

Latest Religion and Health Research at Duke (2000-2007)

Koenig HG (2007). Religion and remission of depression in medical inpatients with heart failure/pulmonary disease. Journal of Nervous and Mental Disease 195: 389-395

This research examined the impact of religious involvement on time to remission of depression in older hospitalized medical patients with heart failure and/or chronic pulmonary disease (CHF/CPD). One thousand (1000) medical inpatients over age 50 with CHF/CPD were systematically diagnosed with depressive disorder using a structured psychiatric interview. Detailed information was obtained on depression, psychiatric and social characteristics, physical health, and religious involvement. Cox proportional hazards regression was used to examine the independent effects of religious involvement on time to remission, controlling for covariates. Results indicated the following. Of the 1000 depressed patients identified at baseline, follow-up data on depression course was obtained on 87%. Patients who attended religious services and participated in other group-related religious activities experienced a shorter time to remission. This effect persisted after controlling for other baseline characteristics ($p \leq 0.01$) and could not be explained by social support. Although numerous religious measures were unrelated by themselves to depression outcome, the *combination* of frequent religious attendance, prayer, Bible study and high intrinsic religiosity, predicted a 53% increase in speed of remission (HR 1.53, 95% CI 1.20-1.94, $p=0.0005$, $n=839$) after controls. Social support explained only 15% of this effect. In summary, patients who are highly religious by multiple indicators, particularly those involved in organized religious activities, remit faster from depression.

Koenig HG (2007). Religion and depression in older medical inpatients. American Journal of Geriatric Psychiatry 15 (4): 282-291

This research examined the religious characteristics of older medical inpatients with major and minor depression, comparing them to religious characteristics of non-depressed patients and examining their relationship to severity and type of depressive disorder. One thousand (1000) medical inpatients over age 50 at Duke University Medical Center (DUMC) and three community hospitals were identified with depressive disorder using a structured psychiatric interview. Detailed information was obtained on their psychiatric, medical, and religious characteristics. Religious characteristics of these depressed patients were then compared to those of 428 non-depressed patients in a concurrent study at DUMC, controlling for demographic, health, and social factors. In addition, among depressed patients, relationships to severity and type of depression were also examined. Results indicated the following. Religious involvement was widespread among 411 patients with major depression and 585 patients with minor depression. However, it was not as common as found in 428 non-depressed patients. Depressed patients were more likely to indicate no religious affiliation, less likely to affiliate with Fundamentalist denominations, more likely to indicate "spiritual but not religious," less likely to pray or read scripture, and scored lower on intrinsic religiosity. These relationships remained strong after controlling for demographic and physical health factors. Among depressed patients, depression severity was associated with lower religious attendance, less prayer, less scripture reading, and lower intrinsic religiosity. In summary, older medically ill hospitalized patients with depression are less religiously involved than non-depressed patients or those with less severe depression.

Blumenthal JA, Babyak MA, Ironson G, Thoresen C, Powell L, Czajkowski S, Burg M, Keefe FJ, Steffen P, Catellier D (2007). Spirituality, religion and clinical outcomes in patients recovering from an acute myocardial infarction. *Psychosomatic Medicine* 69:501-508

Investigators followed 503 patients recruited within 28 days of an acute myocardial infarction (AMI) for 1½ years to determine the effects of religion/spirituality on likelihood of dying or having another AMI (“event”). Patients were recruited into the sample if they had major or minor depression or if they had low social support. Of the 503 patients, 61 had “events” during the 18-year period. They also examined the relationship between religion/spirituality, depression, and social support. No significant relationship was found between physical health outcomes (“events”) and spirituality (measured using the 16-item Daily Spiritual Experiences Scale (DSE), frequency of religious attendance, or frequency of prayer/meditation. Religious attendance was significantly inversely related to depression and significantly related to social support, and total DES score was significantly and inversely related to depression. The authors concluded that there was no relationship between religious/spiritual measures and cardiac outcomes in this sample.

