



exploring the nexus of culture, mind and religion

RESEARCH REVIEW

A DIGEST OF NEW SCIENTIFIC RESEARCH
CONCERNING RELIGION, BRAIN & BEHAVIOR

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INTRODUCTION

IBCSR Research Review (IRR) is published by the Institute for the Biocultural Study of Religion, a non-profit research institute dedicated to the scientific study of the biocultural aspects of religion. *IRR* briefly annotates and furnishes online information about scientific research articles related to brain, behavior, culture, and religion published in English in leading journals. It also lists relevant books. Articles in press are listed without annotation. Annotations for articles aim to supply a preliminary understanding of the methods and results of a research study, or the argument of a paper. Annotations typically furnish more detail for articles in the scientific study of religion related to religion, brain, and behavior, than for articles in the area of spirituality and health, in accordance with IBCSR research priorities.

Articles for this issue were located by searching the following databases: Applied Science and Technology, ATLA Religion Database, General Science, PubMed, EBSCO Psychology and Behavioral Sciences Collection, PsycARTICLES, PsycINFO, ScienceDirect, and Web of Science. The search terms were altruism, god, goddess, meditat*, prayer, relig*, ritual, spiritu*, and yoga, tailored to the database being searched. Books were located on Amazon.com. Articles not directly relevant to the scientific study of religion were excluded, as were correspondence and reviews. From a universe of 649 articles, 92 articles have been retained from 56 journals. There are 33 pre-publication citations from 24 journals.

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PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Garrison, Kathleen A., Dustin Scheinost, Patrick D. Worhunsky, Hani M. Elwafi, Thomas A. Thornhill IV, Evan Thompson, Clifford Saron, et al. 2013. Real-time fMRI links subjective experience with brain activity during focused attention. *NeuroImage* 81. 110–118.
doi:10.1016/j.neuroimage.2013.05.030.

Researchers used real-time fMRI (rt-fMRI) to provide meditation-naïve subjects, as well as experienced meditators, with feedback of their own brain activity during an ongoing task. In a first experiment, both meditators and non-meditators reported significant correspondence between the feedback graph and their subjective experience of focused attention and mind-wandering. When instructed to volitionally decrease the feedback graph, meditators, but not non-meditators, showed significant deactivation of the posterior cingulate cortex. Researchers were able to replicate these results in a separate group of meditators using a novel step-wise rt-fMRI discovery protocol in which participants were not provided with prior knowledge of the expected relationship between their experience and the feedback graph (i.e., focused attention versus mind-wandering). These findings support the feasibility of using rt-fMRI to link objective measures of brain activity with reports of ongoing subjective experience in cognitive neuroscience research, and demonstrate the generalization of expertise in introspective awareness to novel contexts.

Kamal, Nurul Fazrena, Nasrul Humaimi Mahmood & Nor Aini Zakaria. 2013. Modeling Brain Activities during Reading Working Memory Task: Comparison between Reciting Quran and Reading Book. *Procedia - Social and Behavioral Sciences* 97. 83–89.
doi:10.1016/j.sbspro.2013.10.207.

Muslims believe that each Islam practice has its advantages and benefits in many different ways. This paper discussed an analysis of Electroencephalogram (EEG) signal of the resting state and calming mind during reading (reciting) Quran. The data collection of this study involves four different conditions, which are before reciting the Quran, before

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reading a book, during reciting the Quran and during reading a book thus establishing the comparison between reading a book and reciting the Quran, and also the relationship between each parietal cortex value for each condition. Reading book acts as a controller for reciting Quran because both conditions use the same action (read). Ten healthy subjects were recruited to measure their behaviors of mind during reciting Quran and reading book by using EEG wave. The results showed the negative correlation between reading book and reciting Quran for each subject. Moreover, the Quran could become a tool for meditation, reduces stress and be in resting state (calming mind).

Tan, Lee-Fan, Zoltan Dienes, Ashok Jansari & Sing-Yau Goh. 2013. Effect of mindfulness meditation on brain-computer interface performance. *Consciousness and cognition* 23C. 12–21.
doi:10.1016/j.concog.2013.10.010.

Electroencephalogram based brain-computer interfaces (BCIs) enable stroke and motor neuron disease patients to communicate and control devices. Mindfulness meditation has been claimed to enhance metacognitive regulation. The current study explores whether mindfulness meditation training can thus improve the performance of BCI users. To eliminate the possibility of expectation of improvement influencing the results, researchers introduced a music training condition. A norming study found that both meditation and music interventions elicited clear expectations for improvement on the BCI task, with the strength of expectation being closely matched. In the main 12-week intervention study, seventy-six healthy volunteers were randomly assigned to three groups: a meditation training group; a music training group; and a no treatment control group. The mindfulness meditation training group obtained a significantly higher BCI accuracy compared to both the music training and no-treatment control groups after the intervention, indicating effects of meditation above and beyond expectancy effects.

Tsai, Jui-Feng, Shaw-Hwa Jou, WenChun Cho & Chieh-Min Lin. 2013. Electroencephalography when meditation advances: A case-based time-series analysis. *Cognitive processing* 14(4). 371–376.
doi:10.1007/s10339-013-0563-3.

Increased alpha and theta activities in electroencephalography (EEG) have been found during various forms of meditation. However, advanced stage of meditation drew less attention to date. Researchers aimed at exploring EEG characteristics during advanced meditation. Bilateral absolute alpha and theta EEG powers were recorded when a single meditator at rest, exercising breath meditation, and reaching the advanced meditative stage in 10 sessions of meditation. Averaged time-series data were analyzed using simulation modeling analysis to compare the powers during different meditative phases. During breath meditation, significantly higher activities compared with baseline were found only in bilateral theta, but not in alpha bands. When meditation advanced, significantly increased activities were found both in bilateral alpha and theta bands compared against breath meditation. When advanced meditation compared against baseline, bilateral alpha and theta bands revealed significantly increased activities. These findings support that internalized attention manifested as theta activity continually enhances significantly in sequential phases of meditation, while relaxation manifested as alpha activity is significant only after the advanced meditative phase is reached.

Wells, Rebecca Erwin, Gloria Y Yeh, Catherine E Kerr, Jennifer Wolkin, Roger B Davis, Ying Tan, Rosa Spaeth, et al. 2013. Meditation's impact on default mode network and hippocampus in mild cognitive impairment: A pilot study. *Neuroscience Letters* 556. 15–19.
doi:10.1016/j.neulet.2013.10.001.

Patients with high baseline stress levels are more likely to develop mild cognitive impairment (MCI) and Alzheimer's Disease (AD). While meditation may reduce stress and alter the hippocampus and default mode network (DMN), little is known about its impact in these populations. The objective for this study was to conduct a "proof of concept" trial to determine whether Mindfulness Based Stress Reduction (MBSR) would improve DMN connectivity and reduce hippocampal atrophy among adults with MCI. Fourteen adults with MCI were randomized to MBSR vs. usual care and underwent resting state fMRI at baseline and follow-up. Seed based functional connectivity was

applied using posterior cingulate cortex as seed. Brain morphometry analyses were performed using FreeSurfer. The results showed that after the intervention MBSR participants had increased functional connectivity between the posterior cingulate cortex and bilateral medial prefrontal cortex and left hippocampus compared to controls. In addition, MBSR participants had trends of less bilateral hippocampal volume atrophy than control participants. These preliminary results indicate that in adults with MCI, MBSR may have a positive impact on the regions of the brain most related to MCI and AD.

1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Baumgartner, Thomas, Bastian Schiller, Christopher Hill & Daria Knoch. 2013. Impartiality in humans is predicted by brain structure of dorsomedial prefrontal cortex. *Neuroimage* 81. 317–324. doi:10.1016/j.neuroimage.2013.05.047.

The moral force of impartiality (i.e. the equal treatment of all human beings) is imperative for providing justice and fairness. Yet, in reality many people become partial during intergroup interactions; they demonstrate a preferential treatment of ingroup members and a discriminatory treatment of outgroup members. Some people, however, do not show this intergroup bias. The underlying sources of these inter-individual differences are poorly understood. In this study, researchers demonstrate that the larger the gray matter volume and thickness of the dorsomedial prefrontal cortex (DMPFC), the more individuals in the role of an uninvolved third-party impartially punish outgroup and ingroup perpetrators. Moreover, evidence is provided for a possible mechanism that explains the impact of DMPFC's gray matter volume on impartiality, namely perspective-taking. Large gray matter volume of DMPFC seems to facilitate equal perspective-taking of all sides, which in turn leads to impartial behavior. This is the first evidence demonstrating that brain structure of the DMPFC constitutes an important source underlying an individual's propensity for impartiality.

Delorme, Arnaud, Julie Beischel, Leena Michel, Mark Boccuzzi, Dean Radin & Paul J Mills. 2013. Electro-cortical activity associated with subjective communication with the deceased. *Frontiers in psychology* 4. 834. doi:10.3389/fpsyg.2013.00834.

