

Religion and Mental Health Among Older Adults: Do the Effects of Religious Involvement Vary by Gender?

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Objectives. Few studies explore how the relationship between religious involvement and mental health varies by gender among the aging population. This article outlines a series of arguments concerning the effects of gender in moderating the effect of religious involvement on mental health and examines them empirically.

Methods. Using two waves (2001 and 2004) of the Religion, Aging, and Health Survey, this study estimates the differential effect of gender in the religion–mental health connection using multivariate analyses for a nationally representative sample of U.S. adults aged 66–95 years.

Results. Results suggest that (a) men obtain more mental health benefits from religious involvement than women, (b) women with higher levels of organizational religious involvement have similar levels of mental health as those with moderate and lower levels of organizational religious involvement, (c) men with very high levels of organizational religious involvement tend to have much higher levels of mental health than all other men.

Discussion. The relationship between organizational religious involvement and mental health is found to be mostly a nonlinear one such that those with the highest levels of religiosity receive all the benefits. The findings suggest a number of promising research directions on the religion–mental health connection among older Americans.

Key Words: Aging—Gender—Mental health—Religion.

PROBLEMS regarding the mental health of the older population are becoming increasingly severe. In the United States, the rate of suicide among individuals aged 65 years and older is higher than that for any other age group, with men making up 85% of these suicides (Coren & Hewitt, 1999). Indeed, mental health is closely associated to the aging process for older adults. Aging has been tied with loss of sense of control (Mirowsky, 1995) and an increase in depressive symptoms in late older adulthood (Mirowsky & Reynolds, 2000). Understanding the factors that influence the mental health of the aging population is especially important. One such factor that is highly entangled with mental health is religious participation. Religious life and participation become increasingly important to Americans as they age (Dillon & Wink, 2007). The link between religion and mental health is well established (Ellison & Levin, 1998; Koenig, McCullough, & Larson, 2001). This study seeks to investigate if and how the relationship between religious activity and mental health varies by gender.

Studies exploring how gender affects the relationship between religious activity and mental health are sparse and inconclusive (Krause, 2008). Similarly, only one study has investigated this relationship among older adults (Idler, 1987), despite the fact that older Americans are especially susceptible to losses in mental well-being and represent one of the fastest growing demographics. The study of religion and depressive symptoms by Idler (1987) found that public religiosity was negatively related to depression for both

women and men, but had a stronger impact for women. Although the study by Idler (1987) was the first investigation into how the effects of religious involvement on depressive symptoms vary by gender for older Americans, it was not without limitations. This study used cross-sectional data, only contained one dimension of mental health, was not nationally representative, and did not test for nonlinear effects.

Contemporary perspectives on gender socialization, gender roles, and aging process suggest that religious activity will have a different impact on mental health for men and women (Beit-Hallahmi & Argyle, 1997). Accordingly, this study is based upon the notion that men and women hold unique social roles that are acquired through the process of gender socialization. These gender roles place men and women in very different social contexts within religious communities and hence the salutary effects of religious involvement may vary by gender. By utilizing longitudinal nationally representative data, two dimensions of religious involvement (organizational and nonorganizational religiosity), and four dimensions of mental health (depressive symptoms, death anxiety, optimism, and self-esteem), this project aims to answer three questions regarding older Americans. First, does religious activity bolster mental health for women and men? Second, how does the effect of religious involvement on mental health differ by gender? Finally, are there nonlinear effects in the relationship between religious involvement and mental health.

THEORETICAL FRAMEWORK

Religion and Mental Health

A large array of research documents the positive effect religion has on mental health (Ellison & Levin, 1998; Larson et al., 1992), although some research suggests that religion can have a deleterious impact on mental health as well (Krause, 2004; Krause, Ellison, & Wulff, 1998). The literature proposes several mechanisms in which religious practices affect mental well-being (Koenig et al., 2001). Understanding the context in which religious activity affects mental health is crucial in conceptualizing how gender may moderate this relationship. One mechanism, which is especially important for this study, that affects mental health is social integration and support.

Through the sharing of religious belief and practices, congregants often achieve a high level of social integration. Religious involvement may increase social integration and consequently reduce suicide rates (Colucci & Martin, 2008). The religious setting provides a context in which offering and asking for social and emotional support are both encouraged. Ferraro and Kelley-Moore (2000) show that individuals who are the most integrated in a religious community are likely to seek religious consolation when enduring depressive symptoms. Many religious groups provide formal programs for members in need (Trinitapoli, 2005). Research suggests that individuals ask for assistance more frequently in groups when potential support providers are sure about each other's obligations (Cutrona, Suhr, & MacFarlane, 1990). Attendance at religious services conveys the message that other individuals share the same faith, beliefs, and have a lot in common (Sosis, 2000). Accordingly, one of the key forms of social support older people gain from religious participation is perceived emotion support. Krause (2008) shows that the anticipated level of emotional support one would receive if they needed it plays a crucial role in the maintenance of mental health.

