale ranging from "not at all" to "very." Scores range from 1 to 5. Additionally, two items from the Duke Religion Index[32] were administered, assessing public and private religious activities (i.e., "How often do you attend church or other religious services" and "How often do you spend time in private religious activities, such as prayer, meditation, or Bible study?")

Religious coping was assessed with the Brief Religious Coping Scale (Brief RCOPE),[14] a 14-item self-report scale that assesses both positive (e.g., seeking spiritual support, spiritual connection, religious forgiveness, religious reappraisal) and negative (e.g., spiritual discontent, punishing God reappraisals, reappraisal of God's powers) styles of religious coping. The Brief RCOPE is scored continuously with two subscales reflecting positive and negative religious coping (7 items each). These subscales are hypothesized to be related, yet distinct constructs, reflecting adaptive and maladaptive utilization of religious coping. The scores range from 7 to 28 for each subscale (positive or negative). The Brief RCOPE has demonstrated good internal consistency and discriminant validity.[14]

Data Analyses

All variables of interest were evaluated for evidence of skewness, kurtosis and the presence of univariate outlier. Then, bivariate associations between positive and negative religious coping and markers of clinical severity were examined using Pearson correlations. Linear regression models were then utilized to examine the association between positive and negative religious coping and the two outcomes of interest: (1) history of 12-step mutual-help participation, and (2) self-efficacy to maintain abstinence post-discharge, controlling for the effects of potential confounding variables. Control variables included sociodemographic variables (age, gender, marital status, and employment status), primary substance use disorder, and recent substance use (days of substance use and number of drugs used in the past 30 days). In each model, sociodemographic variables were entered in a first step, followed by substance use severity variables, and finally positive and negative religious coping to examine the incremental effect of religious coping on these outcomes. Alpha for determining statistical significance was set at .05 for all analyses. Unstandardized estimates are reported to allow for interpretation of effects with respect to the original scale of each measure (i.e., estimates can be interpreted as the amount of change in the dependent variable for each 1-unit change in the independent variable).

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RESULTS

Descriptive statistics characterizing the sociodemographic variables and primary diagnoses of the study cohort, as well as importance of and involvement in spirituality and religion, are presented in Table 1. On average, the sample reported that spirituality was fairly important in their life (on a scale of 1–5, mean=3.10, SD=1.55) and in their treatment (mean=3.12, SD=1.56). The degree of belief in God was reported as moderately or higher in half (50.5%) of the sample. Self-reported importance of religion in one's life was rated as slightly important, on average (mean=2.41, SD=1.52). Of note, even among those reporting that religion was slightly important/not important, 36% still reported that incorporating spirituality was important in their treatment. Engagement in religious activities was low, with an average church or other religious service attendance less than a few times per year (compared to national data showing 63% of the population attend religious services at least monthly[33]), and engagement in private religious activities less than a few times per month (compared to national data showing 66% of the population pray daily[33]).

Table 2 presents the correlation matrix characterizing bivariate associations between positive and negative religious coping, clinical variables of interest, and self-reported importance of spirituality. Importance of spirituality and religion in one's life was strongly correlated with use of positive religious coping. Greater positive religious coping was associated with significantly (yet modestly) lower craving during detoxification treatment, fewer days of substance use in the previous month, and greater use of mutual-help meetings. Conversely, greater negative religious coping was associated with significantly higher craving during treatment, and lower self-efficacy to maintain abstinence, but not with days of substance use. Neither positive nor negative religious coping was significantly associated with number of substances used during the prior 30 days. There were no significant differences between those with a primary opioid use disorder vs. other primary substance use disorder (e.g., alcohol use disorder) in either positive (t[333]=1.59, p=.11, $d = 0.31$) or negative religious coping (t[330]=−1.18, p=.24, $d = -0.21$).