However, the short follow-up period (1½ years) and low event rate (12%) suggest that the power of this study to detect a difference was relatively low (Type II error). In fact, the only characteristic that predicted event rates was a medical risk factor index. Indeed, when controlling for depression and social support, subjects attending religious services weekly or more were 50% less likely to experience a negative “event” [death or recurrent MI] (HR=0.50, p=0.10) compared to non-attendees (for absolute death/recurrent MI risk, 15.6% in less than weekly attendees vs. 9.9% in weekly attendees). Although not statistically significant with this short follow-up period, with longer follow-up, this could easily become significant. The benefits of religious involvement (or risk of non-involvement) may have already had their effects before subjects ever entered the study. Religious involvement is often preventative – i.e., it may prevent depression, increase social support, and prevent negative health outcomes. Highly religious subjects, then, may not have even gotten into this study (because they would be less likely to be depressed, less likely to have low social support, and less likely to have an AMI). Thus, while results are interesting, they are by no means definitive.

Catanzaro A, Meador KG, Koenig HG, Kuchibhatla M, Clipp E (2007). Congregational health ministries: A national study of pastors’ views. *Public Health Nursing*, in press

This study examined a national multi-denominational sample of 349 pastors representing over 80 Christian denominations on their involvement in Congregational Health Ministries (CHM). The results indicated with CHMs provide significant health promotion, disease prevention, and support services for very low costs. Pastors of churches with CHMs were significantly more involved in health promotion and disease prevention. Even pastors without CHMs still saw a need for congregations to be involved in health-related services and were willing to become involved if adequate resources were made available.

Koenig HG (2007). Religion, spirituality and medicine in Australia: Research and clinical practice. *Medical Journal of Australia* 186 (10):S45-S46

This is the introduction to an MJA supplement that contains nine articles on spirituality and health in Australia.

Chen YY, Koenig HG (2006). Do people turn to religion in times of stress? An examination of change in religiousness among elderly, medically ill patients. Journal of Nervous and Mental Disease, 194 (2): 114-120

This research examined the effect of physical illness severity on changes in religiousness in 745 elderly, medically ill patients hospitalized initially at Duke University Medical Center. Patients were interviewed at baseline and at 3-months after discharge. Increases in physical illness severity were associated with decreases in not only religious attendance and other social types of religious activity, but also decreases in private religiousness. The effect on private religiousness remained significant even after controlling for physical activity.

Steinhauser KE, Voils CI, Clipp EC, Bosworth HB, Christakis NA, Tulsky JA. "Are you at peace?": One item to probe spiritual concerns at the end of life. Archives of Internal Medicine. 166(1):101-105, 2006.

Researchers analyzed the construct of being "at peace" in a sample of 248 patients with advanced cancer, congestive heart failure, or chronic obstructive pulmonary disease being seen in the outpatient clinics at the Durham Veterans Administration Medical Center and Duke University Medical Center. Participants were asked the extent to which they were at peace. Feeling at peace was strongly correlated with emotional and spiritual well-being, faith and purpose in life. Researchers concluded that asking patients about the extent to which they are at peace offers a way to begin a discussion of spiritual concerns.

Harrison MO, Edwards CL, Koenig HG, Bosworth HB, Decastro L, Wood M. Religiosity/spirituality and pain in patients with sickle cell disease. Journal of Nervous and Mental Disease 2005;193(4):250-257.

Church attendance, prayer/Bible study, and intrinsic religiosity were correlated with measures of pain in consecutive African-Americans with sickle cell disease (SCD) seen in the outpatient clinics at Duke University Medical Center (n=50). Frequency of religious attendance was associated with significantly lower levels of pain. Once or more per week religious attendance was associated with the lowest pain scores, and results persisted after controlling for age, gender, and disease severity. Prayer/Bible study and intrinsic religiosity, however, were not significantly related to pain levels.

