

# Does Religion Influence Patient Satisfaction?

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**Objectives:** To determine if patient satisfaction varies by level of individual religiosity. **Methods:** Data from the Health and Retirement Study (HRS), a nationally representative sample of older adults in the United States, were used to assess the relationship between religious salience (importance) and patients' satisfaction with their health care encounters. **Results:** Higher levels of religious salience are signifi-

cantly related to being very satisfied with one's health care, even after demographic, social, and health variables are taken into account. **Conclusions:** Researchers, practitioners, and administrators should be aware that religion may significantly influence how patients rate their health care experiences.

**Key words:** religion, patient satisfaction, health care, aging

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Patient satisfaction is a critical concept for researchers, practitioners, and administrators to understand because it is commonly used to assess quality of care and can predict a wide variety of health-related behaviors and outcomes. As a proxy for quality of care, satisfaction is used to compare different sources of health care, detect problems for potential improvement, and identify unhappy patients, among other functions.<sup>1</sup> In addition, patient satisfaction has garnered an increasing amount of attention because of its relationships with other health-related outcomes. For example, satisfaction with care has been linked to treatment compliance,<sup>2-4</sup> recall of medical advice,<sup>5</sup> utilization of care,<sup>6</sup> and health-related quality of life among diabetics.<sup>7</sup>

Despite the potential importance of

this concept as both a measure of health care quality and a predictor of subsequent health-related outcomes, the determinants of patient satisfaction are not entirely clear. Although many researchers have established demographic and health-related correlates of satisfaction, such as age,<sup>1,2,8</sup> race,<sup>9</sup> and health status,<sup>10</sup> less attention has been paid to psychosocial or cultural factors. In fact, no studies were found that addressed the possible influence of religion on patient satisfaction.

Although often neglected in the medical and public health literatures, religion is an important factor to study because of its significance to many adults in the United States. Religion may be particularly salient for older adults, because they are more likely to report that religion is very important in their lives, belong to religious organizations, pray, and attend church.<sup>11,12</sup> For example, over three fourths of elderly respondents maintain that religion is very important in their lives (ie, they have high levels of religious salience).<sup>13,14</sup> Furthermore, weekly church attendance rates increase at every age group, with those 65 and older reporting the highest level of attendance.<sup>13,14</sup> Both

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the significance of religion in many older adults' lives and the extent of their involvement in religious activities may help to explain the influence of religion in a wide variety of areas, including health. In fact, hundreds of studies have already documented religion's effect on a diverse set of health-related behaviors and outcomes (for review, see Koenig, et al<sup>15</sup>). For example, religious variation has been found within physical and mental health outcomes, health behaviors such as smoking and drinking, and even the use of health care services.

However, information on a possible connection between religion and attitudes related to the health care system is lacking. To explore this relationship, a national survey of older adults is used to assess the effect of religious salience on patient satisfaction with the quality, cost, and convenience of their health care encounters. Possible demographic, socioeconomic, and health-related predictors of satisfaction are also examined.

## **METHODS**

### **Data**

Data for the analyses come from the Health and Retirement Study (HRS). The HRS is a nationally representative survey of noninstitutionalized older adults in the United States. It was originally designed to examine preretirement-age adults (aged 51-61 in 1992).<sup>16</sup> In 1998, the original HRS sample was combined with 3 different samples: Assets and Health Dynamics among the Oldest Old (AHEAD), which represents those born between 1890 and 1923; Children of the Depression (CODA), which represents those born from 1924 to 1930; and the "War Babies," who were born between 1942 and 1947. This created a data set (HRS 1998) representative of all individuals born between 1890 and 1947.<sup>16</sup> The HRS has a multistage probability sampling design that includes oversamples for African Americans, Hispanics, and residents of Florida.<sup>16</sup> After individuals outside this age range were excluded, there were 14,806 respondents. Of these, those missing data for the religion or satisfaction questions were also excluded (n=25 and n=224, respectively). The final sample size is 14,557 respondents.

