

CROSSROADS...

Exploring research on religion, spirituality and health

Newsletter of the Center for Spirituality, Theology & Health

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WELCOME

Welcome to this inaugural issue of Duke University's Center for Spirituality, Theology & Health Newsletter. This replaces the newsletter of the former Society for Spirituality, Theology and Health, which published its last issue in March/April 2009.

The intention of this newsletter is to provide updates on research related to spirituality and health for those who are interested. The research in this area is rapidly increasing, as will be evident when the second edition of the *Handbook of Religion and Health* (Oxford University Press) comes out in November-December 2011. This edition of the *Handbook* reviews research conducted during the last decade (2000-2010), and summarizes the studies published prior to 2000, reviewing nearly 3,000 quantitative studies of the spirituality-health relationship conducted since 1872.

In each newsletter we will be reviewing some of that research, highlighting new studies coming out in the literature, and discussing some of the latest research being conducted at Duke. An **EVENTS CALENDAR** will conclude the newsletter and describe spirituality and health related conferences, workshops, and presentations that are happening here locally, nationally, and around the world.

Latest Research at Duke

We'll start by describing some of the research now being conducted or being planned at the Center, and then go on to describe research from outside of Duke published recently in the peer-review literature.

Cognitive behavioral treatments for depression in patients with chronic illness

We are currently enrolling patients for a randomized clinical trial to compare the effectiveness of religious psychotherapy vs. conventional psychotherapy for the treatment of major depression in those with chronic medical illness. According to the World Health Organization and Harvard School of Public Health, depression is one of the most disabling illnesses in the world, second only to heart disease. Depression also causes changes to the immune and endocrine functions that increase susceptibility to infection, interfere with wound healing, and may increase vulnerability to diseases such as cancer, heart disease, and autoimmune disorders. The standard psychotherapy for depression is cognitive-behavioral therapy (CBT), which has proven effectiveness. The aim of this study is to determine whether integrating patients' religious resources into CBT is more or less effective than traditional CBT for relieving depression, reducing the disability associated with it, and reversing adverse immune and endocrine system changes. We are also assessing whether certain genetic predispositions increase or decrease patients' responsiveness to religious vs. standard psychotherapy. This multi-site study is being conducted in North Carolina and Southern California. Anyone living in central NC or Glendale, CA, who is having difficulty coping with a chronic medical illness and experiencing depression is eligible for the study. The treatment is

free and is being delivered by telephone, online through instant messaging, or by Skype (webcam and telephone) so that people won't have to leave their homes during treatment.

Spiritual Needs and Physiological Responses of Women Undergoing Core Needle Breast Biopsy for Cancer

We have just completed a study with Dr. Mary Scott Soo in the department of radiology and Dr. Michelle Pearce in medical psychology examining associations between religiosity and physiological measures of stress (cortisol and amylase) in women undergoing imaging guided core breast biopsy for lesions at high risk for breast cancer. The focus of the study is on the nature and importance of spirituality to patients undergoing core needle biopsy, on identifying the unmet spiritual needs among these women, and on determining whether religion/spirituality helps to reduce stress-related changes in endocrine function. Based on the results of this study, which are not yet available, we will be developing a proposal to test a spiritual intervention to meet the spiritual care needs of women undergoing imaging guided breast biopsy, with the aim of relieving stress and preventing the endocrine changes associated with this stressful procedure.

Genetic Basis for Religious Involvement

Dr. Rachel E. Dew in child and adolescent psychiatry is now leading a study to examine the relationship between different gene forms (called polymorphisms) and religious involvement. We think that there may be a genetic component to religiosity, i.e., that some people may be more genetically prone than others to have religious or spiritual experiences. The dataset we are analyzing is the National Survey of Adolescent Health (Add Health), which contains about 2,600 adolescents in grades 7-12 on whom genetic analyses have been performed, as well as assessments of religious beliefs and practices, mental health, and substance use (alcohol, cigarettes, drugs). We are examining whether religious youth have a certain genetic makeup that makes them more or less prone to use alcohol or drugs or smoke cigarettes. This could help to explain why religious youth are less likely to smoke, abuse alcohol, or use drugs. Based on the results of this study (not yet available), we will be developing a proposal to examine these relationships in a much larger sample of adolescents in the Add Health study (more than 10,000) followed up over multiple waves over 6 to 10 years to see whether genetic makeup influences religious involvement over time and whether this is related to substance abuse patterns.