Krucoff MW, Crater SW, Gallup D, Blankenship JC, Cuffe M, Guarneri M, Krieger RA, Kshetry VR, Morris K, Oz M, Pichard A, Sketch MH, Jr., Koenig HG, Mark D, Lee KL. Music, imagery, touch, and prayer as adjuncts to interventional cardiac care: the Monitoring and Actualisation of Noetic Trainings (MANTRA) II randomised study. Lancet 2005; 366(9481):211-217.

This was a multi-center randomized clinical trial of intercessory prayer and music, imagery, and touch (MIT) therapy. The distant intercessory prayer part of the intervention was double-blinded (people who were prayed for didn't know if they were being prayed for, and those who prayed for them didn't know who the people were they prayed for, other than a first name). The study involved 748 patients undergoing percutaneous coronary intervention or elective catheterisation in nine medical centers in the U.S. The primary outcome was a measure of in-hospital major adverse cardiovascular events, 6-month readmission rates, or death. Secondary outcomes were 6-month major adverse cardiovascular events, 6 month death or readmission, and 6-month

mortality. A total of 371 patients were prayed for and 377 received no prayer (at least no prayer from the intercessors assigned in this study). The findings indicated no difference for those prayed for (vs. not prayed for) on primary outcome. Investigators concluded that neither distant intercessory prayer or MIT therapy significantly improved clinical outcomes.

Koenig HG, George LK, Titus P, Meador KG (2004). Religion, spirituality, acute hospital and long-term care use by older patients. Archives of Internal Medicine 164:1579-1585

Study examined the impact of religion and spirituality on acute hospitalization and long-term care in older patients before, during, and after hospitalization. Subjects were 811 patients age 50 or over who were consecutively admitted to the general medical service at Duke University Medical Center. Measures of organizational religiosity (ORA), non-organizational religiosity (NORA), religious TV/radio (RTV), intrinsic religiosity, and self-rated religiousness were administered; self-rated spirituality and daily spiritual experiences (DSE) were also assessed. The primary outcome in this study was days spent in an acute care hospital over an average 21-months of follow-up. Secondary outcomes were times hospitalized in acute care settings and days spent in a nursing home or rehabilitation setting (LTC). No effect was seen for religious variables on the primary outcome. LTC days, however, were inversely predicted by NORA, RTV, and DSE, and effects were particularly strong in African-Americans and in women. In those groups, religious/spiritual characteristics predicted future LTC use, even after controlling for baseline physical health and LTC status. Although associations with acute hospitalization could not be documented, we found robust and persistent effects for religiousness/spirituality on use of LTC in African-Americans and in women.

Koenig HG, George LK, Titus P (2004). Religion, spirituality and health in medically ill hospitalized older patients. Journal of the American Geriatrics Association 52:554-562

Examine the impact of religion and spirituality on social support, psychological functioning, and physical health in a sample of 838 medically ill hospitalized older adults. Patients aged 50 or over admitted to the general medical services at Duke University Medical Center were interviewed by a research nurse at the bedside. The interviewer also conducted a brief physical exam and reviewed the medical records. Measures of religiousness and spirituality included organizational religiosity (ORA), non-organizational religiosity, intrinsic religiosity (IR), self-rated religiousness, observer-rated religiousness (ORR), self-rated spirituality, observer-rated spirituality (ORS), and daily spiritual experiences. Outcome variables included social support, depressive symptoms, cognitive status, cooperativeness, and physical health (self-rated and observer-rated). All analyses were controlled for age, sex, race, and education. The results indicated that religiousness and spirituality predicted greater social support, fewer depressive symptoms, better cognitive function, and greater cooperativeness ($p < 0.01$ to $p < 0.0001$). Relationships with physical health were weaker, although similar in direction. Patients categorizing themselves as neither spiritual nor religious tended to have worse self-related and observer rated health, and greater medical co-morbidity. Religious TV viewing or radio listening, however, were associated with worse physical health.