### **Measures**

The primary independent variable measures an individual's religious sa-

lience. The wording of the question is as follows: "How important would you say religion is in your life: is it very important, somewhat important, or not too important?" In preliminary analyses, the latter 2 categories were not significantly different in respect to satisfaction and, thus, were combined. Therefore, religious salience is measured with a dichotomous variable that compares individuals who report that religion is very important in their lives versus all others. The dependent variable of interest is satisfaction with health care. For this measure, the respondents were asked the following question: "Now, thinking about the quality, cost, and convenience of your health care, altogether would you say that you are very satisfied, somewhat satisfied, or not satisfied at all with your health care?" Responses were reverse coded so that higher scores represent higher levels of satisfaction.

**Sociodemographic variables.** Age is measured as a continuous variable. Gender is a dichotomous variable with females representing the reference group. The race and ethnicity variables indicate whether the individual is non-Hispanic white, non-Hispanic Black, or Hispanic. Marital status is measured with a dichotomous variable comparing married individuals to those who are divorced, separated, widowed, or never married. Education is a count variable indicating the number of years of schooling the respondent completed. The highest year (17) includes all individuals with greater than a college degree. Net worth, which is considered to be a better indicator of financial status than income for older adults,<sup>17,18</sup> is measured as a continuous variable in units of \$100,000.

**Health status.** Due to the known relationship between health and patient satisfaction,<sup>10</sup> the regression models also control for several measures of health status. Self-rated health is measured with a question asking respondents to evaluate their health over the past 2 years. More specifically, individuals were asked, "Would you say your health is excellent, very good, good, fair, or poor?" Higher scores represent worse self-rated health. Functional limitations were measured with 10 questions regarding activities of daily living (eg, walking one block, kneeling, or getting up from a chair). The variable used indicates whether or not

**Table 1**  
**Descriptive Statistics and Correlations for Religious Salience, Covariates, and Satisfaction with Health Care<sup>a</sup>**

	N	Percent <sup>b</sup>	Correlation With Satisfaction <sup>c</sup>
<b>Satisfaction With Health Care</b>			
Very satisfied	7641	52	--
Somewhat satisfied	5830	40	--
Not satisfied at all	1086	7	--
<b>Religious Salience</b>			
Very important	9336	64	***
Somewhat or not too important	5221	36	
<b>Sociodemographic Variables</b>			
Age (51-106, mean)	67.0 <sup>d</sup>	--	***
<b>Gender</b>			
Female	8230	57	n.s.
Male	6327	43	--
<b>Race/Ethnicity</b>			
NH Black	2083	14	***
Hispanic	1111	8	n.s.
NH White	11363	78	--
<b>Marital status</b>			
Married	9436	65	***
Unmarried	5121	45	--
Education (0-17, mean)	11.9	--	***
Net Worth (in \$100,000's; -66.7-865.3, mean)	3.26	--	n.s.
<b>Health Variables</b>			
Self-rated health (1-5, mean)	2.94	--	***
<b>Any activity limitations</b>			
Yes	9465	65	***
No	5092	35	--
Chronic conditions (0-6, mean)	1.10	--	***
Depressive symptoms (0-8, mean)	3.24	--	***

**Note.**

a HRS, 1998; N=14,557; Unweighted data

b Percentages may not add to 100 due to rounding.

c Based on Wald chi-square tests; one test per set of variables (ie, salience)

d For ordinal or count variables, means are displayed instead of frequencies

\*  $P < .05$ ; \*\*  $P < .01$ ; \*\*\*  $P < .001$ ; n.s. = nonsignificant

the respondent had any difficulties with the chosen activities. The final measure of physical health is the total number of chronic conditions. This count represents the presence of hypertension, heart disease, cancer, diabetes, chronic lung disease, and stroke. One measure of mental health is also included. The CES-D depression scale<sup>19,20</sup> measures depressive symptoms with a scale created with 8 individual items. These items include questions about feeling depressed, having poor sleep quality, being lonely, hav-

ing a poor appetite, and having other symptoms of depression.<sup>16</sup> Higher scores indicate poorer mental health.