Spiritual intervention in persons addicted to opium/heroin.

Dr. Kathleen Peindl in medical psychology is developing a proposal to study the effects of a spiritual group intervention in persons addicted to opioid drugs to help them to stop their drug using activity and stay off drugs in the future. This study is also examining biological changes in opium addicts that may predispose them to continued addiction, and seeks to determine whether a spiritual intervention may reverse some of those biological changes, thereby reducing craving.

EXPLORE...in this issue

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3 EVENTS

Religious involvement as a predictor of telomere shortening

Recent research has discovered a part of the DNA in cells that may serve as a biological clock that determines cellular lifespan. This part of the DNA molecule is called the telomere. Telomeres, located at the ends of DNA strands, shorten with each replication of the cell. When the telomere shortens to a certain length, the cell becomes unable to divide and dies. There is also evidence that telomere shortening predicts aging of the body more generally and has been associated with age-related disorders such as Werner's Syndrome (premature aging). Some researchers have now started using telomere length as a gold standard for human aging. Psychological stress and depression are known to increase the rate at which DNA telomeres shorten, thereby possibly speeding up the aging process. One case-control study, now replicated in several other studies, found that highly stressed women caring for sick children had telomeres that shortened at an accelerated rate equivalent to a reduction of 9 to 17 years of lifespan. Working with these researchers as consultants, we are now developing a proposal to study the effects of religious involvement on the rate of telomere shortening in women caring for loved ones with chronic disabling illnesses such as dementia. By improving women's ability to cope with their role as caregivers, religious involvement may reduce stress and depression and thereby slow the rate of telomere shortening. Linking religious involvement to a slower rate of telomere shortening may help to ultimately explain why religious people tend to live 7-14 years longer.

Religion and hippocampal atrophy in late life.

Dr. Amy Owen and her colleagues in the department of psychiatry have been examining the role that religious involvement plays in brain changes that occur in older adults with aging. In a 4-year prospective study of 268 adults, average age was 69 years and 57% with major depression, these researchers examined brain changes from baseline to follow-up using high-resolution structural magnetic resonance imaging (MRI). Of particular interest to these investigators was the section of the brain called the hippocampus, which is responsible for learning and memory. Religious measures at baseline included ever having a "born again" experience (past BA), recent born again experiences within the 4-year follow-up (new BA), ever had a life-changing religious experience (past LCRE), recent LCRE within the 4-year follow-up (new LCRE), religious denomination, private religious practice (prayer, Bible study, meditation), and religious attendance. Using regression analyses to control for confounders, they reported that past LCRE (but not new LCRE), past BA (but not new BA), Catholic affiliation, and no religious affiliation all predicted a significantly greater reduction in hippocampal brain volume during the follow-up period. No relationship was found with religious activity (either private religious activity or religious attendance).
Citation: Owen AD, Hayward RD, Koenig HG, Steffens DC, Payne MF (2011). Religion and hippocampal atrophy in late life. *PLoS ONE* 6(3):e17006 [for free pdf of study, <http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0017006>]

Comment: There are many possible explanations for this interesting combination of findings, including (1) a selection effect due to selective survival or (2) the effect of stressful circumstances that led up to the life-changing religious experiences (high stress causes release of the hormone cortisol, which is known to cause hippocampal atrophy).