Pargament KI, Koenig HG, Tarakeshwar N, Hahn J (2004). Religious Coping Methods as Predictors of Psychological, Physical and Spiritual Outcomes among Medically Ill Elderly Patients: A Two-year Longitudinal Study. Journal of Health Psychology 9(6):713-730.

A sample of 268 medically ill, elderly, hospitalized patients at Duke University Medical Center or the Durham Veterans Administration Hospital were assessed with regard to religious coping,

religious functioning, and psychological and physical health at baseline and at two years after discharge. Religious coping significantly predicted better religious outcomes and changes in mental and physical health, independent of other control variables. Positive religious coping (i.e., seeking spiritual support, benevolent religious reappraisals) was in general associated with improvements in health, whereas negative religious coping (i.e., punishing God reappraisal, interpersonal religious discontent) predicted declines in health. The investigators concluded that older hospitalized patients who struggle with religious issues over time may be at risk for worse health outcomes.

Hughes JW, Tomlinson A, Blumenthal JA, Davidson J, Sketch MH, Watkins LL (2004). Social support and religiosity as coping strategies for anxiety in hospitalized cardiac patients. Annals of Behavioral Medicine 28(3):179-185.

Researchers examined the relationships between social support, religiosity, and anxiety in cardiac patients, given the long-known negative impact that anxiety has on cardiac outcomes. Included in this study were 228 hospitalized patients with heart disease (71% male; average age 62). They found that higher levels of social support were associated with lower state anxiety ($r = -.26, p < .01$) and lower trait anxiety ($r = -.30, p < .01$). Religiosity was also related to lower state anxiety ($r = -.27, p < .01$) at the same strength as social support was. Similarly, religiosity was related to lower trait anxiety, although the strength of the relationship was somewhat weaker ($r = -.18, p < .01$) than between trait anxiety and social support. Once social support was controlled for, the relationship between religiosity and trait anxiety lost its significance (explaining the relationship). However, the relationship with state anxiety remained significant, and unexplained by social support ($p=0.01$). The investigators concluded that their findings suggested that religiosity and social support both buffered against anxiety, and that higher social support among the more religious could explain the inverse relationship between religiosity and trait anxiety.

Bosworth HB, Park KS, et al. (2003). The impact of religious practice and religious coping on geriatric depression. International Journal of Geriatric Psychiatry 18(10): 905-14.

Interviewed 104 elderly psychiatric inpatients as part of the Study of Depression in Late Life, assessing public and private religious practices and religious coping. Depressive symptoms were assessed at baseline and 6 months by a geriatric psychiatrist using the Montgomery-Asberg Depression Rating Scale (MADRS). Regression analyses indicated that positive religious coping was cross-sectionally related to less depression ($B=-0.24, p=0.02$) and negative religious coping to more depression ($B=0.23, p=0.02$), and baseline positive religious coping predicted less depression on the MADRS at the six-month evaluation ($B=-0.24, p=0.03$). Findings were independent of social support measures, demographic, use of electro-convulsive therapy, and number of depressed episodes. Public religious practice was inversely related to MADRS scores in the cross-sectional analysis ($B=-0.20, p=0.03$), although private religious activities were not ($B=-0.19, p=0.08$).

Grunberg GE, Crater SW, Green CL, Seskevich J, Lane JD, Koenig HG, Bashore TM, Morris KG, Mark DB, Krucoff MW (2003). Correlations of subjective perception and clinical outcome in patients undergoing coronary angioplasty. Cardiology in Review 11(6): 309-317

(contact Dr. Krucoff for more information - kruco001@onyx.dcri.duke.edu)

Koenig HG, George LK, Titus P, Meador KG (2003). Religion, spirituality and health service use by older hospitalized patients. Journal of Religion and Health 42(4):301-314