The Possibility of Nonlinear Effects

An often-overlooked component in the relationship between religious activity and mental health is the role of potential nonlinear effects. Previous work finding a linear effect of religious activity may in fact be masking one of three theoretically justified nonlinear effects: squared, threshold, or exponential. The theoretical impetus for expecting a quadratic relationship can suggest either a "U" shaped or an inverted "U" shaped relationship between mental distress and religious involvement. The "U" perspective suggests that those with moderate levels of involvement will garner the benefits (e.g., social support) without extracting the social cost of high levels of involvement. At least two studies have found this type of nonlinear relationship with self-esteem and depressive symptoms as outcomes (Krause, 1995; Schnittker, 2001). The inverted "U" shape

perspective suggests that those who are only marginally committed to religion will fair worse in mental health outcomes because of uncertainty compared with those with no commitment or high levels of commitment. A study of religious beliefs and psychological distress provides some support for this perspective (Ross, 1990).

The threshold perspective suggests that only at some level of religious involvement will the effects begin to manifest. For example, the threshold perspective suggests that individuals with low or moderate levels of religious involvement may have similar levels of depressive symptoms, whereas those with high levels of involvement will witness fewer symptoms of depression. Exponential effects suggest that the effects of religious involvement will increase with each increase in involvement but the magnitude of this increase will grow exponentially. Overall, research is inconclusive in regards to the nonlinear relationship between religious involvement and mental health.

Religion, Gender, and Mental Health

Gender socialization suggests that boys are socialized to be competitive, aggressive, and independent, whereas girls are taught to be obedient, sociable, and nurturing. Beit-Hallahmi and Argyle (1997) argue that women are more likely to be attracted to religion because many of the traits valued in religion are considered feminine traits, such as obedience to God and the nurturing of others. Similarly, Miller and Hoffman (1995) contend that one reason why women are more religious than men is that religion is essentially risk averse, which resonates with behaviors associated with female socialization such as passivity and obedience. Women may also be more religious because they are more relationally restricted than men, and the religious community offers a social setting where the formation and maintenance of personal relationships are encouraged (Idler, 1987). Several other explanations also exist and are reviewed elsewhere (see Miller & Stark, 2002). Women tend to have more extensive social ties and social support systems both within the church and in secular settings than men (Ajrouch, Blandon, & Antonucci, 2005; Krause, Ellison, & Marcum, 2002). Although older women are more ubiquitous in religious settings, a number of studies indicate that they occupy more subordinate roles in these settings. For example, Heyer-Grey (2000) finds that women are less likely to lead or say prayers during services, assist in communion, or read from the bible than men. Additionally, women are more likely than men to clean up after church, work in the nursery, and to cook and serve meals.

The manner in which gender affects the relationship between religious activity and mental health is unclear. Two competing frameworks can be drawn from the concepts of gender socialization, gender roles, and the aging process to predict how gender affects this relationship. The first suggests that women, because they develop and maintain more

weak and strong ties in church, will benefit more from religious involvement than men in terms of mental health and well-being. The second perspective suggests that the religious world provides a unique context in which men are encouraged to respond to and ask for (when needed) both emotional and physical support. Additionally, men may occupy formal roles in the church that bestow social status and respect, whereas women may tend to occupy more subordinate roles. The acquirement of social status and respect may be especially pertinent to retired older men who seek to replace the status they once possessed via their careers.

The first framework suggests that women tend to make larger and stronger interpersonal relationships than men, and because the church embraces traits associated with femininity (sociability, communication skills, and nurturance), women may be able to extract more from their strong relationships. Women are more likely to maintain weak ties than men, and this becomes especially pronounced in religious communities (Scott & Wenger, 1995). Older women are much more likely to be widowed and single than men and may seek out kinship in religious communities. Indeed, older women are more likely to have a church-based companion friendship, to both provide and receive more social and emotional support and to attend bible or prayer groups than their male counterparts (Krause, 2008). Bible and prayer groups provide an avenue for members to share personal problems and receive sympathy as well as practical advice (Wuthnow, 1994). Because women comprise the majority of members of these groups, they may be especially apt in providing support and advice for issues common among women. Women tend to be more involved; therefore, they may also be more likely to hear of and engage in church-related programs that can lead to better mental health (e.g., pastoral counseling). Support for this perspective is found in a study of adults living in Indianapolis showing that religious involvement decreased depressive symptoms for women but not men (Mirola, 1999).

