

Examining the Impact of Religious Involvement on Health

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Data from the U.S. Congregational Life Survey—a nationwide survey of worshipers—were used to examine the relationship between religious involvement and health among worshipers in the United States. Congregations were selected by the National Opinion Research Center (NORC) at the University of Chicago to be representative of all denominations and faith groups across the country. All worshipers in each participating congregation completed a survey in worship, providing extensive data about individuals actively involved in religious life. Survey topics included worshipers' faith background and current membership, their participation in congregational activities, and what they value in the congregation. Two hypotheses were examined. The first hypothesis suggests that worshipers who experience more depressive symptoms (e.g., crying spells, apathy, etc.) will be less satisfied with their health. The second hypothesis states that this relationship will be moderated by the extent to which worshipers are actively involved in their congregations, such that among those more involved in the congregation the relationship between depressive symptoms and satisfaction with one's health will be weaker. Congregational involvement includes frequent worship attendance, participation in small groups, and serving in leadership roles in the congregation. The first hypothesis was supported, while the second was not. Subsequent analyses revealed that involvement in private devotions (instead of congregational involvement) had a moderating effect on the relationship between depressive symptoms and satisfaction with one's health. Implications of the results for congregations and worshipers are discussed.

Measures

Dependent Variable

Satisfaction with health was measured on a 7-point Likert-type scale in which the two end-points and the mid-point of the scale were labeled (1 = “delighted,” 4 = “mixed feelings,” 7 = “terrible”). (Satisfaction with eight other aspects of life—from “the things you own” to “your own happiness” and “your spiritual life”—were measured on the same scale, but are not included here.) Responses to this item were reversed scored so that high scores indicate greater satisfaction with health.

Independent Variables

Depressive symptoms were measured with eight items from the 20-item Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977). Responses were made on a 4-point scale (1 = “rarely/none,” 2 = “some/a little,” 3 = “moderate amount,” 4 = “often/always”). A confirmatory factor analysis (Krause, 2005) revealed that these indicators capture two underlying factors. The first, which is referred to as depressed affect, assesses the cognitive-affective aspects of depressive symptoms, including feeling sad, blue, and depressed. The second factor (depressed behaviors or somatic symptoms) captures the physiological manifestations of psychological distress including difficulty sleeping, having a poor appetite, and having little energy. Four items load on each factor.

Scale scores were calculated as the mean across the four items loading on each factor (see item and scale statistics in Table 1). The correlation between the two scale scores was .62 in the present sample.

Table 1
Item and Scale Statistics for Depressive Symptoms

Depressive Symptoms: In the past week, how often have you . . . ? Responses on a 4-point scale (1=rarely/none, 2=some/a little, 3=moderate amount, 4=often/always)

Depressed Affect:	Mean	S.D.
Felt depressed.....	1.61	.79
Felt sad	1.75	.77
Had crying spells.....	1.26	.58
Felt you could not shake off the blues, even with the help of family and friends	1.24	.58
 Scale	 1.46	 .56
Coefficient Alpha = .83		
 Depressed Behavior:		
Not felt like eating or had a poor appetite.....	1.24	.56
Slept restlessly.....	1.74	.86
Felt you could not get going.....	1.49	.71
Felt that everything you did was an effort.....	1.52	.76
 Scale	 1.50	 .54
Coefficient Alpha = .72		

Congregational involvement was measured using six variables. These were chosen to reflect the variety of ways worshipers connect with their congregations—attending worship, participating in small groups, participating in congregational service activities, serving in a leadership role, participating in decision making, and financial giving. These were measured as follows:

Frequency of worship attendance was measured on a 7-point scale (1 = “this is my first time”; 2 = “hardly ever or special occasions only,” 3 = “less than once a month,” 4 = “once a month,” 5 = “two or three times a month,” 6 = “usually every week,” and 7 = “more than once a week”). In creating the involvement index, responses were recoded so that those who attend at least usually every week received a score of 1 and all others received a score of 0.