Results from the multivariable linear regression found that negative religious coping was associated with less confidence in the ability to attain abstinence (Table 3; $B = -0.06$, $SE_B = -0.12$, $t = -1.98$, $p < .05$); the inclusion of religious coping in the model added substantial incremental prediction of variance in abstinence self-efficacy ($R^2_{change} = .09$). There was no association between positive religious coping and abstinence self-efficacy (Table 3). Greater positive religious coping was associated with greater 12-step mutual-help participation (Table 4; $B = 0.03$, $SE_B = 0.01$, $t = 3.98$, $p < .001$); however, the incremental contribution to the model was small ($R^2_{change} = .01$). Conversely, use of negative religious coping was not significantly associated with mutual-help participation (Table 4).

A subset of participants (n=41) reported no engagement or importance of religion or spirituality in their lives. Unsurprisingly, this group reported negligible levels of religious coping (positive religious coping mean =7.27 [SD=0.67]; negative religious coping mean = 7.63 [SD=1.65]). This group was younger and less involved in mutual-help groups relative to those who reported any (i.e., more than no) involvement in religion or spirituality, but did not differ on other sociodemographic and clinical variables. All models were also calculated

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with this subset of participants excluded, and there were not differences in the statistical significance or direction of effects.

DISCUSSION

In this study, we examined the associations between religious coping and SUD symptoms and 12-step/mutual-help participation in a large sample of inpatients. Consistent with hypotheses, in bivariate analyses, greater positive religious coping was associated with fewer days of substance use in the previous month, greater use of mutual-help, and very modestly, yet statistically significantly lower craving. Conversely, greater negative religious coping was associated with more substance craving, and lower self-efficacy to maintain abstinence, but not with days of substance use. In multivariable models controlling for sociodemographic and clinical variables, greater negative religious coping was associated with lower confidence in the ability to attain abstinence, whereas greater positive religious coping was associated with greater mutual-help participation.

Our results are consistent with those of prior studies linking spiritual involvement to greater engagement in 12-step programs.[34–36] Our findings add to this literature, and suggest that positive religious coping in particular is an important predictor of engagement in 12-step programs. Indeed, religious affiliation alone may not be associated with 12-step engagement,[37] suggesting that active engagement in the practice and utilization of religion may be a stronger predictor of 12-step engagement. It may be that spiritual/religious belief is consistent with the 12-step framework, which in turn facilitates treatment engagement. Alternatively, it may be possible that 12-step programs which explicitly counsel and train positive religious coping skills (e.g., prayer for helpful intervention, gratitude with current circumstances, acceptance of life on life's terms, and hope for future healing) facilitate more positive, adaptive religious coping. Longitudinal studies designed to assess these and other potential relationships would be informative in determining how and when during SUD treatment to recommend 12-step mutual-help programs.

Negative religious coping was associated with lower self-efficacy to attain abstinence, and was modestly associated with drug craving during detoxification. This is consistent with a prior finding in a sample of outpatients with alcohol use disorder,[17] as well as with findings linking negative religious coping to lower optimism.[38] The tendency to engage in maladaptive religious coping may be associated with a sense of hopelessness about the future or one's ability to change. Although, to our knowledge, this is the first study to identify an association between negative religious coping and craving, this effect was modest and replication is needed.

Notably, self-reported importance of religion and engagement with religious activities in our sample was relatively low. Nonetheless, these results suggest that even among those with moderate levels of religious involvement/affiliation religious coping is associated with key clinical severity indicators. Thus, attending to the potential adaptive and maladaptive elements of religious coping may be indicated even among those with moderate levels of religious involvement. It is possible that the tendency to engage in adaptive (positive) and maladaptive (negative) religious coping is reflective of broader coping strategies; future

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studies will help to clarify how religious coping may fit into the broader repertoire of coping strategies among those with SUD. Of note, among those who reported no involvement or importance of religion or spirituality, the use of religious coping use was negligible; excluding these participants from analysis did not substantively alter results. It is possible that this group may utilize different coping strategies; consideration of multiple domains of coping will be an important future direction.