Examined relationship between religion, spirituality and health service use by 812 consecutive patients age 50 or over admitted to Duke University Medical Center. Religion/spirituality (R/S) was measured by religious TV/radio (RTV), self-rated religiousness (SRR), observer-rated spirituality (ORS), and daily spiritual experiences (DSE). Findings revealed that relationships with length of hospital stay (LOS) depended on the religious variables. On the one hand, RTV and SRR predicted longer LOS. On the other hand, ORS and DSE predicted shorter LOS ($p \leq 0.05$). Worse health status helped to explain the association between RTV and LOS in women. DSE, in particular, had positive effects on LOS in non-whites. Diagnostic tests and total procedures also tended to be less common among those with high DSE.

Koenig HG (2002). An 83-year-old woman with chronic illness and strong religious beliefs. Journal of the American Medical Association (JAMA) 288 (4):487-493

(case report and review)

Pargament KI, Koenig HG, Tarakeshwar N, Hahn J (2001). Religious struggle as a predictor of mortality among medically ill elderly patients: A tw-year longitudinal study. Archives of Internal Medicine 161:1881-1885.

Followed 444 hospitalized patients (age 55 plus) after discharge over 2 years, examining impact of negative religious coping on survival. After controlling for the demographic, physical health, and mental health variables, higher religious struggle scores at baseline (that ranged from 0 to 21) predicted greater risk of mortality; for every 1-point increase on religious struggles, there was a 6% increase in mortality ($p=0.02$). Two of the seven religious struggles questions ("Wondered whether God had abandoned me" and "Questioned God's love for me" increased risk of mortality by 28% and 22% respectively.

Steinhauser KE, Christakis NA, Clipp EC, et al (2000). Factors considered important at the end of life by patients, family, physicians, and other care providers. Journal of the American Medical Association (JAMA) 284: 2476-2482

In a random national sample of 340 patients with advanced illness that investigated factors important to patients at the end of life, researchers found that of the nine attributes ranked by patients (presence of pain, dying at home, pain control, etc.), "being at peace with God" was ranked 2nd in importance, only slightly lower than pain control.

Helm HM, Hays JC, Flint EP, Koenig HG, Blazer DG (2000). Does private religious activity prolong survival? A six-year follow-up study of 3,851 older adults. Journals of Gerontology Series A-Biological Sciences & Medical Sciences 55(7):M400-M405

Surveyed a random sample of 3,851 community-dwelling adults aged 64-101 years in North Carolina was surveyed in 1986 and followed up for 6 years. Private religious activities (meditation, prayer, or Bible study) were a significant predictor of survival among subjects who were experiencing no disability on baseline evaluation. Among these subjects, little or no private religious activity predicted nearly a 50% increase in mortality, after controlling for demographics, health status, depression, stressful life events, social support and health behaviors (HR 1.47, 95% CI 1.07-2.03).

Outside Research Involving Duke Investigators

(2004-2007)

Curlin FA, Lawrence RE, Odell S, Meador KG, Koenig HG (2007). Religion, spirituality, and medicine: Psychiatrists' observations, interpretation, and clinical approaches differ from those of other physicians. American Journal of Psychiatry, in press

Examines U.S. national random sample of physicians, comparing psychiatrists with other medical specialists and general physicians on approaches to spirituality in clinical practice. Results to be reported when publication comes out.

Curlin FA, Lawrence RE, Odell S, Meador KG, Koenig HG (2007). Worldviews Apart? The relationship between psychiatry and religion among US physicians. Psychiatric Services, in press

Examines the religious characteristics of psychiatrists and compares them to those of other medical specialists and general physicians. Also compares responses to a question about whether they would refer a patient to a clergy-member or religious counselor, or would refer to a psychiatrist or a psychologist, following a brief ambiguous vignette. Results to be reported when publication comes out.