Latest Research from Outside Duke

Religious participation and cognitive functioning in China

Analyzing data on 8,703 participants aged 80-105 years in the Chinese Healthy Longevity Survey, the investigator examined whether there was a relationship between religious participation and cognitive functioning. Subjects were asked a single question on how often they participated in any kind of religious activities

(1=every day, 2=sometimes, 3=never); 16% indicated that they participated in religious activities at least sometimes, whereas 84% never participated in religious activities. Controlling for other predictors of cognitive functioning (optimism, happiness, exercise and other leisure time activities, physical disability level, age, education, etc.), Zhang found that religious participation was associated with 30% less cognitive impairment in women ($p < 0.01$) and 54% less cognitive impairment in men ($p < 0.01$).

Citation: Zhang W (2010). Religious Participation, Gender Differences, and Cognitive Impairment among the Oldest-Old in China. *Journal of Aging Research* 160294 [or free pdf, see: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2990098/>]

Religious activity and progression of cognitive impairment in Alzheimer's Disease

In a sample of 64 patients with Alzheimer's disease, researchers examined the relationship between religious activity at baseline and changes in cognitive functioning over the next 12 months using the MMSE. Patients were divided into 2 groups based on their religious activity (no or low religiosity vs. moderate or high religiosity). Also assessed were patients' physical functioning, behavioral disturbances, and stress level. Those with low religiosity experienced a marked worsening in their total cognitive and behavioral test scores. Compared to those with high religiosity, those with low religiosity were almost 7 times more likely to experience a 3-point decrease on their MMSE.

Investigators concluded that higher religiosity predicts a slower rate of cognitive and behavioral decline in Alzheimer's disease.

Citation: Coin A, Perissinotto M, Najjar A, Giaradi EM, Inelmen G, Enzi EM, Sergi G (2010). Does Religiosity Protect Against Cognitive and Behavioral Decline in Alzheimer's Dementia? *Current Alzheimer Research* 7 (5):445-452

Comment: Both this study and the China study that preceded it suggest that religious involvement is associated with slower cognitive decline. These findings are difficult to reconcile the finding by Owen and colleagues described earlier that a history of life-changing religious experience predicts a faster decline in hippocampal volume (the part of the brain responsible for memory and learning).

Faith and cardiovascular risk-factors

Researchers examined relationships between spiritual activity and cardiovascular-related functions in 100 religious men and women (mean age 28.3 years). Spiritual well-being was measured using the FACIT-Sp. Health functions assessed included 24-h ambulatory blood pressure (BP), inflammation (C reactive protein) (CRP), fasting glucose, and blood cholesterol and triglycerides. Regression models correcting for age, gender, and church attendance indicated that higher scores on the FACIT-Sp were related to significantly lower systolic ambulatory BP, diastolic ambulatory BP, CRP, fasting glucose, and there was a trend towards lower triglycerides and VLDL cholesterol. Investigators concluded that spiritual well-being may be cardio-protective.

Citation: Holt-Lunstad J, Steffen PR, Sandberg J, Jensen B (2011). Understanding the connection between spiritual well-being and physical health: an examination of ambulatory blood pressure, inflammation, blood lipids and fasting glucose. *Journal of Behavioral Medicine* Apr 13. (Epub ahead of print) <http://www.springerlink.com/content/vp20mx0541m21656/fulltext.pdf>

Comment: Although we seldom recommend the FACIT-Sp (since the Meaning and Peace subscale is basically a well-being scale and contaminates the measure), the strength of the correlation between the Faith subscale (a more valid measure of spirituality/religiosity) was as strong if not more strongly correlated with the health outcomes above as the Meaning/Peace subscale, adding to the validity of the findings.