We did not control for general religious involvement in the multivariate analyses, and thus we cannot distinguish the effect of religious coping with general religious involvement. The high correlations among religious involvement and religious coping variables precluded the ability to examine these variables simultaneously due to issues with collinearity. Nonetheless, we focused on the construct of religious coping because this can be modified with intervention and thus represents an actionable target. Future studies that can better disentangle these effects will provide further insight into the relative contributions of general religious involvement vs. the utilization of religious coping. Indeed, a new and comprehensive measure addresses a wide range of spiritual struggles, including moral struggles, interpersonal struggles, and meaning-related struggles, and may provide utility in understanding the clinical impact of religious coping patterns.[39]

Consistent with recent findings,[40] we also showed that a majority of individuals desired integration of spirituality into their treatment; this included even a substantial portion (36%) of those who did *not* endorse religion as important in their lives. These findings suggest that spirituality and religion may be distinct for many patients. Generally speaking, spirituality is commonly understood as an individual's search for the sacred, thus reflecting their personal spiritual journey. Religion, on the other hand, is often viewed as a culture-bound, institutionally-mediated norm for practicing faith. In many treatment settings, the two constructs are conflated, and it is believed that asking patients about their religious affiliation (i.e., religious denomination) and practice is a proxy for assessing general spiritual interest. Our results suggest otherwise: rather than inquiring about religious beliefs or practice, it is instructive to inquire more broadly about the value placed on spirituality and a personal search for the sacred. Otherwise, we may fail to identify people who may not identify with organized religion, but still find spirituality important in their treatment. Including a spiritual assessment as part of SUD treatment intake forms may identify a subset of patients for whom religious coping may be an important clinical marker.

Our findings suggest potentially important linkages between religious coping and SUD treatment variables. In bivariate analyses, we found greater positive religious coping to be associated with significantly fewer days of use and modestly lower craving. Potentially, positive religious coping may buffer against hopelessness, depression, anxiety, and related symptoms, which in turn mitigates craving. More specifically, positive religious coping may serve as a lens for viewing life events, which cultivates optimism and a sense of hope, and in turn alleviates intense desires for substance use. Concomitantly, a growing body of literature has tied many facets of spiritual/religious life to greater self control; religion appears to increase faithfulness and fidelity to valued standards even when fixed/immediate reward contingencies are not present.[41] Similarly, religion has been tied to lower levels of impulsivity as measured by greater accuracy on cognitive tasks and lower amplitude of error

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related negativity in the anterior cingulate cortex.[42–43] Positive religious coping may influence selection and organization of higher order values, and thereby foster self-regulatory strength and reduced need for substances. At the same time, positive religious coping may be more commonly observed among those with lower severity of SUD and lower levels of craving. All of these possibilities warrant further research.

Limitations of our study include lack of racial diversity among those surveyed and a relatively narrow range of diagnoses (97% alcohol or opioid use disorder). The number of patients surveyed on religious coping is among the largest studied on an inpatient unit and represents a significant strength. Additionally, this study was cross-sectional in nature and thus causality cannot be determined. Prospective studies examining the association between positive and negative religious coping and SUD outcomes over time will help to clarify the nature of the relationships among these variables. Future directions include the validation of screening tools for detecting spiritual involvement among individuals with SUD, and identification of the most effective types of spiritual interventions in acute treatment settings, specifically, those that may successfully engage positive religious coping and mitigate negative religious coping.

CONCLUSIONS

Religious coping is an important variable to assess and a potential target of intervention during the treatment of SUD. Greater positive religious coping was associated with prior engagement in 12-step mutual-help programs; greater negative religious coping was associated with lower abstinence self-efficacy and modestly higher substance craving. Providers are urged to consider the relevance of spirituality in treating individuals with SUD, including those receiving care in acute, inpatient settings. Recognizing that patient interest in spiritual components of mental health does not depend on identification with organized religious institutions is of utmost importance. Interventions designed to enhance positive religious coping and to mitigate negative religious coping may be promising future directions in those with SUD.