Another question asked worshipers whether they participate in three types of congregational small groups—religious education classes, prayer or Bible study groups, and fellowships or social groups. To create the involvement index, those who participate in at least one type of small groups received a score of 1, and worshipers who do not participate in any of these small groups received a score of 0.

Participation in service activities was asked in a similar manner, with worshipers asked to indicate if they participate in their congregation's service or outreach/evangelism activities. Those who are involved in either outreach or evangelism received a score of 0 and those not involved in either received a score of 0.

Worshipers were asked if they hold any of six types of leadership roles in their congregations (e.g., member of the governing board, leader of a group, religious education teacher, etc.). There was also an "other" option in which respondents could indicate holding a leadership position other than the six already listed on the survey. Those who report holding at least one leadership role received a score of 1 and others received a score of 0.

Participation in decision making tapped both the feeling that one has the opportunity to participate in congregational decision making and the extent to which one does participate. Scores ranged from 1 = "I have not been given an opportunity to participate" to 4 = "I have been given the opportunity and often participate." Responses were recoded so that those indicating they had been given the opportunity to participate received a score of 1 and others received a score of 0.

Giving measured the percentage of income given to the congregation, and scores ranged from 1 = "I do not contribute financially here" to 5 = "I give 10% or more of net income regularly." To calculate the involvement index, those who give at least 5% of net income received a score of 1 and others received a score of 0.

After all involvement measures were recoded, these six items were combined into one measure as a simple count of the ways in which worshipers are involved. Recoded scores on the six types of involvement were summed to provide a score from 0 = no involvement to 6 = involved in all six activities.

Involvement in Private Devotions was measured with one item that asked respondents about the frequency of their "private devotional activities (such as prayer, meditation, reading the Bible alone)." Scores ranged from 1 = "every day or most days" to 6 = "never." Responses were reversed scored so that high scores indicate more frequent private devotional activities.

Demographic Control Variables

Age was a continuous variable indicating the respondent's age at the time of the survey.

Gender was a dichotomous variable, with 1 = "female" and 2 = "male."

Education was scored on an 8-point scale from 1 ("no formal schooling") to 8 ("master's, doctorate, or other graduate degree").

Marital status was assessed with an 8-point scale that was subsequently recoded to two categories: not married (including never married, divorced, widowed, separated, and living in a committed relationship) = 1; married (including remarried after divorce or being widowed) = 2.

Table 2
Item and Scale Statistics

	Mean	S.D.
Dependent variable:		
Satisfaction with Health (R)	5.38	1.42
Independent variables:		
Depressed Affect	1.46	0.56
Depressed Behavior	1.50	0.54
Congregational Involvement:		
Frequency of worship attendance	0.83	0.37
Participation in small groups	0.50	0.50
Participation in service activities	0.28	0.45
Serving in leadership roles	0.39	0.39
Giving	0.45	0.50
Participation in decision making	0.32	0.47
Involvement Scale	2.69	1.85
Private Devotions (R)	4.77	1.50
Demographic Control Variables:		
Age	47.28	16.00
Gender	1.39	0.49
Highest level of education	5.67	1.72
Marital status	1.33	0.47

Results

Hypothesis 1: Worshipers who experience more depressive symptoms, will be less satisfied with their health.

A simple correlation between depressive symptoms and satisfaction with health reveals a strong negative correlation with both depressed behavior ($r = -.290$; $p < .001$) and depressed affect ($r = -.265$; $p < .001$). Using multivariate regression to add the control variables (Model 2 in Table 3) shows that both depressed behaviors and depressed affect help predict satisfaction with health after controlling for age, gender, education and marital status, though depressed behaviors is a much stronger predictor. These findings support Hypothesis 1—those with more depressive symptoms are less satisfied with their health.

Hypothesis 2: The relationship between depressive symptoms and satisfaction with health will be moderated by the extent to which worshipers are actively involved in their congregations, such that among those more involved in the congregation the relationship between depressive symptoms and satisfaction with one's health will be weaker.