Bussing A, Ostermann T, Koenig HG (2007). Relevance of religion and spirituality in German patients with chronic disease. International Journal of Psychiatry in Medicine, in press

Examines religious and spirituality characteristics of 698 patients with chronic illness in Germany. SpREUK is a spirituality scale that has been used in this population. Results to be reported when publication comes out.

Galek K, Flannely KJ, Koenig HG, Fogg SL (2007). Referrals to chaplains: The role of religion and spirituality in healthcare. Mental Health, Religion, and Culture, in press

This study examines patterns of chaplain referrals in healthcare settings. Results to be reported when publication comes out.

Park NS, Klemmack DL, Roff LL, Parker MW, Koenig HG (2007). Religiousness and longitudinal trajectories in elders' functional status. Journal of Aging and Health, in submission. Examines effects of religious involvement on development of functional disability as persons age. Results to be reported when publication comes out.

Ostbye T, Krause KM, Norton MC, Tschanz J, Sanders L, Hayden K, Pieper C, Welsh-Bohmer KA (2006). Cache County Investigators. Ten dimensions of health and their relationships with overall self-reported health and survival in a predominately religiously active elderly population: the cache county memory study. Journal of the American Geriatrics Society 54(2):199-209

Examined the health and longevity characteristics of persons over age 65 living in Cache County, Utah, the county with the longest life expectancy in the U.S. (the conditional life expectancy of men in this religious county in Utah exceed national norms by almost 10 years). Self-reported

health and 10 dimensions of healthy aging were assessed, including religious participation and spirituality. Results indicated that 80% to 90% of those aged 65 to 75 were healthy according to each measure used. Nearly 60% of those aged 85 and older reported they were in excellent health, and the majority were independent in their activities of daily living. In this highly religious Mormon population, analyses indicated that those who volunteered in a religious organization and those who attend worship/scripture study group were more likely to indicate excellent/good self-rated health, associations that lost statistical significance after adjusting models for both controls *and mediators*. Similarly, those who volunteered in a religious organization, read scripture/holy writings, attended worship/scripture study group, or had direct experiences of God, had significantly lower mortality rates (RR 0.47-0.79) in uncontrolled analyses. Even after adjusting models for controls and mediating variables, religious volunteers continued to have lower mortality (RR 0.78, 95% CI 0.61-0.99).

Roff L L, Klemmack DL, Simon C, Cho GW, Parker MW, Koenig HG, Sawyer-Baker P, Allman RM. (2006). Functional limitations and religious service attendance among African American and white elders. Health & Social Work 31(4):246-255

Examines a sample of 987 elderly African American (AA) and white (W) community-dwelling adults. The study found that African American and white elderly people without limitations attended church at virtually the same rate (69%). AA scored higher on religiousness measures than W, but AA with one or more limitations were significantly less likely to attend religious services compared to W of similar level of disability and controlling for health status did not alter these findings. Factors that particularly predicted religious attendance were educational attainment and cognitive functioning.

Flannelly KJ, Koenig HG, Ellison CG, Galek K, Krause N (2006). Belief in life-after-death and mental health: Findings from a national survey. Journal of Nervous and Mental Disorder, 194(7):524-529

Examined the relationship between belief in life-after-death and six measures of psychiatric symptomology in a national sample of 1403 adult Americans who completed an online questionnaire. Inverse relationships were found between belief in life-after-death and symptom severity on all six measures of psychiatric illness (anxiety, depression, obsession-compulsion, paranoia, phobia and somatization). These findings continued to be significant after controlling for demographic variables, stress-related measures, and social support. Interestingly, no association was found between the religious service attendance and mental-health measures.