The contrasting framework suggests that the religious context provides a unique avenue that encourages men to ask for help, share feelings and concerns, and engage in behaviors that in other social contexts would suggest to others that they are weak. Because men are socialized to be independent and aggressive, they are less likely to develop strong social ties and interpersonal relationships than women. One of the pathways in which religion improves mental health is through social support. Social support is only effective if it is provided in a manner that makes the recipient feel comfortable (Eckenrode & Wethington, 1990), and this is especially the case for men who are socialized to be independent. The church provides a religious context for men to receive assistance in a way that is acceptable to them (Krause et al., 2002). Also, a religious community may provide men with an environment where they perceive that emotional support is available to them if they need it. This perspective suggests that women are likely to have both

secular and church-based support systems, whereas men tend to rely more exclusively on church-based support. Support found from religious involvement may be more vital to the maintenance of mental health for men. Additionally, men may gain more from involvement because women maintain such extensive networks that they are actually deleterious to their mental health (i.e., the cost of caring). Support for this perspective was found in a study of Presbyterian adults exploring how the effect of emotional support on self-reported health differed by gender. Women tended to have more emotional support available to them, whereas men experienced more gains in health from the emotional support available to them (Krause et al.).

The effects of religious involvement may vary by gender due to roles men and women occupy within the church and the social status that those roles confer. Social status tends to increase physical well-being and self-esteem (Reitzes & Mutran, 2006) and those with higher levels of social status tend to deal with stress better than those of a disadvantaged social status (Kessler, 1979). Many churches emphasize patriarchal gender roles that are rooted in biblical doctrine calling for female submission to masculine authority within social spheres. Men may witness a larger gain in mental health because they disproportionately occupy more revered roles that convey social status than women (Heyer-Grey, 2000). Conversely, women tend to occupy more private and subordinate roles in the church and perform tasks such as cleaning, cooking, and staffing the nursery.

The religious context may be especially important for men because of the social relationships they lose from retirement. Also, retired men who have been socialized to be competitive may have a desire for power. Older men are more likely than older women to have worked outside the home during adulthood (Henretta, 2001). The vast majority of men retire by the age of 65 years and may not be able to maintain the relationships they developed over the last decade. Women are less likely to have lost close ties among work-related relationships because the current cohort of older women was less likely to be employed outside the home. Men are initially disadvantaged in terms of developing and maintaining social relationships and tend to lose the employment-related relationships they have; hence, participation in a religious community may become their primary source of socialization and have a stronger effect for men than women. Also, the self-esteem and sense of control that came with employment may slowly erode after retirement. As mentioned earlier, men tend to disproportionately occupy formal roles in the church that convey social status within the church. Social status within the church may provide a compensatory role in the maintenance of mental well-being. Evidence for this perspective is found among a study of older adults living in the Raleigh-Durham-Chapel Hill metro area where religious identity had a greater positive impact on mental health for those who are retired than those still employed (Keyes & Reitzes, 2007).

DATA AND METHODS

The data from this study come from the Religion, Aging, and Health Survey, a nationally representative longitudinal survey. The population of this study was designed at the baseline interview as White or Black household residents, noninstitutionalized, English speaking, and at least 66 years of age. Geographically, the study was limited to the contiguous United States. The study population was limited to currently practicing Christians, individuals who were Christians in the past but no longer practice any religion, and individuals who were never associated with any faith.

One thousand five hundred baseline interviews took place in 2001 and were conducted by Harris Interactive. Older Blacks were oversampled and represented roughly half the sample (752 Blacks). The overall response rate for the baseline interviews was 62%.

The second wave of interviews took place in 2004 where of the initial 1,500 respondents, 1,024 were reinterviewed successfully. Among those who were not reinterviewed, 75 refused to participate, 112 could not be located, 70 were too ill to participate, 11 were currently in nursing homes, and 208 were deceased. The interview rate for the second wave was 80% when those who died or living in nursing homes were excluded.

Listwise deletion was used to account for non-item responses, and the following analyses are based upon between 919 and 801 valid cases. In order to reflect the U.S. demographic landscape, survey data were weighted to account for oversampling. Preliminary analyses using weighted data show that roughly 58% were older women and roughly 42% were older men. The average age of these individuals was 74.4 years ($SD = 6.0$ years). Approximately 64% were married and roughly 9% were older Blacks and 91% older Whites. Finally, the average respondent had completed approximately 12.4 years of schooling ($SD = 3.2$ years).