During advanced meditative practices, unusual perceptions can arise including the sense of receiving information about unknown people who are deceased. As with meditation, this mental state of communication with the deceased involves calming mental chatter and becoming receptive to subtle feelings and sensations. Psychometric and brain electrophysiology data were collected from six individuals who had previously reported accurate information about deceased individuals under double-blind conditions. Each experimental participant performed two tasks with eyes closed. In the first task, the participant was given only the first name of a deceased person and asked 25 questions. After each question, the participant was asked to silently perceive information relevant to the question for 20 s and then respond verbally. Responses were transcribed and then scored for accuracy by individuals who knew the deceased persons. Of the four mediums whose accuracy could be evaluated, three scored significantly above chance. The correlation between accuracy and brain activity during the 20 seconds of silent medium communication was significant in frontal theta for one participant. In the second task, participants were asked to experience four mental states for 1 min each: (1) thinking about a known living person, (2) listening to a biography, (3) thinking about an imaginary person, and (4) interacting mentally with a known deceased person. Each mental state was repeated three times. Statistically significant differences after correction for multiple comparisons in electrocortical activity among the four conditions were obtained in all six participants, primarily in the gamma band (which might be due to muscular activity). These differences suggest that the impression of communicating with the deceased may be a distinct mental state distinct from ordinary thinking or imagination.

Preston, Jesse Lee & Ryan S Ritter. 2013. Different effects of religion and God on prosociality with the ingroup and outgroup. *Personality & social psychology bulletin* 39(11). 1471–1483.

doi:10.1177/0146167213499937.

Recent studies have found that activating religious cognition by priming techniques can enhance prosocial behavior, arguably because religious concepts carry prosocial associations. But many of these studies have primed multiple concepts simultaneously related to the sacred. The authors of this paper argue that religion and God are distinct concepts that activate distinct associations. In particular, the effect of God and religion on prosociality toward the ingroup and outgroup is examined. In three studies, it was found that religion primes enhanced prosociality toward ingroup members, consistent with ingroup affiliation. However, God primes enhanced prosociality toward outgroup member, consistent with concerns of moral impression management. Implications for theory and methodology in religious cognition are discussed.

Schachner, Adena & Susan Carey. 2013. Reasoning about “irrational” actions: when intentional movements cannot be explained, the movements themselves are seen as the goal. *Cognition* 129(2). 309–327.

doi:10.1016/j.cognition.2013.07.006.

Infants and adults are thought to infer the goals of observed actions by calculating the actions’ efficiency as a means to particular external effects, like reaching an object or location. However, many intentional actions lack an external effect or external goal (e.g., dance). Researchers here show that for these actions, adults infer that the agents’ goal is to produce the movements themselves: Movements are seen as the intended outcome, not just a means to an end. The authors test what drives observers to infer such movement-based goals, hypothesizing that observers infer movement-based goals to explain actions that are clearly intentional, but are not an efficient means to any plausible external goal. In three experiments, intentionality and efficiency are manipulated separately, equating for movement trajectory, perceptual features, and external effects. It is found that participants only infer movement-based goals when the actions are intentional and are not an efficient means to external goals. Thus, participants appear to infer that movements are the goal in order to explain otherwise mysterious intentional actions. These findings expand models of goal inference to account for intentional yet ‘irrational’ actions, and suggest a novel explanation for over-imitation as emulation of movement-based goals.

Shen, Megan Johnson, Megan C. Haggard, Daniel C. Strassburger & Wade C. Rowatt. 2013. Testing the love thy neighbor hypothesis: Religiosity’s association with positive attitudes toward ethnic/racial and value-violating out-groups. *Psychology of Religion and Spirituality* 5(4). 294–303.

doi:10.1037/a0033648.

Most religions teach individuals to “love thy neighbor” where “neighbor” extends to out-group members. To date, the love thy neighbor hypothesis, which posits that religiosity is associated with tolerance toward out-group members, has been tested indirectly by examining religiosity’s association with negative (prejudiced) attitudes. The present study directly tested the love thy neighbor hypothesis by examining religiosity’s association with positive attitudes toward out-groups once statistically controlling for right-wing authoritarianism (RWA), a measure of cognitive rigidity and a known mediator of the relationship between religiosity and prejudice. Two hundred forty-nine adult Americans completed measures of religiosity and allophilia, a measure of positive attitudes toward members of an out-group. Mediation path analyses revealed that RWA aggression, a subcomponent of RWA that measures a cognitively rigid ideology, fully mediated the relationship between religiosity and positive attitudes toward ethnic/racial out-groups (Arabs, African Americans, and Hispanics). This positive association between religiosity and positive attitudes toward ethnic/racial out-groups suggests that religiosity is associated with loving some neighbors. Both RWA aggression and RWA conventionalism (a subcomponent of RWA that measures traditional cognitive rigidity) fully mediated the relationship between religiosity and positive attitudes toward value-violating out-groups (lesbians, gay men, and atheists). Religiosity showed no association with attitudes toward value-violating out-groups once controlling for these rigid ideologies, providing partial support for the love thy neighbor hypothesis.

Weeden, Jason & Robert Kurzban. 2013. What predicts religiosity? A multinational analysis of reproductive and cooperative morals. *Evolution and Human Behavior* 34(6). 440–445. doi:10.1016/j.evolhumbehav.2013.08.006.

Theories of the sources of contemporary individual differences in religiosity have been proposed involving religiosity's role both in (1) enhancing within-group cooperation and (2) supporting high-commitment reproductive strategies. The present study used data from 296,959 individuals in around 90 countries from the World Values Survey/European Values Study to test the relative strength of individual differences in cooperative morals and reproductive morals in predicting individual differences in religiosity. Cooperative morals tended not to predict religiosity either substantially or in a consistent direction across world regions when entered simultaneously with reproductive morals. In contrast, more-restrictive reproductive morals were significant predictors of increased religiosity in every region, with the size of the relationship being small in poorer regions and large in wealthier regions. These findings run counter to the view that religiosity has a fundamental connection with cooperative morals; instead, particularly in developed countries, individuals' relationships with religious groups are more closely aligned with reproductive strategies.

Willard, Aiyana K. & Ara Norenzayan. 2013. Cognitive biases explain religious belief, paranormal belief, and belief in life's purpose. *Cognition* 129(2). 379–391. doi:10.1016/j.cognition.2013.07.016.

Cognitive theories of religion have postulated several cognitive biases that predispose human minds towards religious belief. However, to date, these hypotheses have not been tested simultaneously and in relation to each other, using an individual difference approach. Researchers used a path model to assess the extent to which several interacting cognitive tendencies, namely mentalizing, mind-body dualism, teleological thinking, and anthropomorphism, as well as cultural exposure to religion, predict belief in God, paranormal beliefs and belief in life's purpose. The model, based on two independent samples (n=492 and n=920) found that the previously known relationship between mentalizing and belief is mediated by individual differences in dualism, and to a lesser extent by teleological thinking. Anthropomorphism was unrelated to religious belief, but was related to paranormal belief. Cultural exposure to religion (mostly Christianity) was negatively related to anthropomorphism, and was unrelated to any of the other cognitive tendencies. These patterns were robust for both men and women, and across at least two ethnic identifications. The data were most consistent with a path model suggesting that mentalizing comes first, which leads to dualism and teleology, which in turn lead to religious, paranormal, and life's-purpose beliefs. Alternative theoretical models were tested but did not find empirical support.

1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND CULTURE

Audretsch, David B., Werner Bönnte & Jagannadha Pawan Tamvada. 2013. Religion, social class, and entrepreneurial choice. *Journal of Business Venturing* 28(6). 774–789. doi:10.1016/j.jbusvent.2013.06.002.

While considerable concern has emerged about the links between religion and economic growth, little is actually known about how religion and social class impact the decision making of individuals. Using institutional theory and social dominance theory, this paper examines the influence of religion and social class on individuals' occupational choices. Based on a large-scale database from India, this paper finds that while some religions are relatively conducive to self-employment, some others have a negative impact on self-employment choices. Furthermore, individuals belonging to social classes that are lower in the social hierarchy are less likely to be self-employed. The role of both religion and social class in influencing the likelihood of choosing self-employment suggests an important link between religion, social class, and occupational decision-making.

Brittian, Aerika S., Nina Lewin & Shane A. Norris. 2013. "You must know where you come from": South African youths' perceptions of religion in time of social change. *Journal of Adolescent Research* 28(6). 642–663.

doi:10.1177/0743558413480834.

This study examined South African youths' perceptions of religion during a period of social and economic transition. In-depth interviews were conducted with 55 Black South African youth (age 18) living in the Johannesburg-Soweto metropolitan area. Data were analyzed in a manner consistent with grounded theory methodology and structural coding. Beliefs about the function of religion were captured by the following themes: provides support, connection to the past, moral compass, promotes healthy development, and intersections between African traditional practices and Christian beliefs. Themes are discussed and directions for future research are presented. In addition, applications of the current research and implications for promoting youths' resilience are offered.

Davis, Don E., Everett L. Jr. Worthington, Joshua N. Hook & Peter C. Hill. 2013. Research on religion/spirituality and forgiveness: A meta-analytic review. *Psychology of Religion and Spirituality* 5(4). 233–241.

doi:10.1037/a0033637.