**Analyses**

Univariate analyses provide frequencies for each of the variables included in the regression models. In addition, correlations between the controls variables and satisfaction are determined and significance levels (using Wald chi-square tests) are shown. Due to the categorical nature of the outcome variable, multino-

**Table 2**  
**Multinomial Logistic Regression Estimates of the Relationship**  
**Between Religious Salience and Satisfaction With Health Care<sup>a,b</sup>**

	Level of Satisfaction <sup>c</sup>	
	Somewhat Satisfied	Very Satisfied
<b>Religious Salience</b>		
Very important	1.02	1.22**
<b>Sociodemographic Variables</b>		
Age	1.04***	1.07***
Female	0.93	0.98
Black	1.02	0.84
Hispanic	0.83	0.85
Married	1.33***	1.34***
Education	1.07***	1.08***
Net Worth	1.01*	1.01
<b>Health Variables</b>		
Self-rated health	0.86***	0.71***
Any activity limitations	0.86*	0.73***
Chronic conditions	1.04	1.17***
Depressive symptoms	0.93***	0.91***
<b>Intercept</b>	0.28***	0.12***

**Note.**

a HRS, 1998; N=14,557; Weighted data

b Logistic Regression Odds Ratios

c The reference category is "Not Satisfied At All"

\*  $\leq .05$ ; \*\*  $\leq .01$ ; \*\*\*  $\leq .001$  (2-tailed test)

mial logistic regression models are used for the multivariate analyses. Estimates are displayed as odds ratios. For the control variables with minimal amounts of missing data (ie, data are missing for less than 5% of the respondents), mean values are imputed. Values for missing data in the primary independent and dependent variables were not imputed, but are instead dropped from the respective analyses.

**RESULTS****Sample Characteristics**

Approximately half of the sample reports being very satisfied with their health care, and most of the remainder are somewhat satisfied (Table 1). Less than 10% report the lowest level of satisfaction. Similarly, almost two thirds of the respondents report that religion is very important to them. The mean age of the sample is 67 years, and just over half of the respondents are female. Small propor-

tions of the sample are Black or Hispanic. Nearly two thirds are married, and most have a high school education. Net worth is high, with the average respondent having a net worth of over \$300,000. The health variables indicate that most respondents rate themselves as having good health and approximately two thirds have at least one activity limitation. On average, individuals have one chronic condition and just over 3 depressive symptoms.

The final column in Table 1 displays the results of the Wald chi-square tests. These tests indicate that several of the demographic and social characteristic variance estimates are not significantly different from zero. Specifically, gender, ethnicity, and net worth all fail to achieve significance at the .05 level. Accordingly, these variables are excluded from the following regression analyses.

**Regression Analyses**

The multinomial logistic regression

estimates are provided in Table 2. The odds ratios represent the relationships between salience and levels of satisfaction, controlling for the sociodemographic and health variables. The models indicate that religious salience is significantly related to the highest level of satisfaction (Very Satisfied), but not the middle level (Somewhat Satisfied). Specifically, individuals with higher levels of religious salience have a 22% higher likelihood of being very satisfied, compared to individuals with low levels of salience (O.R.=1.22,  $P<.01$ ).

Sociodemographic variables that are significantly associated with levels of satisfaction include age, marital status, and education. Here, higher levels of satisfaction are seen for older adults, those who are married, and those with higher educations. The various measures of health included in this study are also significantly related to satisfaction. Individuals with worse subjective health, any activity limitations, and more depressive symptoms are all less likely to be satisfied with their health care compared to those with better physical and mental health. Interestingly, those individuals with more chronic conditions were more likely to be highly satisfied than were individuals with fewer conditions.

## DISCUSSION

The current study examines how religious salience is related to overall patient satisfaction with the quality, cost, and convenience of past health care encounters. Using nationally representative data, the findings indicate that religion is positively associated with levels of patient satisfaction. More specifically, a high level of religious salience is significantly related to being very satisfied with one's health care, even after demographic, social, and health variables are taken into account. This finding is important because it gives researchers, practitioners, and health care administrators additional insight into the factors that may influence how patients rate their experiences with the health care system.

Certain previous findings regarding other factors that influence patient satisfaction were confirmed by the current study. For example, older individuals tend to be more satisfied with their health care.<sup>1,2,8</sup> Interestingly, no race differences were seen here, in contrast to previous

work.<sup>9</sup> Of the social characteristics included in this study, having greater social resources, such as a spouse or more education, was positively related to satisfaction. Finally, as found before, better health is associated with greater patient satisfaction.<sup>1,8,10</sup> One exception is that individuals with more chronic conditions have significantly higher levels of satisfaction with their health care. One possible explanation for this finding is that these individuals have more frequent contact with their physicians and the health care system. A closer relationship may lead to greater trust and familiarity, which could be expected to increase levels of satisfaction.