Measures

Religiosity.—Table 1 presents the survey items that compose the primary variables used in this study. Previous research documents the lack of multidimensional measures of both organizational and nonorganizational religiosity in work on older adults (Krause, 1993). Consequently, this study will utilize 3-item scales for both organizational and nonorganizational religiosity. Organizational religiosity taps the extent to which an individual engages with a public religious institution. The internal consistency reliability estimate for this composite measure is .753. Nonorganizational religiosity taps the extent to which an individual engages in private religious practices (i.e., usually at home). This private engagement with religion is especially salient for older Americans, as physical limitations often restrict public religious practices. The internal consistency reliability estimate for this measure is .720.

Table 1. Core Study Measures

1. Organizational religiosity (Wave 1 only) ^a
A. How often do you attend adult Sunday School or Bible study groups?
B. How often do you participate in prayer groups that are not part of regular worship services or Bible study groups?
C. How often do you attend religious services?
2. Nonorganizational religiosity (Wave 1 only) ^a
A. When you are at home, how often do you read the Bible?
B. How often do you pray by yourself?
C. How often do you watch formal church services on TV or listen to them on the radio?
3. Depression (Wave 1 and Wave 2) ^b
A. I felt I could not shake off the blues even with the help of my family and friends.
B. I felt depressed.
C. I felt sad.
D. I did not feel like eating, my appetite was poor.
E. I felt that everything I did was an effort.
F. My sleep was restless.
G. I could not get going.
4. Death anxiety (Wave 1 and Wave 2) ^c
A. Thinking about death makes me feel uneasy.
B. I do not feel prepared to face my own death.
C. I am disturbed by the shortness of life.
5. Optimism (Wave 1 and Wave 2) ^c
A. I always look at the bright side of things.
B. I'm optimistic about my future.
C. In uncertain times, I usually expect the best.
6. Self-esteem (Wave 1 and Wave 2) ^c
A. I feel I am a person of worth, or at least on an equal plane with others.
B. I feel I have a number of good qualities.
C. I take a positive attitude toward myself.

^aThese items were scored in the following manner (coding in parentheses): Never (1), Less than once per year (2), About once or twice per year (3), Several times per year (4), About once a month (5), 2–3 times per month (6), Nearly every week (7), Every week (8), Several times per week (9).

^bThese items were scored in the following manner (coding in parentheses): Rarely or none of the time (1), Some or little of the time (2), Occasionally or a moderate amount of the time (3), Most or all of the time (4).

^cThese items were scored in the following manner (coding in parentheses): Strongly disagree (1), Disagree (2), Agree (3), Strongly agree (4).

The functional forms of the religious involvement–mental health connection have not been verified; they may be linear, quadratic, exponential, or observed only at or above some threshold. Accordingly, organizational and nonorganizational religiosity are defined using three categories (high, medium, and low) to account for potential nonlinear relationships. Those with low organizational religiosity tend to attend church less than once per week and rarely or never engage in bible or prayer groups. Those with medium values tend to attend church regularly but do not consistently engage in bible or prayer groups. Those with high values go to church regularly and consistently attend bible and prayer groups. Those with low nonorganizational religiosity tend to rarely or never read the bible, read religious literature or watch religious TV, or pray at home. Those with medium values tend to regularly do one of these things on a regular basis and occasionally or never do the others. Those with high levels on nonorganizational religiosity tend to regularly do all three things or do two regularly and the third occasionally.

Depressive symptoms.—Seven indicators were used from the Center for Epidemiologic Studies Depression Scale to assess depressive symptoms. The reliability estimates for this measure at Wave 1 is .866. In order to deal with issues regarding the distribution of this measure (high levels of kurtosis), the natural log of these variables was used throughout this study.

Death anxiety.—The three items measuring death anxiety reflect the extent to which an individual feels anxious or fearful about death. Higher values reflect higher levels of anxiety or fear about death. The reliability estimate for this measure at Wave 1 is .868. Death anxiety represents a dimension of mental health that may be most pronounced among the older population and be intimately tied with religious beliefs and practices.

Optimism.—Optimism is measured with three indicators. The reliability estimates for this scale is .782 at Wave 1. Higher values reflect higher levels of optimism and mental health.

Self-esteem.—Feelings of self-worth were assessed with three items. A higher score reflects higher levels of self-esteem. The reliability estimate for this measure at Wave 1 is .900.