In the present article, literature on religion/spirituality (R/S) and forgiveness is reviewed using meta-analysis. R/S was positively related to trait forgivingness (i.e., across relationships and situations), state forgiveness (i.e., of a specific offense), and self-forgiveness. Contextual measures of R/S more proximal to the forgiveness process were more strongly related to state forgiveness than were dispositional measures of R/S. Measures of one's relationship with the sacred were more strongly related to self-forgiveness than were dispositional R/S measures.

Etengoff, Chana & Colette Daiute. 2013. Sunni-muslim American religious development during emerging adulthood. *Journal of Adolescent Research* 28(6). 690–714.

doi:10.1177/0743558413477197.

Islam is one of the fastest growing religions in America, with approximately 6 to 7 million Muslims living in America within the past decade. However, there has been little psychological research conducted focusing on the development of the Muslim-American self. This inquiry addresses that gap by focusing on how familial religious affiliation during childhood and the everyday environmental activity systems of emerging adulthood impact religious practice and the construction of the religious self among Sunni-Muslim American emerging adults (n=63, 18-29 years) via the development of diverse mediational strategies. Utilizing an applied cultural historical activity theory-based analysis, the authors found that participants' religious development emerged as a diverse and dynamic process developing in relation to the interacting activity systems and socio-relational contexts of emerging adulthood.

Gurney, Daniel J., Shelley McKeown, Jamie Churchyard & Neil Howlett. 2013. Believe it or not: Exploring the relationship between dogmatism and openness within non-religious samples. *Personality and Individual Differences* 55(8). 936–940.

doi:10.1016/j.paid.2013.07.471.

In this experiment, researchers distinguish between two types of non-religious groups; those who ascribe themselves to an identity (atheists) and those who do not (no beliefs in particular). A total of 103 non-religious individuals (36% atheists and 64% with no particular beliefs) completed an online questionnaire measuring dogmatism and openness traits, with an additional Christian group (n=91) serving as a control. After confirming a relationship between identity salience and dogmatism, and validating a measure of dogmatism in both non-religious groups, the authors note key personality differences between the two. Those with no beliefs in particular demonstrated a traditional negative correlation between openness and dogmatism (along with Christians) while these variables correlated positively for atheists (in particular, on 'unconventionality'). This study is the first to establish differences between the relationship of dogmatism and openness within non-religious populations and explain these differences through

group identity. Thus, identity strength and group belief systems are suggested to be key contributors to observed group differences between non-religious individuals.

- Hayward, R. David & Neal Krause. 2013. Patterns of change in religious service attendance across the life course: Evidence from a 34-year longitudinal study. *Social Science Research* 42(6). 1480–1489. doi:10.1016/j.ssresearch.2013.06.010.

Although a number of studies have uncovered evidence of age differences in religious involvement across the life course, there has been a lack of long-term longitudinal data to test the extent to which these differences are due to changes within individuals over time. This study tracks trajectories of change in religious service attendance using data collected longitudinally over the course of up to 34 years, between 1971 and 2005, and in ages ranging from 15 to 102. Piecewise growth curve modeling was used to examine changes in the patterns of age-related change in three distinct developmental periods: the transition from adolescence to young adulthood, middle adulthood, and older adulthood. Attendance showed an average pattern of quadratic decline in adolescence, stability in middle adulthood, and a quadratic pattern of more rapid increase followed by decrease over the course of older adulthood. These results suggest that developmental factors play a role in changing patterns of religious participation across the adult life course, and may account for some of the apparent differences between age groups.

- Kelemen, Deborah, Joshua Rottman & Rebecca Seston. 2013. Professional physical scientists display tenacious teleological tendencies: Purpose-based reasoning as a cognitive default. *Journal of Experimental Psychology: General* 142(4). 1074–1083. doi:10.1037/a0030399.

Teleological explanations account for objects and events by reference to a functional consequence or purpose. Although they are popular in religion, they are unpopular in science: physical scientists in particular explicitly reject them when explaining natural phenomena. However, prior research provides reasons to suspect that this explanatory form may represent a default explanatory preference. As a strong test of this hypothesis, the authors explored whether physical scientists endorse teleological explanations of natural phenomena when their information-processing resources are limited. In Study 1, physical scientists from top-ranked American universities judged explanations as true or false, either at speed or without time restriction. Like undergraduates and age-matched community participants, scientists demonstrated increased acceptance of unwarranted teleological explanations under speed despite maintaining high accuracy on control items. Scientists' overall endorsement of inaccurate teleological explanation was lower than comparison groups, however. In Study 2, the authors explored this further and found that the teleological tendencies of professional scientists did not differ from those of humanities scholars. Thus, although extended education appears to produce an overall reduction in inaccurate teleological explanation, specialization as a scientist does not, in itself, additionally ameliorate scientifically inaccurate purpose-based theories about the natural world. A religion-consistent default cognitive bias toward teleological explanation tenaciously persists and may have subtle but profound consequences for scientific progress.

- Lau, Wilfred W. F. & Allan H. K. Yuen. 2013. Adolescents' risky online behaviours: The influence of gender, religion, and parenting style. *Computers in Human Behavior* 29(6). 2690–2696. doi:10.1016/j.chb.2013.07.005.

This study explored the influence of gender, religion, and parenting style on risky online behaviors in a sample of 825 Secondary 2 students in Hong Kong. Three risky online behaviors, namely, unauthorized acts (UNAC), internet stickiness (INST), and plagiarism (PLAG) were examined. It was found that males tended to be involved in more risky online behaviors than did females. Christians were no different from non-Christians in terms of risky online behaviors. Parenting style did not seem to be effective in reducing risky online behaviors. There was some evidence that gender moderated the relationship between risky online behaviors and parenting style. Taken together, gender, religion, and parenting style predicted risky online behaviors significantly.

Lockerbie, Brad. 2013. Race and Religion: Voting Behavior and Political Attitudes. *Social Science Quarterly* 94(4). 1145–1158.
doi:10.1111/ssqu.12062.

The purpose of this article is to examine the relationship between religion and voting behavior and political attitudes. Moreover, this work examines the distinction between black and white evangelicals. This article makes use of regression and logit analysis of the American National Election Studies of 1992 through 2008. Results Identification with a particular tradition is important, along with attitudes concerning the authorship of the Bible. Moreover, affiliation with an evangelical tradition works in opposite directions for African Americans and whites. African-American evangelicals, perhaps because of the messages on economics and civil rights that are preached in the traditional black church, are more likely than other African Americans to vote Democratic. Looking at differences concerning political issues, however, shows much less clarity than does voting behavior. The differences between African-American and white evangelicals are largely nonexistent, except on issues that deal specifically with race.

Midden, Eva & Sandra Ponzanesi. 2013. Digital faiths: An analysis of the online practices of Muslim women in the Netherlands. *Women's Studies International Forum* 41, Part 3. 197–203.
doi:10.1016/j.wsif.2013.07.012.

In response to current debates in Western Europe around Islam, gender equality and emancipation, this article aims to develop a new perspective on conceptualizing 'emancipation' in feminist theory and practice. A case study of how Muslim women in the Netherlands use digital media to negotiate their religious affiliations and multiple belongings shows that faith and religious practices are important markers of Muslim women's agency, both emancipatory and submissive. Theoretically, the article integrates classical feminist standpoint theory and situated knowledge with current debates on agency and subjectivity. Methodologically, this virtual ethnography draws on both online and offline data: postings on four websites for Muslims living in the Netherlands as well as focus group interviews with their editors/ bloggers and women active in Dutch Muslim women's organizations. The data were analyzed through Critical Discourse Analysis.

Paglieri, Fabio, Anna M. Borghi, Lorenza S Colzato, Bernhard Hommel & Claudia Scorolli. 2013. Heaven can wait. How religion modulates temporal discounting. *Psychological Research* 77(6). 738–747.
doi:10.1007/s00426-012-0473-5.

Evidence suggests that religious systems have specific effects on attentional and action control processes. The present study investigated whether religions also modulate choices that involve higher-order knowledge and the delay of gratification in particular. Researchers tested Dutch Calvinists, Italian Catholics, and Atheists from both countries/cultures using an intertemporal choice task where participants could choose between a small immediate and a larger delayed monetary reward. Based on the Calvinist theory of predestination and the Catholic concept of a cycle of sin-confession-expiation, the authors predicted a reduced delay tolerance, i.e., higher discount rate, for Italian Catholics than for Dutch Calvinists, and intermediate rates for the two atheist groups. Analyses of discount rates support the hypotheses. The authors also found a magnitude effect on temporal discounting and faster responses for large than for small rewards across religions and countries/cultures. They conclude that temporal discounting is specifically modulated by religious upbringing rather than by generic cultural differences.

Schnell, Tatjana & Sarah Pali. 2013. Pilgrimage today: The meaning-making potential of ritual. *Mental Health, Religion & Culture* 16(9). 887–902.
doi:10.1080/13674676.2013.766449.