Patient satisfaction is garnering an increasing amount of attention because of its correlations with other important outcomes, as well as its use as a measure of quality of care. As noted earlier, satisfaction is associated with numerous health-related behaviors, such as treatment compliance<sup>2-4</sup> and utilization of services.<sup>6</sup> In addition, the changing nature of the health care system has elevated the need for a better understanding of this concept. Health care administrators (and researchers) often consider satisfaction to be a proxy for quality even though the exact meaning of the concept is not well understood.<sup>4,21,22</sup> More specifically, the practice of treating patients as consumers and using research findings, such as quality assessments, to make management decisions necessitates further exploration of the predictors of patient satisfaction.<sup>22</sup>

Although the current study is unable to provide evidence of causal pathways, it is still interesting to speculate on possible explanations for the relationship between religion and patient satisfaction. To begin, it must be noted that religious individuals may be more satisfied with all aspects of their lives. Indeed, previous research supports religious variation in all facets of subjective well-being, including levels of life satisfaction.<sup>15,23</sup> Thus, the higher levels of patient satisfaction seen in the current study may simply reflect a greater overall satisfaction of religious individuals in all areas.

The higher levels of satisfaction seen for more religious individuals may stem from several factors, such as general religious beliefs and teachings or, perhaps, aspects of socialization derived from in-

volvement with a religious organization. For example, it is possible that the effects seen here are due to religious teachings that encourage adherents to hold more positive worldviews and more pro-social attitudes.<sup>24</sup> In addition, health care-related satisfaction may vary because religious individuals may believe that health care providers are tools of God. If physicians are believed to be guided by a higher being, they are apt to be perceived as more trustworthy and even more skilled, which would presumably increase satisfaction ratings. Beyond personal faith, belonging to a religious organization may also influence individual's attitudes. Two older studies found that church attendance is related to general trust in people, with more frequent attendance being associated with higher levels of trust.<sup>25,26</sup> Because individuals are apt to be more satisfied with providers that they trust, this may be one way through which religion influences patient satisfaction.

A connection between religious salience and satisfaction could also follow a more indirect pathway—through the provider. For example, previous research has shown that religious individuals are viewed as friendlier, more interested, and more open compared to those for whom religion is less important.<sup>27</sup> Prior studies have also found that a physician's personal feelings about a patient are correlated with patient satisfaction.<sup>28,29</sup> In other words, if physicians perceive religious individuals more positively, they may presumably alter their behavior accordingly, and this could lead to higher satisfaction ratings by the patient.

Implications stemming from this type of research may be more evident once these potential mechanisms, and others, are explored in greater depth. Although evidence of a positive connection between religion and various health-related attitudes and behaviors is found in the literature (and in the current study), this type of work does not support forcing religion on the nonreligious. Instead, these studies are informative to health care providers primarily for the insight they can add concerning the predictors of patient satisfaction or other health-related outcomes. For instance, if it is found that religious salience influences satisfaction through greater trust, improvements in satisfaction may be realized by extending the amount of time physicians can spend

getting to know their patients or by increasing physician knowledge of effective patient-physician communication skills. Information on "nonmutable" risk factors, such as low religious salience, can also be useful for the purpose of targeting. Although alerting health care providers to pay special attention to non-religious individuals is not warranted, this type of information may be valuable as researchers and providers begin to create a profile of who is most likely to be dissatisfied with their health care experiences.

However, the preliminary nature and limitations of this study must be taken into account before any conclusions are drawn. As mentioned above, longitudinal data would be better able to address the issue of temporal ordering (one criteria of causality) among the primary independent and dependent variables. In general, more detailed analyses are needed to provide information about the mechanisms guiding this relationship. Moreover, the current study uses a very limited measure of satisfaction, based on only one question. A more extensive measure, preferably with tests of reliability and validity, would strengthen the results of this study.<sup>30</sup> Finally, information about different aspects of religion, such as service attendance, affiliation, or specific religiously based health-related beliefs, would help to clarify its relationship with patient satisfaction.

Despite these limitations, this study takes a first step to understanding a previously ignored determinant of patient satisfaction. It also provides support for future studies in this area and gives continued support for exploring the role of religion in health care behaviors and outcomes. ■

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