Functional limitations, health, and controls.—Functional mobility and physical health are closely related to mental health among older adults; hence, sufficient control variables measuring functional limitations and health are included in all multivariate analyses. A scale measuring functional limitations was constructed using 16-items from Wave 2 (this variable is not available in Wave 1) that asks respondents if they encounter difficulty when performing activities of daily living such as walking, dressing, bathing, and so forth. The reliability estimate for this scale is .885. The self-reported health variable asked respondents how they would rate their overall present health. Responses varied by four categories from 1 (*poor*) to 4 (*excellent*). Controls for age, race, education, and marital status were also included. Race and marital status were measured as dummy variables indicating if the respondent is “Black” or “currently married.” Age and education were measured in years.

Weighted means for all variables (not shown) indicate that women tend to have higher values of depressive symptoms and men tend to have higher values of death anxiety. Men and women tend to have similar mean values of optimism and self-esteem. Women appear to be more religiously active than their male counterparts in both organizational and nonorganizational religiosity. Nearly 20% of women in the sample have high levels of organizational religious involvement, whereas only 13% of men fall into this category. Similarly, 32% of women have high levels of nonorganizational religious activity, whereas only 16% of men fall into this category.

RESULTS

The purpose of this study is to test if and how the effects of religiosity on mental health differ for older women and older men. The mean values of the organizational and non-organizational variables show that older women are more religious than older men. In order to test if the impact of religious involvement is different, all analyses are divided into two subpopulations: women and men. The analyses presented here are divided up into two sections. Due to the longitudinal design and the relatively large number of respondents who were not reinterviewed at Wave 2, the first section tests for attrition effects. The second section employs multivariate longitudinal ordinary least squares regression models to test how the effect of religiosity varies by gender. All of the effects found in multivariate models occur across time controlling for the mental health outcome at Time 1.

The primary aim of this study is to test the claim that older men obtain more mental health benefits from organizational religious participation than women. Accordingly, in multivariate analyses, this study implements split-sample (between men and women) models and tests if the regression coefficients between models differ statistically. This study will test for these differential effects using a formula devised by Clogg, Petkova, and Haritou (1995). This *t* test is of the form:

$$t = \frac{b(x) - b(y)}{\sqrt{[se(x)]^2 + [se(y)]^2}}$$

where $b(x)$ and $b(y)$ represent the regression coefficients for men and women and $se(x)$ and $se(y)$ represent their standard errors. Significance implies that the effect of religious activity on mental health differs by gender net of all other variables in the model.

Attrition Effects

The loss of subjects between Waves 1 and 2 may potentially bias results; hence, analyses that may give insight into if and how this is occurring are required. These analyses probe how data from the baseline survey are related to study participation in Wave 2. The following procedures document this strategy: first, a dummy variable indicating missing status, coded 1 *missing* and 0 *not missing* was created; then, using logistic regression, this binary variable was regressed upon all of the Wave 1 variables mentioned earlier. If any of the key independent or dependent variables in this study is significantly related to absence at Wave 2, then this would suggest that further analyses are likely biased.

Results of these analyses (not shown here) suggest that participation in Wave 2 was not a random phenomenon. Nonparticipants at Wave 2 were more likely to be older, male, unmarried, and have lower levels of educational attainment than those successfully reinterviewed. This pattern of findings is consistent with prior research on attrition effects (Groves, 1989). These findings are not surprising as

the majority of respondents who were not reinterviewed were either deceased or too sick to participate. Significant differences in attrition effects failed to emerge for organizational and nonorganizational religiosity, depressive symptoms, death anxiety, optimism, or self-esteem. Ancillary analyses differentiated nonparticipation by indicating those who were sick or deceased from those who could not be interviewed for other reasons. All models were replicated using a Heckman selection procedure. This differentiation did not have any substantive impact on the results presented here. These findings suggest that further analyses in this study are unlikely to be biased by attrition effects.

Multivariate Analyses

Depressive symptoms.—Models 1 and 3 in Table 2 show that depressive symptoms at Time 1 are positively related to depressive symptoms at Time 2 and health is negatively related to depressive symptoms at Time 2 for both women and men. For women, being Black is associated with lower levels of depressive symptoms, whereas for men, age is positively related to depressive symptoms. Models 2 and 4 show that the negative effect of high organizational religiosity is significantly different from zero for men but not for women. The difference in effect size between men and women for high organizational religiosity is trending toward statistical significance ($t = 1.347, p < .10$). Modest levels of organizational religiosity also decrease symptoms of depression for men but not for women. These results point toward an exponential relationship between organizational involvement and depressive symptoms. The difference in effect size is also nearly significant ($t = 1.302, p < .10$). These models find modest support that organizational religiosity is more important for men than women and strong support that organizational religiosity shares a nonlinear relationship with depressive symptoms.