Pilgrimage on the road to Santiago is flourishing, even in late modern times. Many of these pilgrims are either not explicitly religious at all, or only moderately religious. Why, then, do they submit to this ancient Christian ritual,

and what are the psychological consequences? After a short introduction to the study of implicit religiosity and different perspectives on rituals from the past to today, current research on pilgrimage is reviewed, and pilgrimage to Santiago is analyzed as a personal ritual from a perspective of implicit religiosity. In the psychological theory of implicit religiosity, rituals are identified as one of three universal religious structures (along with myths and experiences of transcending) with strong meaning-making potential. Personal rituals are defined as formalized patterns of action, pointing beyond the actual event to a particular meaning imbued by the actor. Data from 85 pilgrims on the Road to Santiago are presented. Motives for peregrination, base-line sources of meaning, experienced meaningfulness and crises of meaning are reported, as well as changes in sources of meaning, meaningfulness and crises of meaning immediately after the pilgrimage and four months later. The majority of pilgrims (about two third) is motivated by a "need for clarification." Multidimensional scaling shows that pilgrims either travel for explicitly religious reasons (conviction) or in search of clarification (quest); they either draw motivation from vertical transcendence (religiosity or spirituality) or from apparently purely secular reasons, such as athletic challenge. Religious and spiritual motives are mostly reported by highly religious individuals. A need for clarification is primarily stated by individuals who suffer from a crisis of meaning. Crises of meaning are significantly more frequent among pilgrims before the journey than in the general population. For the entire sample of pilgrims, the meaning-making potential of pilgrimage is supported by the data. Directly after the journey, as well as four months later, pilgrims experience life as significantly more meaningful, and crises of meaning are overcome. Pilgrims also report a strengthened commitment to vertical self-transcendence, horizontal self-transcendence and self-actualization. These changes occur independently of the motivation for pilgrimage.

Siôn, Tania ap & Paul Nash. 2013. Coping through prayer: An empirical study in implicit religion concerning prayers for children in hospital. *Mental Health, Religion & Culture* 16(9). 936–952. doi:10.1080/13674676.2012.756186.

This study links two fields of empirical research. The first field (grounded in empirical theology) is concerned with ordinary prayer and that aspect of implicit religion discernable within explicit religious expressions. The second field (grounded in the psychology of religion) is concerned with private prayer as a significant method of coping in health-related contexts. Few previous studies, however, have focused on the specific components comprising the content of such prayers and their concern for health issues relating to others, such as family and friends. The present study addresses this gap by employing the analytical framework for health and well-being devised previously in a content analysis of 583 prayers left in the chapel of a children's hospital in England. The conceptual and practical applications of the new research findings are discussed.

Walker, David. 2013. You don't have to go to church to be a good Christian: The implicit religion of the cathedral carol service congregation. *Mental Health, Religion & Culture* 16(9). 903–908. doi:10.1080/13674676.2012.758401.

The notion that one doesn't have to go to church to be a good Christian is accepted as an indicator of the form of implicit religiosity espoused by those who (in Bailey's analysis) say that they "believe in Christianity." The present paper builds on the findings of a recently published survey of rural Anglican churchgoers celebrating harvest which suggested that de-institutionalized implicit religion may be superseding commitment to conventional explicit religious attendance. The responses of 1081 people who attended Christmas carol services in two English cathedrals in 2009 and 2010 are analyzed. The findings of the previous paper that implicit religiosity is more prevalent among younger people and among those who attend church less frequently are replicated. Evidence is also found that women are more inclined to this view than men and that those who have a loose historical connection through baptism are more likely to endorse it than those with either no historical connections or stronger ones.

Williamson, Sarah & Matthew Carnes. 2013. Partisanship, Christianity, and Women in the Legislature: Determinants of Parental Leave Policy in U.S. States. *Social Science Quarterly* 94(4). 1084–1101. doi:10.1111/j.1540-6237.2012.00882.x.

Although the United States 1993 Family and Medical Leave Act is considered meager by international standards, significant variation in family leave policies exists across U. S. states. This article develops a political theory-driven by mobilized interest groups-to explain variation in the duration and pay level of state parental leave policies. Employing four different measures of family leave policy, the authors use ordinary least squares and logit models to test the effects of partisanship, women in the legislature, and evangelical populations on parental leave outcomes. Results indicate that states with a pattern of Democratic Party-controlled legislatures and high percentages of legislative seats occupied by women see more generous parental leave protections, while states with large populations of evangelical Christians see less generous policies.

Yousaf, Omar & Fernand Gobet. 2013. The Emotional and Attitudinal Consequences of Religious Hypocrisy: Experimental Evidence Using a Cognitive Dissonance Paradigm. *Journal of Social Psychology* 153(6). 667–686.

The authors explored the emotional and attitudinal consequences of personal attitude-behavior discrepancies using a religious version of the hypocrisy paradigm. Cognitive dissonance was induced in participants (n=206) by making them feel hypocritical for advocating certain religious behaviors that they had not recently engaged in to their own satisfaction. In Experiment 1, this resulted in higher levels of self-reported guilt and shame compared to the control condition. Experiment 2 further showed that a religious self-affirmation task eliminated the guilt and shame. In Experiment 3, participants boosted their religious attitudes as a result of dissonance, and both religious and non-religious self-affirmation tasks eliminated this effect. The findings provide evidence that dissonance induced through religious hypocrisy can result in guilt and shame as well as an attitude bolstering effect, as opposed to the attitude reconciliation effect that is prevalent in previous dissonance research.

Zuckerman, M., J. Silberman & J. A. Hall. 2013. The Relation Between Intelligence and Religiosity: A Meta-Analysis and Some Proposed Explanations. *Personality and Social Psychology Review* 17(4). 325–354.
doi:10.1177/1088868313497266.

A meta-analysis of 63 studies showed a significant negative association between intelligence and religiosity. The association was stronger for college students and the general population than for participants younger than college age; it was also stronger for religious beliefs than religious behavior. For college students and the general population, means of weighted and unweighted correlations between intelligence and the strength of religious beliefs ranged from -.20 to -.25. Three possible interpretations were discussed. First, intelligent people are less likely to conform and, thus, are more likely to resist religious dogma. Second, intelligent people tend to adopt an analytic (as opposed to intuitive) thinking style, which has been shown to undermine religious beliefs. Third, several functions of religiosity, including compensatory control, self-regulation, self-enhancement, and secure attachment, are also conferred by intelligence. Intelligent people may therefore have less need for religious beliefs and practices.

1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Capanna, Cristina, Paolo Stratta, Alberto Collazzoni & Alessandro Rossi. 2013. Construct and concurrent validity of the Italian version of the Brief Multidimensional Measure of Religiousness/Spirituality. *Psychology of Religion and Spirituality* 5(4). 316–324.
doi:10.1037/a0033642.

Religiousness and spirituality are increasingly being investigated in relation with physical and mental health. The aims of this study are to investigate the factor structure of the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS) and analyze the relations of BMMRS factors with personality, well-being, and perceived stress constructs. A population of 819 Italian adults completed a questionnaire containing the BMMRS, Temperament and Character Inventory Revised, measures of subjective well-being and perceived stress. A principal component factor analysis identified three factors accounting for 51% variance, labeled as spirituality,

religiousness, and negative religious coping, respectively. Women reported higher scores than men on spirituality and religiousness and both these BMMRS factors showed significant correlations with age, personality, well-being, and perceived stress dimensions. Results suggest that the BMMRS assesses religiousness and spirituality as well as their negative sides as independent constructs.

- Francis, Leslie J. 2013. Psychological-type theory and Christian theology: A conflict between implicit and explicit religions? *Mental Health, Religion & Culture* 16(9). 964–974.
doi:10.1080/13674676.2012.759717.

This study analyses the relationship between psychological-type theory and Christian theology through the lens of implicit religion, drawing on the conceptualization of implicit religion proposed by Edward Bailey, on the methodology for identifying implicit religion proposed by Tatjana Schnell, and on an heuristic framework derived from systematic theology. The case is argued that psychological-type theory can be conceptualized as implicit religion and implicit theology in a way that enables dialogue (and conflict) between psychological-type theory and Christian theology to be re-conceptualized within the established field of the theology of religions.

- Francis, Leslie J., Sergej Flere, Rudi Klanjšek, Emyr Williams & Mandy Robbins. 2013. Attitude towards Christianity and New Age beliefs among undergraduate students in Slovenia: A study in implicit religion. *Mental Health, Religion & Culture* 16(9). 953–963.
doi:10.1080/13674676.2012.759721.

This study examines two conflicting hypotheses regarding the association between traditional religiosity and new age belief: the “worldview hypothesis” suggesting a positive association between these two sets of beliefs, and the “functional alternative hypothesis” suggesting a negative association between these two sets of beliefs. A sample of 1209 undergraduate students attending the University of Maribor, Slovenia, completed the Francis Scale of Attitude towards Christianity as a measure of traditional religiosity and the Lavrič Scale of New Age Belief, alongside a measure of frequency of church attendance. The data demonstrated a positive correlation between attitude towards Christianity and new age belief, even after taking into account different levels of church attendance. These findings support the worldview hypotheses in favor of the functional alternative hypothesis.

- Hanson, Gordon H. & Chong Xiang. 2013. Exporting Christianity: Governance and doctrine in the globalization of US denominations. *Journal of International Economics* 91(2). 301–320.
doi:10.1016/j.jinteco.2013.08.002.