Research from Outside Duke continued from page 2

View of God and HIV progression

Ironson and colleagues at the University of Miami examined the relationship between View of God as a predictor of CD4 count and viral load in 101 HIV+ patients over a 4-year follow-up. The View of God Inventory was used to assess attitudes toward God's nature (benevolent and forgiving vs. harsh, judgmental, and punishing). After controlling for severity of disease, demographics, and whether or not patients were receiving antiretroviral medication, researchers found that viewing God as benevolent and forgiving predicted significantly higher CD4 counts and lower viral loads after 4 years. Compared to the effect of other known psychosocial predictors of HIV-disease progression, the effect size of view of God on progression was greater. Further controlling for mediators such as church attendance, health behaviors, depression, and coping, could not explain this relationship.

Citation: Ironson G, Stuetzle R, Ironson D, Balbin E, Kremer H, George A, Schneiderman N, Fletcher MA (2011). View of God as benevolent and forgiving or punishing and judgmental predicts HIV disease progression. *Journal of Behavioral Medicine*, Feb 22. [Epub ahead of print] <http://www.springerlink.com/content/15m6rj37185ng75n/fulltext.pdf>

Comment: This is the last in a series of reports from Ironson's research group on the role of religious activity on the slowing of progression of HIV disease.

Religious involvement and substance use and abuse

Many investigators attribute the effects of religious involvement on health to the effects of increased social support. To confirm this hypothesis with regard to alcohol abuse/dependence and drug use, researchers analyzed data on a random sample of 36,370 American adults participating in the 2002 National Survey on Drug Use and Health. Measures of religious involvement included attendance at religious services, importance of religious beliefs, and influence of religious beliefs on decision-making. Social support was assessed by number of friends that participants shared personal issues/concerns with. Outcome variables included use of alcohol and illicit drugs, and DSM-IV diagnoses of alcohol abuse/dependence and drug abuse/dependence. Controlling for age, gender, race, marital status, education, and income, all three religious variables were related to less alcohol use, less alcohol abuse/dependence, and less drug use. Controlling for social support explain little if any of the effect, as did controlling for mental health. Investigators concluded that the relationship between religiosity and substance use disorder was not mediated by either social support or mental health status.

Citation: Edlund MJ, Harris KM, Koenig HG, Han X, Sullivan G (2010). Religiosity and Decreased Risk of Substance Use Disorders: Is the Effect Mediated by Mental Health Status or Social Support? *Social Psychiatry and Psychiatric Epidemiology* 45:827-836

FUNDING OPPORTUNITIES...

Templeton Foundation Online Funding Inquiry (OFI)

The Templeton Foundation's next window for OFI is August 1-October 14. If the funding inquiry is approved (applicant notified by November 23), then the Foundation will ask for a full proposal that will be due December 1-March 1, 2012, with a decision on the proposal reached by June 22, 2012. **More information:**

<http://www.templeton.org/what-we-fund/our-grantmaking-process>

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Partner with Us

From July 1, 2011 through December 31, 2011, the Templeton Foundation will match 1:1 all gifts to the Center to help support research, teaching, and other academic activities at the Center. We need your help.

Website:

<http://www.spiritualityandhealth.duke.edu/about/giving.html>

CALENDAR OF EVENTS...

July 2011

18-22 Research Workshop on Spirituality and Health
Duke University Medical Center
Spots still available; scholarships still available
Contact koenig@geri.duke.edu

27 Research seminar
Religious involvement and telomere shortening in women caregivers (3:30-4:30, Aging Center Conference Room)

August 2011

15-19 Research Workshop on Spirituality and Health
Duke University Medical Center
Spots still available; scholarships still available
Contact koenig@geri.duke.edu

24 Research seminar (3:30-4:30 Aging Center)
Analyzing longitudinal data

September 2011

15-18 25th Annual Westberg Parish Nurse Symposium
St. Louis, Mo
Contact: mslutz@eden.edu

26 Helmut Schumann Lecture, Dartmouth University
Lebanon, NH
Contact: Janice.R.Montgomery@hitchcock.org

27 Spirituality, Prayer and the Healing of Souls
AACC Annual Conference
Nashville, TN
Contact: djenkins@liberty.edu

All events are held in Durham, North Carolina unless otherwise noted