Model 3 in Table 3 shows regression results when the index of congregational involvement is added to the previous regression, and Model 4 shows the addition of the two interaction terms (multiplicative terms for “depressed behaviors x involvement” and “depressed affect x involvement”). Participation in the congregation does not help predict satisfaction with one’s health, nor do either of the interaction terms. Thus, it appears that satisfaction with one’s health does not differ between those who are involved in their congregations in many ways and those minimally involved in their congregations. Likewise, participation in the congregation does not mitigate the relationship between depressive symptoms and satisfaction with one’s health.

Examination of the R^2 and R^2 change show that adding congregational involvement and the two interaction terms does not add significantly to our ability to predict satisfaction with one’s health.

Based on these findings, an alternative hypothesis was developed.

Hypothesis 2a: The relationship between depressive symptoms and satisfaction with health will be moderated by the extent to which worshipers have a strong private devotional life, such that among those who pray, meditate, or read devotional materials more often the relationship between depressive symptoms and satisfaction with one’s health will be weaker.

Table 4 shows the results of the analyses testing this hypothesis. Models 1 and 2 replicate findings shown in Models 1 and 2 in Table 3. Model 3 shows the impact of adding frequency of personal devotions to the model. As can be seen, the frequency of private devotions does not have a significant impact on satisfaction with one’s health, nor does it significantly improve the R^2 .

Model 4 shows the impact of adding the two interaction terms (multiplicative terms for depressed behaviors x private devotions and depressed affect x private devotions). As can be seen, after adding these additional variables, depressed affect is a significant predictor of satisfaction with health, while depressed behaviors is not. In addition, the model shows that there is a significant interaction between depressed behaviors and private devotional behaviors on satisfaction with health ($b = -.154$; because standardized regression coefficients are meaningless for multiplicative terms, the unstandardized regression coefficients are presented).

Following Aiken and West (1991), the values of satisfaction with health for high, medium, and low values of depressed behaviors for worshipers who frequently engage in private devotions and those who do so less often were calculated. These values were then plotted in Figure 1. Note that because most respondents scored low on the depressed behaviors scale, these lines are labeled “some” (for the high line), “few” (for the medium line), and “no” (for the low line) depressed behaviors.

Table 3
Multiple Regression: Depressive Symptoms, Participation in the Congregation, and Satisfaction with Health (n=737)

	Model 1	Model 2	Model 3	Model 4
Independent Variables:				
Age	-.049 (-.004)	-0.068 (-.006)	-0.074 * (-.007)	-0.071 * (-.006)
Gender .....	.028 (.081)	0.015 (.042)	0.020 (.059)	0.026 (.077)
Education.....	.068 (.056)	0.028 (.023)	0.023 (.019)	0.020 (.017)
Marital Status	-.017 (-.052)	0.009 (.027)	0.016 (.049)	0.013 (.040)
Depressed behaviors.....		-0.236 *** (-.664)	-0.233 *** (-.665)	-0.341 *** (-.960)
Depressed affect		-0.109 * (-.293)	-0.105 * (-.284)	-0.043 (-.117)
Participation in the congregation.....			0.066 (.051)	-0.047 (-.036)
Interactions:				
Depressed behaviors x Participation in the congregation				— .126
Depressed affect x Participation in the congregation				— -.068
Adjusted Multiple R ² .....	.003	.095 ***	.097 ***	.099 ***
R ² Change .....		.092 ***	.002	.001

Dependent variable is satisfaction with one's health
Standardized regression coefficients are shown along with unstandardized coefficients in parentheses.