In this paper the authors build a model of market competition among religious denominations, using a framework that involves incomplete contracts and the production of club goods. They treat denominations akin to multinational enterprises, which decide which countries to enter based on local market conditions and their own “productivity.” The model guides the authors in estimating how a denomination’s religious doctrine and governance structure affect its ability to attract adherents. Using data on the foreign operations of US Protestant denominations in 2005 from the World Christian Database, it is found that (1) denominations with stricter religious doctrine attract more adherents in countries in which the risk of natural disaster or disease outbreak is greater and in which government provision of health services is weaker, and (2) denominations with a decentralized governance structure attract more adherents in countries in which the pastor cost of connecting with congregants is lower. These findings illuminate factors shaping the composition of religion within countries, helping account for the rise of new Protestant groups. They also provide empirical evidence for the recent theoretical developments in organization and trade.

- Miller, Wendi A., James A. Shepperd & Michael E. McCullough. 2013. Evaluating the Religious Commitment Inventory for Adolescents. *Psychology of Religion and Spirituality* 5(4). 242–251.
doi:10.1037/a0031694.

Although numerous studies link adolescent religiousness to a variety of outcomes, limitations in the measurement of adolescent religiousness constrain interpretation of the findings. The authors here introduce a multi-item measure of

adolescent religiousness, the Religious Commitment Inventory for Adolescents (RCI-A), that assesses both religious behavior and sentiments and is appropriate for use with adolescents of varying religious faiths. Ninth graders (n=1,419) completed the RCI-A and several other survey instruments online. Results revealed that the RCI-A has strong psychometric properties (e.g., internal consistency, test–retest reliability, and construct validity) and is appropriate for use with adolescents from a variety of religious faiths. Furthermore, it predicted engagement in risk behavior (cigarette, marijuana, and alcohol use).

Nash, Jonathan D & Andrew Newberg. 2013. Toward a unifying taxonomy and definition for meditation. *Frontiers in psychology* 4. 806.
doi:10.3389/fpsyg.2013.00806.

One of the well-documented concerns confronting scholarly discourse about meditation is the plethora of semantic constructs and the lack of a unified definition and taxonomy. In recent years there have been several notable attempts to formulate new lexicons in order to define and categorize meditation methods. While these constructs have been useful and have encountered varying degrees of acceptance, they have also been subject to misinterpretation and debate, leaving the field devoid of a consensual paradigm. This paper attempts to influence this ongoing discussion by proposing two new models which hold the potential for enhanced scientific reliability and acceptance. Regarding the quest for a universally acceptable taxonomy, the authors suggest a paradigm shift away from the norm of fabricating new terminology from a first-person perspective. As an alternative, a new taxonomic system is proposed based on the historically well-established and commonly accepted third-person paradigm of Affect and Cognition, borrowed, in part, from the psychological and cognitive sciences. With regard to the elusive definitional problem, the authors propose a model of meditation which clearly distinguishes “method” from “state” and is conceptualized as a dynamic process which is inclusive of six related but distinct stages. The overall goal is to provide researchers with a reliable nomenclature with which to categorize and classify diverse meditation methods, and a conceptual framework which can provide direction for their research and a theoretical basis for their findings.

Siôn, Tania ap & Owen Edwards. 2013. Say one for me: The implicit religion of prayers from the street. *Mental Health, Religion & Culture* 16(9). 922–935.
doi:10.1080/13674676.2012.758398.

Within the field of the psychology of prayer, there has been a growing interest in empirical studies concerned with the analysis of the content of ordinary people’s private prayers, with a view to providing a more nuanced understanding of the psychological correlates of prayer among those who engage in the activity. One research tradition has focused on the content analysis of intercessory prayer requests left in church-related settings, and it is within this context that the present study is located, examining 417 intercessory prayer requests, collected on the streets by bishops in the Church of England as part of the 2011 “Say One for Me” Lent Prayer initiative. The study was informed by the constructs of implicit religion and ordinary theology, and employed ap Siôn’s general analytical framework for intercessory prayer requests. Three types of implicit religion were found to be present in the prayer content: societal consensus, the source of explicit religion, and the effect of explicit religion, and the significance of these results is discussed.

PART 2. ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

2.1 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Allmon, Allison L., Benjamin A. Tallman & Elizabeth M. Altmaier. 2013. Spiritual Growth and Decline Among Patients With Cancer. *Oncology Nursing Forum* 40(6). 559–565.
doi:10.1188/13.ONF.559-565.

In a study of 47 adult cancer survivors, researchers found that positive religious coping at baseline predicted spiritual growth at the nine-month follow-up point. Spiritual decline was predicted by negative religious importance. A bivariate relationship existed between increased levels of negative religious coping and increased spiritual growth.

Bulkley, Joanna, Carmit K McMullen, Mark C Hornbrook, Marcia Grant, Andrea Altschuler, Christopher S Wendel & Robert S Krouse. 2013. Spiritual well-being in long-term colorectal cancer survivors with ostomies. *Psycho-oncology* 22(11). 2513–2521.
doi:10.1002/pon.3318.

Researchers administered the modified City of Hope Quality of Life-Ostomy questionnaire to 283 long-term colorectal cancer (CRC) survivors with permanent ostomies completed. Open-ended responses from 52% of participants contained content regarding spiritual well-being (SpWB). Fifteen unique SpWB themes were identified. Sixty percent of individuals expressed positive themes such as “positive attitude”, “I am fortunate”, “appreciate life more”, and “strength through religious faith”. Negative themes, expressed by only 29% of respondents, included “struggling to cope”, “not feeling ‘normal’”, and “loss”. Fifty-five percent of respondents expressed ambivalent themes including “learning acceptance”, “an ostomy is the price for survival”, “reason to be around despite suffering”, and “continuing to cope despite challenges.” The majority (64%) had a high SpWB sub-scale score.

Büssing, Arndt, Anne-Gritli Wirth, Knut Humbroich, Kathrin Gerbershagen, Sebastian Schimrigk, Michael Haupts, Klaus Baumann & Peter Heusser. 2013. Faith as a resource in patients with multiple sclerosis is associated with a positive interpretation of illness and experience of gratitude/awe. *Evidence-based Complementary and alternative medicine: eCAM* 2013. 128575.
doi:10.1155/2013/128575.

The aim of this cross-sectional anonymous survey with standardized questionnaires was to investigate which resources to cope were used by patients with multiple sclerosis (MS). Researchers focused on patients’ conviction that their faith might be a strong hold in difficult times and on their engagement in different forms of spirituality. Consecutively 213 German patients (75% women; mean age 43 ± 11 years) were enrolled. Fifty-five percent regarded themselves as neither religious nor spiritual (R-S-), while 31% describe themselves as religious. For 29%, faith was a strong hold in difficult times. This resource was neither related to patients’ EDSS scores, and life affections, fatigue, negative mood states, life satisfaction nor to Positive attitudes. Instead it was moderately associated with a Reappraisal strategy (i.e., and positive interpretation of illness) and experience of gratitude/awe. Compared to spiritual/religious patients, R-S- individuals had significantly lower Reappraisal scores and lower engagement in specific forms of spiritual practices. The ability to reflect on what is essential in life, to appreciate and value life, and also the conviction that illness may have meaning and could be regarded as a chance for development was low in R-S- individuals who either may have no specific interest or are less willing to reflect these issues.

Cramer, Holger, Romy Lauche, Jost Langhorst & Gustav Dobos. 2013. Yoga for rheumatic diseases: a systematic review. *Rheumatology* 52(11). 2025–2030.
doi:10.1093/rheumatology/ket264.

Researchers aimed to evaluate the quality of evidence and the strength of recommendation for yoga as an ancillary intervention in rheumatic diseases through a literature review. Randomized controlled trials (RCTs) comparing yoga with control interventions in patients with rheumatic diseases were included. Two authors independently assessed the

risk of bias using the Cochrane Back Review Group risk of bias tool. The quality of evidence and the strength of the recommendation for or against yoga were graded according to the GRADE recommendations. Eight RCTs with a total of 559 subjects were included; two RCTs had a low risk of bias. In two RCTs on fibromyalgia (FM), there was very low evidence for effects on pain and low evidence for effects on disability. In three RCTs on osteoarthritis (OA), there was very low evidence for effects on pain and disability. Based on two RCTs, very low evidence was found for effects on pain in rheumatoid arthritis (RA). No evidence for effects on pain was found in one RCT on carpal tunnel syndrome. No RCT explicitly reported safety data. Based on the results of this review, only weak recommendations can be made for the ancillary use of yoga in the management of FM, OA and RA at this point.

Delgado-Pastor, Luis Carlos, Pandelis Perakakis, Pailoor Subramanya, Shirley Telles & Jaime Vila. 2013. Mindfulness (Vipassana) meditation: effects on P3b event-related potential and heart rate variability. *International Journal of Psychophysiology* 90(2). 207–214.
doi:10.1016/j.ijpsycho.2013.07.006.

