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Religion and the presence and severity of depression in older adults

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Abstract

Objectives—To examine the associations of dimensions of religiousness with the presence and severity of depression in older adults.

Design—Cross-sectional analysis of clinical and interview data.

Setting—Private university-affiliated medical center in the Southeastern US.

Participants—Four hundred seventy-six psychiatric patients with a current episode of unipolar major depression, and 167 nondepressed comparison subjects, ages 58 years and older (mean = 70, SD = 7).

Measurements—Diagnostic Interview Schedule, Montgomery-Åsberg Depression Rating Scale, Duke Depression Evaluation Schedule.

Results—Presence of depression was related to less frequent worship attendance, more frequent private religious practice, and moderate subjective religiosity. Among the depressed group, less severe depression was related to more frequent worship attendance, less religiousness, and having had a born-again experience. These results were only partially explained by effects of social support and stress buffering.

Conclusions—Religion is related to depression diagnosis and severity via multiple pathways.

Keywords

religion; depression; older adults

Numerous studies have found associations between religion and reduced depression in older adults^{1–5}. Research has drawn a distinction between public and private forms of religiousness, and has suggested that these associations may be partially attributed to psychosocial mediators including social support and coping with stress⁶.

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This study extends this body of research in two respects. First, while recent research has focused on samples of the general population^{2,3} or of medical patients^{4,5} subsequently screened for symptoms of depression, participants in this study were drawn from a population of psychiatric patients receiving treatment for major depression, and are compared with a non-patient sample. Second, this study is the first to examine born-again religious experience, a reported distinct occasion prompting a deepened religious commitment, in relation to depression. While a significant proportion of the US population identifies as born-again⁷, its association with mental health remains open to speculation. Two related but distinct outcomes are assessed: presence of depression and severity of depression. Different factors may be related to the likelihood of developing depression and the mitigation of its effects once it occurs, thus each measure has specific potential clinical implications.

METHOD

Research Design

Participants aged 58+ were enrolled between November 1994 and December 2008 in the Neurocognitive Outcomes of Depression in the Elderly study⁸, conducted at Duke University. The depressed group was recruited from among Duke Psychiatric Service patients meeting DSM-IV criteria for a current episode of unipolar major depression. The comparison group was recruited from the Center for Aging Subject Registry at Duke University. All non-clinical measures were administered by trained interviewers as part of the Duke Depression Evaluation Schedule⁹.

Measures

Depression—Depressed participants were assessed by a geriatric psychiatrist using the Montgomery-Åsberg Depression Rating Scale (MADRS)¹⁰.

Religious Factors—Six religious factors were measured: worship attendance, religious media use, private religious practice, subjective religiosity, group affiliation, and report of born-again or other life-changing religious experiences. Frequency of worship attendance, frequency of viewing/listening to religious television or radio, and frequency of private religious practice – (including prayer, meditation, and Bible study) were each measured on 6-point scales. Subjective religiosity was measured on a 3-point scale of personal religious importance (very important, somewhat important, not important at all).

Participants were asked their religious group preference, including specific denomination. Reflecting the Southeastern US population, most were Christians and were further coded as Mainline Protestant (43%), Conservative Protestant (31%), or Catholic (11%). Members of any non-Christian religious group were classified together as “Other religion” (9%) while those reporting no religious preference were classified as “No religion” (6%).

A final set of questions asked participants about their religious experiences. The first asked, “Are you a born-again Christian? Born-again is defined as a specific conversion experience, i.e. a specific occasion when you dedicated your life to Jesus.” Participants who responded “no” to this question were then asked, “Have you ever had any other religious experience that changed your life?”

Demographics—Self-reported demographic characteristics included sex, age, race (recoded as White or Non-White), and years of education.

Vascular Health—The presence of 4 comorbid vascular health conditions (diabetes, heart trouble, hypertension, and hardening of the arteries) was assessed by self-report. For each condition reported, participants were asked whether it interfered with their activities “not at all,” “a little,” or “a lot.” Responses to these items were added to create a combined 0 – 12 scale of vascular comorbidity severity.

Social Support—The present analyses use the 10-item subjective social support subscale of the Duke Social Support Index⁹.

Stress—Participants rated their average level of stress during the previous 6 months on a 10-point scale.

Analysis

Statistical analyses examined factors related to the presence or absence of depression in the full sample of depressed and non-depressed participants, and to the severity of depression for those in the depressed group. A hierarchical approach was used to test whether these relationships were explained by differences in perceived social support and stress. Logistic regression was used to analyze the relationship between depressed/comparison group membership and religious factors. The initial model controlled for demographic and health covariates only, while the second model also added social support and stress. Depression severity analyses were conducted using linear regression, using the same two-step model as above, with MADRS score as the outcome variable.

RESULTS

A total of 627 participants were enrolled, including 476 depressed patients and 167 non-depressed comparison subjects. The sample was primarily female (68%) and White (84%), with a mean age of 70 years ($SD = 7$); there were no significant sex, race, or age differences between groups. However, there were mean differences in terms of education and physical health: depressed participants had 1.6 fewer years of education, $t_{621} = 7.00, p < .001$, and scored 0.9 points higher on the scale of vascular comorbidity severity, $t_{620} = -6.21, p < .001$. After listwise deletion due to missing data, 434 depressed and 163 comparison participants remained in the multivariate analyses (total $N = 597$).