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DECLARATION OF INTEREST

Dr. Weiss has consulted to GW Pharmaceuticals, Indivior, and Alkermes.

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Scientific Significance

The findings of this study suggest that positive and negative religious coping are linked with several key SUD recovery variables. Further research to replicate this finding and to assess mechanisms within this potential association is warranted.

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Table 1

Sample Characteristics (N=331)

Sociodemographics	
Age, years (SD)	38.0 (14.4)
Gender, % female	30.8
Race, % Caucasian	93.4
Employment status, % employed	48.6
Marital status, % single	47.4
Primary substance use disorder diagnosis	
Alcohol use disorder, %	61.0
Opioid use disorder, %	36.0
Involvement in spirituality and religion (responses range from 1 “not at all” to 5 “very”)	
Importance of spirituality, mean (SD)	3.08 (1.56)
Importance of religion, mean (SD)	2.40 (1.52)
Extent of belief in God, mean (SD)	3.28 (1.58)
Interest in including spirituality in mental health treatment, mean (SD)	3.10 (1.57)
Belonging to a faith community/congregation	2.10 (1.45)
Religious Coping Scale	
Positive religious coping, mean (SD)	14.51 (6.72)
Subscale internal consistency (Cronbach's alpha)	.95
Negative religious coping, mean (SD)	11.06 (5.01)
Subscale internal consistency (Cronbach's alpha)	.90

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Table 2

Correlations between Religious Coping and Clinical Variables

	1	2	3	4	5	6	7	8	9	10
1. Positive religious coping	1									
2. Negative religious coping	.47**	1								
3. Craving	−.13**	.13*	1							
4. Days of primary drug use	−.26**	−.01	.30**	1						
5. Total number of substances used in past month	−.10	.10	.40**	.16**	1					
6. Abstinence self-efficacy	.07	−.11*	−.46**	−.18**	−.25**	1				
7. Mutual-help meeting attendance	.25**	.18**	−.04	−.11*	−.08	.04	1			
8. Mutual-help meeting activities	.37**	.24**	−.10	*.26**	−.19**	.09	.63**	1		
9. Importance of spirituality in one's life	.73**	.27**	−.13*	−.21**	−.17**	.08	.24**	.36**	1	
10. Importance of religion in one's life	.70**	.21**	−.18**	−.20**	−.20**	.06	.09	.25**	.69**	1

* p<.01,

** p<.001

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Table 3

Regression Model for Predictors of Abstinence Self-Efficacy

Variable	B	SE_B	t	p	R^2
Step 1					.09
Marital status	0.07	0.09	0.73	.46	
Age	0.01	0.01	1.01	.31	
Sex	0.02	0.28	0.08	.93	
Education	0.40	0.16	2.76	<.01	
Step 2					.13
Days of primary drug use	−0.05	0.02	−2.78	<.01	
Number of substances used in the past 30 days	−0.20	0.08	−2.50	.01	
Primary opioid use disorder	0.17	0.34	0.51	.61	
Step 3					.14
Positive religious coping	0.02	0.02	0.99	.32	
Negative religious coping	−0.06	−0.12	−1.98	<.05	

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Table 4

Regression Model for Predictors of Mutual-Help Participation

Variable	B	SE_B	t	p	R^2
Step 1					.03
Marital status	0.02	0.03	0.74	.46	
Age	0.00	0.00	0.62	.54	
Sex	−0.08	0.09	−0.80	.42	
Education	0.02	0.05	0.42	.67	
Step 2					.12
Days of primary drug use	−0.02	0.01	−3.52	<.001	
Number of substances used in the past 30 days	−0.07	0.03	−2.41	.02	
Primary opioid use disorder	0.16	0.11	1.44	.15	
Step 3					.21
Positive religious coping	0.03	0.01	3.98	<.001	
Negative religious coping	0.02	0.01	1.87	.06	