The concept of mindfulness is based on Vipassana, a Buddhist meditation technique. The present study examines the physiological indices of attention and autonomic regulation in experienced Vipassana meditators to test the claim that mindfulness is an effective therapeutic tool due to its effects on increasing awareness of present experience and emotional self-regulation. Ten male experienced Vipassana meditators underwent two assessment sessions, one where they practiced Vipassana meditation and another where they rested with no meditation (random thinking). Each meditation/no-meditation session lasted 30 min and was preceded and followed by an auditory oddball task with two tones (standard and target). Event-related potentials to the tones were recorded at the Fz, Cz, and Pz locations. Heart rate variability, derived from an EKG, was recorded continuously during the meditation/no-meditation sessions and during a 5-minute baseline before the task. The Vipassana experts showed greater P3b amplitudes to the target tone after meditation than they did both before meditation and after the no-meditation session. They also showed a larger LF/HF ratio increase during specific Vipassana meditation. These results suggest that expert Vipassana meditators showed increased attentional engagement after meditation and increased autonomic regulation during meditation supporting, at least partially, the two claims concerning the clinical effectiveness of mindfulness.

Foster, Dawn W, Michelle C Quist, Chelsie M Young, Jennifer L Bryan, Mai-Ly Nguyen & Clayton Neighbors. 2013. Benefit finding as a moderator of the relationship between spirituality/religiosity and drinking. *Addictive Behaviors* 38(11). 2647–2652.
doi:10.1016/j.addbeh.2013.06.019.

This study evaluated benefit finding as a moderator of the relationship between spiritual and religious attitudes and drinking. Previous research indicates that undergraduates who drink heavily experience negative alcohol-related consequences. Literature also suggests that spirituality and religiosity (S/R) are protective against heavy drinking and that finding meaning, which is conceptually related to benefit finding, is negatively associated with alcohol use. Seven hundred undergraduate students completed the study materials including measures of drinking, benefit finding, and S/R. Consistent with expectations, a negative association between S/R and drinking was present, and was stronger among those high in benefit finding. These findings extend previous research by demonstrating that the protective effect of S/R on drinking appears to be particularly true among those who find benefit following stressful experiences.

Galantino, Mary Lou, Mary L Callens, Gregg J Cardena, Nicole L Piela & Jun James Mao. 2013. Tai chi for well-being of breast cancer survivors with aromatase inhibitor-associated arthralgias: a feasibility study. *Alternative Therapies in Health & Medicine* 19(6). 38–44.

Arthralgia is common and debilitating for a significant proportion of breast cancer survivors (BCSs) and leads to poor adherence to aromatase inhibitors (AIs). This study aimed to determine the feasibility of tai chi to improve well-being for women experiencing AI-associated arthralgias (AIAAs). Postmenopausal women (n=12) with a history of stage I-III breast cancer reporting AIAA were enrolled in a group tai chi class. Adherence to the classes

was 75%, with no adverse events reported. Participants experienced significant improvement from baseline to follow-up for the HADS anxiety and depression scales, the emotional well-being scale of the FACT-B, the FACIT-Fatigue, and the sit-and-teach test. The BBS, TUG, BPI severity subscale, and physical well-being subscale of the FACT-B showed no significant improvement. Participants reported increased relaxation, reduced stress, and enhanced sleep quality and duration. The research team demonstrated the feasibility of a tai chi intervention for improving wellbeing for breast cancer patients with ALAA and identified measures that may be sensitive to the impact of a tai chi intervention in this population.

Ikai, Saeko, Hiroyuki Uchida, Takefumi Suzuki, Kenichi Tsunoda, Masaru Mimura & Yasuo Fujii. 2013. Effects of yoga therapy on postural stability in patients with schizophrenia-spectrum disorders: A single-blind randomized controlled trial. *Journal of Psychiatric Research* 47(11). 1744–1750.

doi:10.1016/j.jpsychires.2013.07.017.

In this eight-week single-blind randomized controlled study with an eight-week follow-up, outpatients with schizophrenia or related psychotic disorder (ICD-10) were randomly assigned to either yoga therapy or a control group. In the yoga therapy group (n=25), the subjects received weekly sessions of 60-min yoga therapy for eight weeks in addition to their ongoing treatment. In the control group (n=24), the subjects received a weekly regular day-care program. In the yoga group, significant improvements were observed in a total length of trunk motion, the Romberg ratio, and anteflexion in standing at week 8 while there were no significant changes in the control group. However, those clinical gains returned to the baseline level at week 16. The results confirmed the beneficial effects of the yoga therapy on postural stability in patients with schizophrenia. However, the therapeutic effects seemed transient, which warrants further investigations on strategies to sustain the improvements.

Kim, Ha-Na, Jungsu Ryu, Kyung-Soo Kim & Sang-Wook Song. 2013. Effects of Yoga on Sexual Function in Women with Metabolic Syndrome: A Randomized Controlled Trial. *Journal of Sexual Medicine* 10(11). 2741–2751.

doi:10.1111/jsm.12283.

In this randomized, controlled study, 41 women with metabolic syndrome (age 30-60 years) were assigned to a 12-week yoga exercise group (n=20) or a wait-listed control group (n=21). The 12-week yoga intervention resulted in significant improvement in arousal and lubrication compared with the control group. Systolic blood pressure showed significantly greater improvement in the yoga group than in the control group at the 12-week follow up. These findings suggest that yoga may be an effective treatment for sexual dysfunction in women with metabolic syndrome as well as for metabolic risk factors.

Majumdar, Suvankar, Wendy Thompson, Naveed Ahmad, Catherine Gordon & Clifton Addison. 2013. The use and effectiveness of complementary and alternative medicine for pain in sickle cell anemia. *Complementary therapies in clinical practice* 19(4). 184–187.

doi:10.1016/j.ctcp.2013.05.003.

The objective of this study was to survey the extent and effectiveness of complementary and alternative medicine (CAM) use for pain control among adults with sickle cell disease (SCD). Of a total of 227 African-American adults with SCD, 208 (92%) admitted to using at least one type of CAM. The three most common types of CAM were prayer (61%), relaxation technique (44%), and massage (35%). Multiple logistic regression showed that marital status was associated with use of relaxation techniques and age between 18 and 24 years and at least a high school level of education were associated with use of prayer.

Obasi, Chidi N, Roger Brown, Tola Ewers, Shari Barlow, Michele Gassman, Aleksandra Zgierska, Christopher L Coe & Bruce Barrett. 2013. Advantage of meditation over exercise in reducing cold

and flu illness is related to improved function and quality of life. *Influenza and other respiratory viruses* 7(6). 938–944.

doi:10.1111/irv.12053.

Results from the randomized controlled trial “Meditation or Exercise for Preventing Acute Respiratory Illness” showed mean global severity and total days of illness were worse in control compared with exercise or meditation. Global severity of illness was estimated using area under the curve from daily self-reported severity scores on the Wisconsin Upper Respiratory Symptom Survey (WURSS-24). For this project, the authors estimated within-group WURSS item-level severity and between-group effect sizes relative to control. The item-level effect sizes were grouped into (i) symptom and (ii) function and quality of life domains. Among the three groups, mediators showed the lowest severity estimates for 21 of 22 WURSS items. Item-level Cohen’s “d” indicated most benefit was evident in WURSS items representing function and quality of life. Compared with exercise, meditation fostered larger reductions in illness severity, although due mostly to improved function and the quality of life domain compared with symptom domain. The authors conclude that the apparent advantage of training in meditation over exercise for reducing cold and flu illness is explained more by improved function and quality of life than by a reduction in symptom severity.

Offenbaecher, M, N Kohls, L L Toussaint, C Sigl, A Winkelmann, R Hieblinger, A Walther & A Büssing. 2013. Spiritual needs in patients suffering from fibromyalgia. *Evidence-based Complementary and Alternative Medicine: eCAM* 2013. 178547.

doi:10.1155/2013/178547.

The objective of this study was to assess spiritual needs of patients with fibromyalgia syndrome (FMS) and to evaluate correlations with disease and health associated variables. Using a set of standardized questionnaires (i.e., Spiritual Needs Questionnaire, Fibromyalgia Impact Questionnaire, SF-36’s Quality of Life, Brief Multidimensional Life Satisfaction Scale, etc.), the researchers enrolled 141 patients (95% women, mean age 58 years). Needs for inner peace and giving/generativity scored the highest, while existential needs and religious needs scored lowest. Particularly inner peace needs and existential needs correlated with different domains of reduced mental health, particularly with anxiety, the intention to escape from illness, and psychosocial restrictions. Thirty-eight percent of the patients stated needs to be forgiven and nearly half to forgive someone from their past life.

Sudarshan, Monisha, Andrea Petrucci, Sinziana Dumitra, Jodie Duplisea, Sharon Wexler & Sarkis Meterissian. 2013. Yoga therapy for breast cancer patients: A prospective cohort study. *Complementary Therapies in Clinical Practice* 19(4). 227–229.

doi:10.1016/j.ctcp.2013.06.004.

For this study, Stage I–III post-operative breast cancer patients were recruited with twelve 1-h weekly yoga sessions completed with an experienced yoga instructor. Before and after each module completion, assessments were obtained with the Hospital Anxiety and Depression scale (HADS), the Dallas pain scale and shoulder flexibility measurements. Fourteen patients completed the entire yoga session with 42.8% having a total mastectomy and 15.4% having breast reconstruction. Both right and left shoulder abduction flexibility significantly improved as well as left shoulder flexion. An improvement trend in scores for the HADS and Dallas questionnaires pre- and post-intervention was found, although it was not statistically significant.