* = p < .05; ** = p < .01; *** = p < .001

Table 4
Multiple Regression: Depressive Symptoms, Private Devotions, and Satisfaction with Health
(n=815)

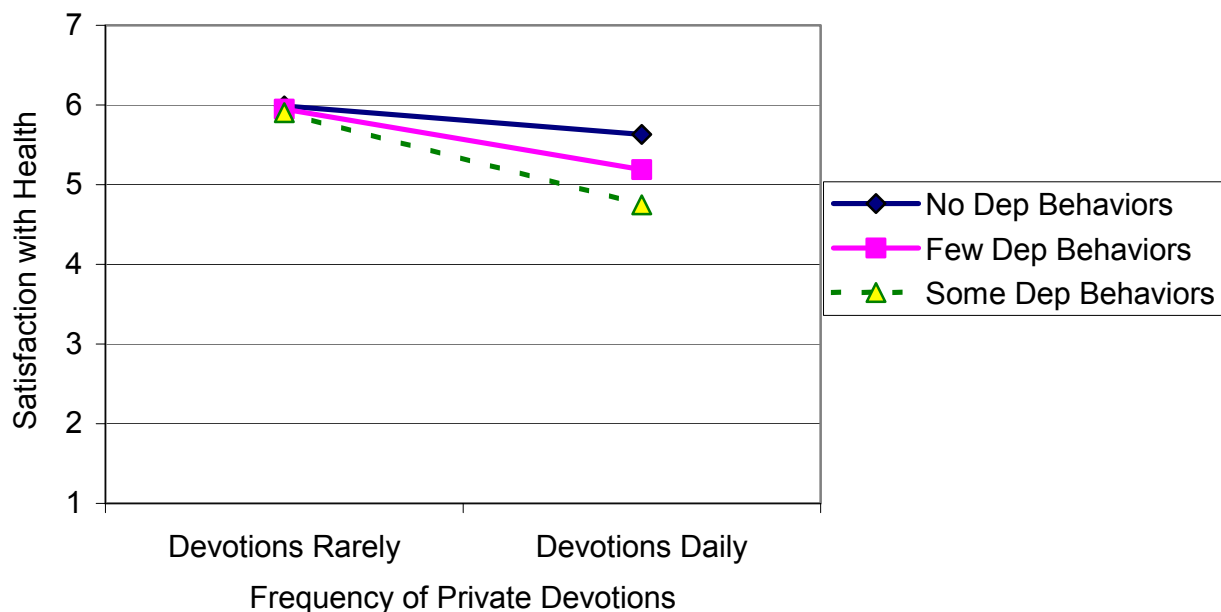
	Model 1	Model 2	Model 3	Model 4
Independent Variables:				
Age	-.059 (-.005)	-0.074 * (-.006)	-0.079 * (-.007)	-0.080 * (-.007)
Gender .....	.025 (.072)	0.013 (.038)	0.020 (.059)	0.015 (.042)
Education.....	.068 (.056)	0.028 (.023)	0.027 (.022)	0.026 (.021)
Marital Status	-.011 (-.033)	0.008 (.025)	0.010 (.029)	0.008 (.025)
Depressed behaviors.....		-0.240 *** (-.657)	-0.241 *** (-.661)	0.026 (.072)
Depressed affect		-0.105 * (-.276)	-0.104 * (-.274)	-0.331 * (-.874)
Time in private devotions.....			0.036 (.034)	0.084 (.079)
Interactions:				
Depressed behaviors x Private devotions.....				— -.154 *
Depressed affect x Private devotions				— .126
Adjusted Multiple R ².....	.004	.098 ***	.098 ***	.102 ***
R ² change.....		.096 ***	.001	.006

Dependent variable is satisfaction with one's health
Standardized regression coefficients are shown along with unstandardized coefficients in parentheses.

* = p < .05; ** = p < .01; *** = p < .001

Figure 1

Interaction between Private Devotions and Depressive Behaviors in Predicting Satisfaction with Health



As can be seen, for worshipers who pray or participate in other private devotional activities less than daily, the extent of their depressive behaviors has no impact on satisfaction with their health. For worshipers who are involved in private devotions on a daily basis, depressive behaviors make a difference. Those who pray daily yet still experience depressive behaviors (e.g., poor appetite, difficulty sleeping) are less satisfied with their health than those who pray daily and have few depressive behaviors. Put another way, among worshipers with depressive behaviors those who pray often are less satisfied with their health than those whose private devotional activities are less frequent. While this may seem counterintuitive, it may be that those with depressive behaviors may perceive that their frequent prayer has not made a difference, and thus are less satisfied with their health.