Death anxiety.—Models 5 and 7 in Table 2 show that death anxiety at Time 1 is positively related to death anxiety at Time 2 for both women and men. For women, nonorganizational religiosity decreases levels of death anxiety, but having high levels of organizational religiosity increases death anxiety. For men, modest amounts of organized religion are positively related to increased anxiety about death. This finding among men suggests an inverted “U” shaped relationship between organizational religiosity and death anxiety. The size (and sometimes direction) of these effects is statistically different for men and women. These findings suggest that religious involvement is highly entangled with death anxiety and that its effects tend to play out in different ways for men and women.

Optimism.—Models 1 and 3 in Table 3 show that optimism and health at Wave 1 are positively related to optimism

Table 2. Estimated Effects of Religious Activity on Depression and Death Anxiety

	Depression ^a						Death anxiety ^a			
	Women (N = 575)			Men (N = 344)			Women (N = 546)		Men (N = 330)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8		
Age	-0.002 (0.003)	-0.003 (0.003)	0.001 (0.003)	0.001 (0.003)	-0.005 (0.006)	-0.004 (0.006)	-0.010 (0.007)	-0.009 (0.007)		
Black	-0.043 (0.031)	-0.030 (0.034)	0.035 (0.037)	0.052 (0.042)	-0.060 (0.068)	-0.009 (0.071)	-0.081 (0.095)	-0.049 (0.098)		
Education	-0.008 (0.006)	-0.007 (0.006)	0.005 (0.005)	0.007 (0.005)	-0.012 (0.012)	-0.014 (0.012)	-0.018 (0.021)	-0.020 (0.020)		
Married	0.014 (0.036)	0.011 (0.037)	0.023 (0.059)	0.030 (0.058)	0.013 (0.072)	-0.021 (0.073)	-0.110 (0.117)	-0.099 (0.112)		
Ln_Depression	0.241*** (0.056)	0.238*** (0.055)	0.226** (0.076)	0.209** (0.077)	—	—	—	—		
Death anxiety	—	—	—	—	0.341*** (0.067)	0.325*** (0.066)	0.280** (0.101)	0.318*** (0.096)		
Health	-0.025 (0.023)	-0.026 (0.023)	-0.030 (0.022)	-0.031 (0.022)	-0.031 (0.048)	-0.044 (0.048)	-0.069 (0.061)	-0.073 (0.057)		
Functional limitations	0.623*** (0.088)	0.626*** (0.089)	0.567*** (0.106)	0.559*** (0.110)	-0.103 (0.155)	-0.066 (-0.152)	-0.121 (0.238)	-0.090 (0.253)		
Medium organizational religiosity	—	0.008 (0.041)	—	-0.074† (0.042)	—	0.076 (0.095)	—	0.276* (0.113)		
High organizational religiosity	—	-0.019 (0.055)	—	-0.123* (0.052)	—	0.185** (0.093)	—	-0.151 ^a (0.140)		
Medium nonorganizational religiosity	—	-0.013 (0.046)	—	0.015 (0.048)	—	-0.244** (0.096)	—	-0.189† (0.106)		
High nonorganizational religiosity	—	-0.033 (0.053)	—	0.021 (0.058)	—	-0.342*** (0.109)	—	-0.070 ^a (0.129)		
Constant	0.454* (0.261)	0.485† (0.268)	0.013 (0.254)	0.015*** (0.253)	1.896*** (0.572)	2.131*** (0.563)	2.731*** (0.598)	2.630*** (0.593)		
R ²	0.309	0.311	0.278	0.296	0.099	0.133	0.101	0.155		

Note: Standard errors in parentheses.

^aIndicates that the difference in the religious activity coefficients between women and men is statistically significant at the $p \leq .05$ level.

† $p \leq .1$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Table 3. Estimated Effects of Religious Activity on Optimism and Self-Esteem