Sun, Fei, Nan Sook Park, Jana Wardian, Beom S. Lee, Lucinda L. Roff, David L. Klemmack, Michael W. Parker, Harold G. Koenig, Patricia L. Sawyer & Richard M. Allman. 2013. Predicting the Trajectories of Perceived Pain Intensity in Southern Community-Dwelling Older Adults: The Role of Religiousness. *Research on Aging* 35(6). 643–662.

doi:10.1177/0164027512456402.

This study focuses on the identification of multiple latent trajectories of pain intensity, and it examines how religiousness is related to different classes of pain trajectory. Participants were 720 community-dwelling older adults who were interviewed at four time points over a 3-year period. Overall, intensity of pain decreased over 3 years. Analysis using latent growth mixture modeling identified three classes of pain: (1) increasing (n=47); (2) consistently unchanging (n=292); and (3) decreasing (n=381). Higher levels of intrinsic religiousness at baseline were associated with higher levels of pain at baseline, although it attenuated the slope of pain trajectories in the increasing pain group. Higher service attendance at baseline was associated with a higher probability of being in the decreasing pain group. The increasing pain group and the consistently unchanging group reported more negative physical and mental health outcomes than the decreasing pain group.

2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Andras, Lang. 2013. Impact of attachment to God and religious coping on life satisfaction. *Orvosi Hetilap* 154(46). 1843–1847.
doi:10.1556/OH.2013.29751.

The aim of this study was to investigate the relationship between attachment to God, religious coping and satisfaction with life in a group of 94 Roman Catholics. Responses to surveys indicate that negative religious coping and anxious attachment to God predicted lower satisfaction with life, even if demographic variables were controlled for. These results indicate that negative image of God is an important predictor of low satisfaction with life, which in turn can have negative impact on believers' mental and physical health.

Cramer, Holger, Romy Lauche, Jost Langhorst & Gustav Dobos. 2013a. Yoga for Depression: A Systematic Review and Meta-Analysis. *Depression and Anxiety* 30(11). 1068–1083.
doi:10.1002/da.22166.

The aim of this review was to systematically assess and meta-analyze the effectiveness of yoga for depression. Twelve RCTs with 619 participants were included. Three RCTs had low risk of bias. Regarding severity of depression, there was moderate evidence for short-term effects of yoga compared to usual care, and limited evidence compared to relaxation, and aerobic exercise. Limited evidence was found for short-term effects of yoga on anxiety compared to relaxation. Subgroup analyses revealed evidence for effects in patients with depressive disorders and in individuals with elevated levels of depression. Due to the paucity and heterogeneity of the RCTs, no meta-analyses on long-term effects were possible. No RCT reported safety data.

Falb, Melissa D. & Kenneth I. Pargament. 2013. Buddhist coping predicts psychological outcomes among end-of-life caregivers. *Psychology of Religion and Spirituality* 5(4). 252–262.
doi:10.1037/a0032653.

The objective of this research was to investigate the frequency of Buddhist coping strategies and to explore the relationship between Buddhist coping and indicators of psychological functioning in end-of-life caregivers. Ninety-two caregivers were recruited through contemplative end-of-life caregiver training programs and a Buddhist chaplaincy listserv. Participants completed the Buddhist coping scale, as well as measures of spiritual well-being, burnout, depression, and posttraumatic growth. As hypothesized, end-of-life caregivers who made more use of positive Buddhist coping methods reported lower levels of negative outcomes and higher levels of positive outcomes. On the other hand, caregivers who made greater use of negative Buddhist coping methods reported higher levels of negative outcomes and lower levels of positive outcomes. Specifically, hierarchical regression analyses showed Buddhist coping subscales to account for unique variance in five of seven outcome variables: personal accomplishment, emotional exhaustion, depersonalization, meaning and peace, and faith. A principal component factor analysis showed that a two-factor (positive and negative) structure of Buddhist coping was applicable in the current sample. This two-factor solution explained 57.4% of the variance and these positive and negative coping subscales also correlated with psychological outcomes in the hypothesized direction.

Farias, Miguel, Anna-Kaisa Newheiser, Guy Kahane & Zoe de Toledo. 2013. Scientific faith: Belief in science increases in the face of stress and existential anxiety. *Journal of experimental social psychology* 49(6). 1210–1213.

doi:10.1016/j.jesp.2013.05.008.

Growing evidence indicates that religious belief helps individuals to cope with stress and anxiety. But is this effect specific to supernatural beliefs, or is it a more general function of belief, including belief in science? Researchers developed a measure of belief in science and conducted two experiments in which they manipulated stress and existential anxiety. In Experiment 1, rowers were assessed who were about to compete (high-stress condition) and rowers at a training session (low-stress condition). As predicted, rowers in the high-stress group reported greater belief in science. In Experiment 2, participants primed with mortality (vs. participants in a control condition) reported greater belief in science. In both experiments, belief in science was negatively correlated with religiosity. Thus, some secular individuals may use science as a form of “faith” that helps them to deal with stressful and anxiety-provoking situations.

Francis, Leslie J. 2013. Implicit religion, explicit religion and purpose in life: An empirical enquiry among 13- to 15-year-old adolescents. *Mental Health, Religion & Culture* 16(9). 909–921.

doi:10.1080/13674676.2012.756615.

In his analysis of the construct “implicit religion” Edward Bailey speaks of those individuals “who believe in Christianity” but who do not display the behaviors of explicit religion, like church attendance. A recent research tradition has tried to operationalize this understanding of implicit religion by studying those who believe that they can be a Christian without going to church. A longer established research tradition has demonstrated the association between explicit religiosity and an enhanced sense of purpose in life. The aim of the present study is to test the hypothesis that implicit religiosity (in the sense of believing that you can be a Christian without going to church) is also associated with an enhanced sense of purpose in life. Data provided by a sample of 25,825 13- to 15-year-old adolescents support this hypothesis. In turn these findings support the notion that implicit religion (in the sense operationalized by this study) fulfils some functions similar to those fulfilled by explicit religion.

King, Michael, Henry Llewellyn, Baptiste Leurent, Faye Owen, Gerard Leavey, Adrian Tookman & Louise Jones. 2013. Spiritual beliefs near the end of life: A prospective cohort study of people with cancer receiving palliative care. *Psycho-Oncology* 22(11). 2505–2512.

doi:10.1002/pon.3313.

Researchers investigated (i) relationships between strength of spiritual beliefs and anxiety and depression, intake of psychotropic/analgesic medications and survival in patients with advanced disease; and (ii) whether the strength of spiritual belief changes as death approaches. The researchers conducted a prospective cohort study of 170 patients receiving palliative care at home, 97% of whom had a diagnosis of advanced cancer. Data on strength of spiritual beliefs (Beliefs and Values Scale [BVS]), anxiety and depression (Hospital Anxiety and Depression Scale [HADS]), psychotropic/analgesic medications, daily functioning, global health and social support were collected at recruitment then 3 and 10 weeks later. Mortality data were collected up to 34 months after the first patient was recruited. Regression analysis showed a slight increase in strength of spiritual belief over time approaching statistical significance. Belief was unrelated to anxiety and depression or consumption of psychotropic medication). There was a non-significant trend for decreasing analgesic prescription with increasing belief. Mortality was higher over 6 months in participants with lower belief at recruitment. Results suggest that although religious and spiritual beliefs might increase marginally as death approaches, they do not affect levels of anxiety or depression in patients with advanced cancer.

Krusche, Adele, Eva Cyhlarova & J Mark G Williams. 2013. Mindfulness online: An evaluation of the feasibility of a web-based mindfulness course for stress, anxiety and depression. *BMJ open* 3(11). e003498.

doi:10.1136/bmjopen-2013-003498.

Researchers investigated the feasibility and effectiveness of an online mindfulness course for perceived stress, anxiety and depression. Participants (n=273) were self-referrals to the online course who completed the outcome measure immediately before the course, upon course completion and at 1 month follow-up. The program consists of 10 sessions, guided meditation videos and automated emails, with elements of Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy, completed at a pace to suit the individual (minimum length 4 weeks). Following intervention, perceived stress, anxiety and depression significantly decreased and further decreased at 1 month follow-up, with effect sizes comparable to those found with face-to-face and other online mindfulness courses and to other types of intervention, such as cognitive behavioral therapy for stress. The amount of meditation practice reported did affect outcome when controlling for baseline severity.

Leonard, Noelle R, Amishi P Jha, Bethany Casarjian, Merissa Goolsarran, Cristina Garcia, Charles M Cleland, Marya V Gwadz & Zohar Massey. 2013. Mindfulness training improves attentional task performance in incarcerated youth: A group randomized controlled intervention trial. *Frontiers in psychology* 4. 792.

doi:10.3389/fpsyg.2013.00792.