Results for all multivariate analyses are reported in Table 1. Logistic regression results in Model A indicate that, controlling for demographic and health factors, greater frequency of worship attendance was related to lower likelihood of the presence of depression, while frequency of private religious activity was related to higher likelihood of depression. When the potential explanatory factors of social support and stress were added in Model B, only frequency of private religious activity remained independently related to higher likelihood of the presence of depression. Model statistics indicate that model B accounts for a significantly greater proportion of the variance in the data than model A.

Results of the hierarchical linear regression analyses of depression severity in Model A show that less depression severity was related to more frequent worship attendance, lower subjective religiosity, and reporting a born-again experience. Although neither social support nor stress was significantly related to depression severity, Model B did fit the data significantly better than Model A, while indicating the same pattern of significant religious variables.

DISCUSSION

Key findings included directional contrasts in the relationships of different dimensions of religiousness with the two outcomes of depression presence and severity. Consistent with previous research, more frequent attendance at public worship services was associated with both lower presence and severity of depression. Psychosocial mediation was partially supported by the disappearance of the relationship between religious attendance and depression occurrence in the second logistic regression model. However, among the depressed, the relationship between more frequent attendance and less severity of depression was not explained by the impact of social support or stress. By contrast, private religious activity was related to higher occurrence of depression, and unrelated to its severity among the depressed, while having had a born-again experience was related to less severe depression among the depressed, but was unrelated to depression occurrence. One interpretation of these results may be that while social and emotional dimensions of religion have beneficial effects on depression (perhaps by promoting social integration and positive coping), cognitive elements of religion have a countervailing negative impact (perhaps by prompting rumination on whether one is meeting the expectations of beliefs and behavior promoted by religious organizations).

The association between having had a born-again experience and the severity of depression calls for more research to understand the impact of this and other spiritual experiences on mental health. Approximately 44% of the US population describe themselves as born-again⁷, yet little is known about the mechanisms by which this type of experience might influence mental health. Born-again status may be associated with positive emotional states or with more effective religious coping mechanisms. However it is important to note that the sample for the present study was drawn from the Southeastern US, a region where born-again Christians are likely to be both more demographically common and more socially accepted than other areas, and thus may differ from born-again individuals outside this region.

LIMITATIONS

As a cross-sectional study, the directionality of the relationships observed could not be addressed. In addition, the use of different methods of participant recruitment between the patient and healthy volunteer samples makes interpretation of the prevalence results less certain, since these groups differed on dimensions including socioeconomic status that can independently influence depression. Also, the sample was geographically limited to the Southeastern US, limiting generalizability. Finally, the way in which religious experiences were measured precluded the possibility of participants reporting both a born-again and another type of religious experience.

CONCLUSIONS

Religion has a multidimensional relationship with depression in late life. This study found social, emotional, and cognitive elements of religiousness to be associated with both the presence and severity of depression in a large sample of depressed psychiatric patients and non-depressed comparison subjects. These findings help to substantiate the idea that religion is associated with late-life depression via multiple pathways, including social support and stress buffering, but also supports the premise that religion has unique effects not explained by these psychosocial mediators. Clinicians should be prepared for the possibility of countervailing effects of different types of religious expression, and be sensitive to their potential as indicators of changes in depression status.

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TABLE 1

Multivariate analyses of the relationship of religious and explanatory factors with presence and severity of depression

Depression Status (N = 597, including 434 depressed patients and 163 comparison subjects)		Depression Severity (MADRS, N = 434 depressed patients)			
		Model A ^a		Model B ^a	
	OR	(95% CI)	p ^b	OR	(95% CI)
Constant					
				31.25	< .001
					32.24
					< .001
<i>Religious Factors</i>					
Worship attendance	0.67	(0.57 to 0.78)	< .001	0.81	(0.64 to 1.02)
Religious media use	1.07	(0.93 to 1.25)	.342	0.99	(0.79 to 1.24)
Private religious activity	1.21	(1.04 to 1.42)	.015	1.36	(1.08 to 1.72)
Subjective religiosity	1.09	(0.69 to 1.72)	.713	0.89	(0.45 to 1.79)
<i>Group Affiliation^d</i>					
Conservative Protestant	1.59	(0.85 to 2.90)	.151	1.32	(0.52 to 3.36)
Catholic	0.83	(0.43 to 1.61)	.586	0.92	(0.35 to 2.41)
Other religion	1.42	(0.65 to 3.14)	.381	0.98	(0.31 to 3.12)
No religion	1.36	(0.52 to 3.54)	.535	1.08	(0.24 to 4.77)
<i>Religious/Spiritual Experiences</i>					
Born again	1.19	(0.67 to 2.10)	.556	1.05	(0.43 to 2.56)
Life-changing	1.14	(0.49 to 2.65)	.761	1.65	(0.51 to 5.36)
<i>Explanatory Factors</i>					
Social support				0.61	(0.53 to 0.72)
Stress				2.19	(1.85 to 2.60)
<i>Model Statistics</i>					
		$\chi^2_{15} = 143.71$			$\chi^2_{17} = 414.77$
		Nagelkerke $r^2 = .310$			Nagelkerke $r^2 = .725$
					Stepwise $\chi^2_2 = 271.06, p < .001$
					$F_{15,418} = 3.10, p < .001$
					adjusted $r^2 = .068$
					$F_{17,416} = 3.28, p < .001$
					adjusted $r^2 = .082$
					r^2 change = .018, $p = .015$

^a1 = depressed patient, 0 = comparison subject

^bBased on Wald χ^2 statistics with df = 1

^cBased on t statistics with df = 418 (Model A) or df = 416 (Model B)

^dComparison group is mainline Protestant