McCauley J, Jenckes MW, Tarpley MJ, Koenig HG, Yanek LR, Becker DM (2005). Spiritual beliefs and barriers among managed care practitioners. Journal of Religion and Health 44 (2):137-146

Surveyed spiritual beliefs of physicians and nurse practitioners from internal medicine, family practice, pediatric, and obstetrics/gynecology at the annual staff meeting were surveyed. Seventy-five practitioners (94%) completed the questionnaire. Practitioners were affiliated with Johns Hopkins University and The Johns Hopkins School of Medicine. Most physicians (64%) considered themselves to be spiritual and 66% said that they “experienced the Divine (God).” However, only 30% regularly or occasionally participated in organized religious activities. Another 34% considered themselves to be spiritual but were not involved in any “organized religious group”. Approximately two-thirds of physicians felt that a patient’s spiritual outlook

affected how they handled health problems and that addressing the patient's emotional needs was part of the physician's role. About half (47%) agreed that the routine history and physical exam should include questions related to faith. Sixty percent felt that prayer, meditation, or reflection was an important daily activity for physicians. Ninety-five percent of physicians identified lack of time as the most important barrier to discussing spirituality with patients. Lack of training, was the second biggest barrier (69%).

Cohen AB, Pierce JD, Meade R, Chambers J, Gorvine BJ, Koenig HG (2005). Intrinsic and extrinsic religiosity, belief in the afterlife, death anxiety, and life satisfaction in young Catholic and Protestant adults. Journal of Research in Personality, 39, 307-324

This study examined relationships between intrinsic and extrinsic religiosity, belief in an afterlife, death anxiety and life satisfaction in a sample of adolescents and young adults (134 Protestants and 149 Catholics). Measures included intrinsic and extrinsic religiosity, death anxiety scale, belief in the afterlife scale, and satisfaction with life. Religious denomination moderated the relationships between intrinsic and extrinsic religiosity and mental health outcomes, causing investigators to conclude that scales to measure intrinsic and extrinsic religiosity reflect largely Protestant notions of religiosity.

Overvold J, Weaver AJ, Flannelly KJ, Koenig HG (2005). A study of religion and meaning in caregiving among health professionals in an institutional setting in New York City. Journal of Pastoral Care and Counseling, 59(3), 225-235

Survey of health professionals' views concerning the importance of meaning and religious beliefs in their care for patients.

Roff LL, Klemmack DL, Parker M, Koenig HG, Baker P, and Allman RL (2005). Religiosity, smoking, exercise and obesity among Southern community-dwelling older adults. Journal of Applied Gerontology 24:337-354

Relationships between cigarette smoking, exercise, and obesity, and organizational (OR), nonorganizational (NOR), and intrinsic religiosity (IR) were examined in a stratified, random sample of 1,000 adults age 65 to 106. Cigarette smoking was inversely related to OR and NOR, and OR was positively related to physical activity, even when controlling for confounders. Religious measures were unrelated to obesity, and IR did not predict smoking or exercise.

Baetz M, Griffin R, Bowen R, Koenig HG, Marcoux G (2004). The association between spiritual/religious involvement and depressive symptoms in the Canadian population. Journal of Nervous and Mental Disorders 192:818-822

Examined relationships between religious attendance, self-perceptions of spirituality and religiousness, and religious importance, and depressive symptoms. A total of 70,884 persons aged 16 or older were part of the Canadian National Population Health Survey (Wave II, 1996-1997), which was the sample for this analysis. Relationships were controlled for demographic, social, and health variables. Religious attendance was associated with significantly fewer depressive symptoms. Importance of spiritual values or faith and level of perceived spirituality/religiousness, however, were positively associated with depressive symptoms, even after controlling for other variables. These findings underscore the complexity of the relationships between religiousness/spirituality and depression.

Ai AL, Peterson C, Tice TN, Bolling SF, Koenig HG (2004). Faith-based and secular pathways to hope and optimism sub-constructs in middle-aged and older cardiac patients. Journal of Health Psychology 9 (3): 435-450

Researchers used data from two interviews to examine the effect of faith-based and secular predictors on hope and optimism in a sample of 226 patients prior to cardiac surgery. Structural equation modeling was used to show that use of prayer as a coping strategy was associated with the agency component of hope and dispositional component of optimism, independent of other factors.