	Optimism ^a				Self-esteem ^a			
	Women (N = 496)		Men (N = 305)		Women (N = 558)		Men (N = 336)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Age	0.000 (0.006)	-0.001 (0.005)	-0.000 (0.007)	-0.000 (0.007)	-0.000 (0.005)	-0.003 (0.005)	-0.007 (0.006)	-0.007 (0.006)
Black	0.088 (0.059)	0.055 (0.064)	-0.003 (0.081)	-0.058 (0.087)	0.072 (0.058)	0.057 (-0.061) [†]	-0.009 (0.068)	-0.062 (0.072)
Education	0.020 (0.014)	0.017 (0.013)	-0.028* (0.013)	-0.031* (0.013)	0.018 (0.011)	0.020 (0.011)	0.001 (0.012)	0.001 (0.011)
Married	0.037 (0.061)	0.056 (0.060)	0.106 (0.102)	0.074 (0.101)	0.011 (0.062)	0.027 (0.059)	0.038 (0.084)	0.015 (0.084)
Optimism	0.253*** (0.073)	0.233** (0.076)	0.510*** (0.099)	0.461*** (0.096)	—	—	—	—
Self-esteem	—	—	—	—	0.172* (0.071)	0.179** (0.070)	0.151 [†] (0.082)	0.137 [†] (0.079)
Health	0.004 (0.039)	0.010 (0.040)	-0.031 (0.054)	-0.032 (0.055)	0.012 (0.037)	0.020 (0.037)	0.017 (0.044)	0.020 (0.042)
Functional limitations	-0.760*** (0.160)	-0.784*** (0.155)	-0.630** (0.236)	-0.642** (0.237)	-0.280* (0.122)	-0.285* (0.120)	0.069 (0.162)	0.060 (0.155)
Medium organizational religiosity	—	-0.086 (0.091)	—	0.148 (0.095)	—	-0.134 [†] (0.079)	—	0.017* (0.091)
High organizational religiosity	—	0.013 [†] (0.087)	—	0.317*** (0.126)	—	-0.098 ^a (0.073)	—	0.216** (0.096)
Medium nonorganizational religiosity	—	0.162 [†] (0.092)	—	0.003 (0.098)	—	0.043 (0.076)	—	0.137 (0.085)
High nonorganizational religiosity	—	0.169 [†] (0.100)	—	0.025 (0.110)	—	0.128 (0.087)	—	0.058 (0.111)
Constant	2.228*** (0.514)	2.245*** (0.483)	2.041** (0.758)	2.183** (0.756)	2.856*** (0.542)	2.836*** (0.552)	3.377*** (0.545)	3.384*** (0.549)
R ²	0.201	0.220	0.205	0.237	0.073	0.085	0.027	0.068

Note: Standard errors in parentheses.

^a Indicates that the difference in the religious activity coefficients between women and men is statistically significant at the $p \leq .05$ level.

[†] $p \leq .1$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

at Wave 2. Black women tend to report higher levels of optimism than White women, whereas Black men tend to report lower levels of optimism than White men. Model 4 shows that high levels of organizational religiosity tend to increase optimism over time for men. This finding suggests that there is a threshold effect between organizational involvement and optimism. The effect for women is not statistically different from zero. The difference in effect size is statistically significant ($t = 1.961, p < .05$). For women, both high and modest levels of nonorganizational religiosity increase optimism over time. The organizational aspects of religion are the most important for men, whereas the nonorganizational aspects are the most important for women.

Self-esteem.—Model 5 in Table 3 shows that for women, self-esteem at Wave 1 positively predicts self-esteem at Wave 2 and functional limitations are negatively related to self-esteem. For men, none of the predictors in Model 7 are statistically significant. Models 6 and 8 show that high levels of organizational religiosity are positively associated with self-esteem for men only. Again, these results suggest the presence of a threshold effect between organizational involvement and self-esteem. The difference in effect size between men and women is statistically significant ($t = 2.607, p < .01$). This analysis suggests men with high levels of organizational involvement tend to receive large dividends in the form of positive mental health.

DISCUSSION

Summary

Longitudinal multivariate models show a strong association between organizational religiosity and mental health after controlling for health and demographic factors. For men, the effects of high organizational religiosity were negatively related to depressive symptoms and positively related to optimism and self-esteem. These effects were not statistically different from zero for women. For men, moderate levels of organizational religiosity had a deleterious effect on death anxiety. For women, both high and moderate levels of nonorganizational religiosity were related to lower levels of death anxiety. High levels of organizational religiosity had a deleterious effect upon death anxiety for women. Other than death anxiety, religiosity did not have much of an effect on mental health outcomes among women.

Table 4 displays the differences in the religiosity regression coefficients between women and men. This shows whether the effect of religiosity on each of the four mental health outcomes varied by gender. The most stark finding is that the effect of being highly involved in organized religion is much different for men (usually more beneficial) than women. Although not as clear, there is also evidence to suggest that the effect of modest organizational religious involvement varies by gender as well. The difference in effect size between men and women for nonorganizational religiosity is

Table 4. Differences in Effect Size of Religious Activity Between Men and Women

	Depression	Death anxiety	Optimism	Self-esteem
Medium organizational religiosity	0.082 [†] (1.302)	0.199 [†] (1.342)	0.233* (1.790)	0.151 (1.248)
High organizational religiosity	0.104 [†] (1.347)	-0.336* (1.976)	0.304* (1.961)	0.314** (2.601)
Medium nonorganizational religiosity	0.028 (0.449)	0.055 (0.387)	0.159 (1.178)	0.094 (0.825)
High nonorganizational religiosity	0.053 (0.686)	0.350* (2.059)	-0.144 (0.966)	-0.070 (0.500)

Note: The *t* statistics are given in parentheses.

[†]*p* < .1; **p* < .05; ***p* < .01 (one-tailed).

statistically different from zero when looking at death anxiety. Overall, these findings provide strong support that religious involvement has a relationship with mental health that varies by gender and that men receive more mental health benefits from organized religious involvement than women.

One of the core arguments of this paper is that men experience and gain more from church-based social support when they share similarly high levels of religious involvement as women. This proposition was tested in ancillary analyses (not shown) using four dimensions of social support: emotional support received, emotional support provided, tangible support received, and anticipated support. This perspective was partially supported as increases in religious involvement resulted in greater gains in social support among men, but social support did not diminish the relationship between high organizational religiosity and mental health in multivariate models. This lack of findings in multivariate models does not negate this framework. Previous literature has shown that social support becomes especially important in the maintenance of mental health in the presence of acute and chronic stressors (Krause, 2006). Including such stressors is outside the scope of the current study, but their absence may explain why they are seemingly unrelated to mental health.

Conclusions

This study addresses the moderating effect of gender on the religion and mental health connection among older adults. Organizational religiosity decreases symptoms of depression and increases levels of optimism and self-esteem over time for men but not women. Similarly nonorganizational religiosity decreased levels of death anxiety over time for women but not men. These findings are consistent with the framework that religion provides men a unique context in which they were able to reap more benefits from religious activities than women. Organizational religious activity (i.e., involvement in religious services, bible groups, and prayer groups) appears to have a more pronounced impact on mental health for men than women. These findings are buttressed by the work of Krause and colleagues (2002), which found that women had more church-based emotional support than men, but men received a greater benefit from it in regards to health. Additionally, the results found here may be due to the cost of caring women pay in maintaining

vast social networks. Research shows that maintaining extensive social networks may extract a price on mental well-being (Kessler, Price, & Wortman, 1985). If women tend to have large social networks outside of the church, then the networks they have within the church may not yield any benefits, and could possibly be detrimental, to their mental well-being.

This study finds that religious involvement has a greater impact on mental health for men. A number of studies dealing with adults have found the exact opposite, that organizational religious activity has a more pronounced effect on mental health among women. Mirola (1999) found, in a sample of adults living in Indianapolis, that religious attendance decreases symptoms of depression for women but not men. Similarly, in a sample of Mexican-origin adults, Ellison, Finch, Ryan, and Salinas (2009) found that organizational religious activity was inversely related to depressive symptoms for both men and women but the relationship was much more pronounced among women. These studies in which the differential impact of religion was greater for women than men were not based on older individuals. This study suggests that this differential relationship between men and women may be reversed in old age because of the unique social contexts associated with aging. Men at older ages (especially among the cohorts studied here) are likely to be retired and have limited avenues for social engagement and contexts to obtain social status. Men are disproportionately able to acquire positions within the church that convey social status. For men, the church may serve as a compensatory device in maintaining and increasing mental well-being that former careers and jobs once served.

The results of this study suggest that the effects of organizational religiosity on mental health are largely nonlinear. Only the most religiously active individuals will incur mental health benefits. The important issue is that individuals who have moderate levels of religious involvement do not tend to have different levels of mental health than those with little or no religious involvement. These findings are consistent with previous work on religious attendance and mortality among older Mexican Americans (Hill, Angel, Ellison, & Angel, 2005).

This study has several limitations that deserve mention and should be considered in future research. First, this study did not take into account acute and chronic stressors occurring

throughout the duration of the study. The presence of acute or chronic stressors could have confounded the results found here. Second, this study did not take into account the level of secular support available to the respondent. Religious involvement may not appear to affect women's mental health because they have large secular support networks that men do not. Finally, the longitudinal data may have masked some of the effects from religious activity on mental health through temporal lags. As with most longitudinal analyses, more time points would be beneficial.

The findings presented here suggest new avenues for research on religion and mental health among the aging. Future work should begin exploring the specific mechanisms in which gender differences manifest themselves and include acute and chronic stressors as potential moderators. A broader picture of how religious involvement influences mental health throughout the life course is also essential. Perhaps women gain mental health benefits from religion much earlier in life than men. More work is required on different dimensions of mental health and to further explore the understudied concept of death anxiety—which has been shown to be intimately related to religious activity. Work on religion, gender, and mental health among the older population is still in its infancy and future research is needed to unravel these complex relationships.

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