Researchers investigated the impact of cognitive behavioral therapy and mindfulness training (CBT/MT) on attentional task performance in incarcerated adolescents. The researchers hypothesized that CBT/MT may mitigate the deleterious effects of high stress and protect against degradation in attention over the high-stress interval of incarceration. Using a quasi-experimental, group randomized controlled trial design, they randomly assigned dormitories of incarcerated youth, ages 16-18, to a CBT/MT intervention (youth n=147) or an active control intervention (youth n=117). Both arms received approximately 750 min of intervention in a small-group setting over a 3-5 week period. Youth in the CBT/MT arm also logged the amount of out-of-session time spent practicing MT exercises. The Attention Network Test was used to index attentional task performance at baseline and 4 months post-baseline. Overall, task performance degraded over time in all participants. The magnitude of performance degradation was significantly less in the CBT/MT vs. control arm. Further, within the CBT/MT arm, performance degraded over time in those with no outside-of-class practice time, but remained stable over time in those who practiced mindfulness exercises outside of the session meetings. These findings suggest that sufficient CBT/MT practice may protect against functional attentional impairments associated with high-stress intervals.

Levin, Jeff. 2013. Religious behavior, health, and well-being among Israeli Jews: Findings from the European Social Survey. *Psychology of Religion and Spirituality* 5(4). 272–282.

doi:10.1037/a0032601.

This study investigates the relationship between religious behavior and health status and psychological well-being in a population sample of Israeli Jewish adults (n=1,849). Using data from the Israeli sample of the European Social Survey, measures of synagogue attendance and private prayer were examined in relation to single-item indicators of subjective and functional health, happiness, and life satisfaction and to a three-item scale tapping into the somatic dimension of well-being. Bivariately, the religious, health, and well-being measures are mostly related, and in a salutary direction, but multivariable analyses revealed that these associations are more nuanced. Specifically, after age-adjustment and controls for effects of various sociodemographic characteristics, including Israeli nativity, synagogue attendance is associated with greater happiness only, whereas prayer is associated with greater happiness and life satisfaction and higher scores on the well-being scale. Additionally, prayer is significantly associated with functional health, but in an inverse direction, suggesting its use as a coping resource in response to physical or functional challenges or impairments. These latter results are supported by supplemental analyses of the well-being indicators, which also adjust for possible exogenous or moderating effects of functional health.

MacIlvaine, W. Rod, Lindsay A. Nelson, Jeanette A. Stewart & William C. Stewart. 2013. Association of strength of religious adherence to quality of life measures. *Complementary Therapies in Clinical Practice* 19(4). 251–255.

doi:10.1016/j.ctcp.2013.05.001.

The purpose of this study is to evaluate, in a mid-west, religiously conservative church-population, the impact upon a subject's Biblically based depth of religious adherence on quality of life. In a sample of 303 included subjects, researchers found differences between adherent and less-adherent groups in each of 7 questions. The strongest separation between groups resulted from: if they met the needs of another Christian, studied the Holy Scriptures or praised God. The authors conclude that religious adherence may promote a sense of well-being in those who profess Christian faith.

Philips, Psyche L. & Mark Lazenby. 2013. The Emotional and Spiritual Well-Being of Hospice Patients in Botswana and Sources of Distress for Their Caregivers. *Journal of Palliative Medicine* 16(11). 1438–1445.

doi:10.1089/jpm.2013.0114.

The purpose of this study was to describe the quality of life and the emotional and spiritual well-being of people at the end of life and the sources of distress for their primary caregivers in Gaborone, Botswana, in order to inform further development of hospice services. Twenty-eight primary caregivers who cared for an adult who passed away fewer than 14 months prior to the interview date and in the care of a nongovernmental hospice in Botswana were interviewed between June and August 2012. Quality of life of decedents was poor. Emotional and spiritual distress persist at high rates even for those receiving support from a nongovernmental hospice. Caregiver distress arises from practical needs, including lack of food, clothing, and shelter, the need for assistance physically caring for their loved one, and from emotional and spiritual concerns. Results indicate that the practical, physical, emotional, and spiritual needs of people at the end of life in Botswana and their caregivers are not being fully met, with poor overall quality of life among the dying.

Rosmarin, David H, Joseph S Bigda-Peyton, Dost Öngur, Kenneth I Pargament & Thröstur Björgvinsson. 2013. Religious coping among psychotic patients: Relevance to suicidality and treatment outcomes. *Psychiatry Research* 210(1). 182–187.

doi:10.1016/j.psychres.2013.03.023.

Researchers conducted a prospective study in a clinical sample of 47 psychiatric patients with current/past psychosis receiving partial (day) treatment at McLean Hospital. Subjects completed measures of religious involvement, religious coping and suicidality prior to treatment, and we assessed for psychosis, depression, anxiety and psychological well-being over the course of treatment. Negative religious coping (spiritual struggle) was associated with substantially greater frequency and intensity of suicidal ideation, as well as greater depression, anxiety, and less well-being prior to treatment. Positive religious coping was associated with significantly greater reductions in depression and anxiety, and increases in well-being over the course of treatment. Effects remained significant after controlling for significant covariates. Negative religious coping appears to be a risk factor for suicidality and affective symptoms among psychotic patients. Positive religious coping is an important resource to this population, and its utilization appears to be associated with better treatment outcomes.

Rossetti, Stephen J. & Colin J. Rhoades. 2013. Burnout in Catholic clergy: A predictive model using psychological and spiritual variables. *Psychology of Religion and Spirituality* 5(4). 335–341.

doi:10.1037/a0033639.

The purpose of this study was to explore the real extent of burnout among Roman Catholic clergy (using a standardized test of burnout) and then to explore those variables that were statistically related to burnout. A sample of 2,482 Catholic priests across the United States was given the Maslach Burnout Inventory. They scored

significantly less burned out than Maslach Burnout Inventory norm groups that included a general sample and that also included those who were male or who worked in social services or medicine. When investigating those variables that were associated with burnout, exercise and taking time off were significantly correlated to lower levels of burnout; however, the effect was small. The more important variables associated with burnout were job satisfaction, inner peace, childhood psychological problems, relationship to God, and good friends. On these more important variables, priests reported high levels of health and well-being. A large majority indicated being happy as priests and reported having good friendships, satisfaction with their relationship to God, a limited history of childhood psychological problems, and a strong sense of inner peace. For Catholic priests, and likely for all people, strong psychological and spiritual support systems seem to be most important in preventing burnout, especially for those engaged in the demanding positions of caring for others.

Satyapriya, M., R. Nagarathna, V. Padmalatha & H. R. Nagendra. 2013. Effect of integrated yoga on anxiety, depression & well being in normal pregnancy. *Complementary Therapies in Clinical Practice* 19(4). 230–236.
doi:10.1016/j.ctcp.2013.06.003.

Researchers studied the effect of integrated yoga on Pregnancy experience, anxiety, and depression in normal pregnancy. This Prospective Randomized control study recruited 96 women in 20th week of normal pregnancy. Yoga group (n=51) practiced integrated yoga and control group (n=45) did standard antenatal exercises, one hour daily, from 20th to 36th week of gestation. Following intervention, there was significant difference between groups in all variables. There were significant changes within groups in both groups. Pregnancy related experience reduced in yoga by 26.86%, state anxiety (decreased 15.65% in yoga, increased 13.76% in control), Trait anxiety (decreased 8.97% in yoga, increased 5.02% in control) and Depression (HADS) (decreased 30.67% in yoga, increased 3.57% in control).

2.3 SPIRITUALITY & HEALTH: METHOD AND THEORY

Aten, Jamie D., David M. Boan, John M. Hosey, Sharon Topping, Alice Graham & Hannah Im. 2013. Building capacity for responding to disaster emotional and spiritual needs: A clergy, academic, and mental health partnership model (CAMP). *Psychological Trauma: Theory, Research, Practice, and Policy* 5(6). 591–600.
doi:10.1037/a0030041.

The purpose of this article is to introduce a clergy, academic, and mental health partnership model (CAMP) that has been used to respond to emotional and spiritual needs which developed in the wake of several disasters affecting the Southeast Gulf Coast region. CAMP was developed to build capacity and infrastructure for facilitating: (a) disaster emotional and spiritual care training, (b) a clergy and mental health provider network, (c) emotional support/resiliency experiences for clergy and mental health providers, (d) community outreach, and (e) direct services to vulnerable populations. Readers will learn about the history, philosophical framework, components, and recommendations for replicating the model. A detailed account will also be provided highlighting how CAMP was implemented in South Mississippi to respond to Hurricane Katrina and more recently to the Deep Water Horizon Oil Spill. This article represents this model's first phase of development, and offers a conceptual framework based on the partners' experiences and lessons learned.

Best, Megan, Phyllis Butow & Ian Olver. 2013. Spiritual Needs of Patients and the Role of Doctors in Meeting Them. *Psycho-Oncology* 22. 120–121.

The aim of this study was to identify the spiritual needs of Australian cancer patients and their preferences regarding the engagement of doctors with their spiritual needs. This was a multi-site qualitative study using semi-structured interviews to elicit the views of advanced cancer patients (n=15). The patients encompassed three groups, namely > 1 year, < 1 year or < 1 week prognosis, and purposive sampling was used so the cohort was comprised of mixed

cancer types and a broad range of demographic variables. Spirituality was important to all patients and identified as the way to find existential peace in difficult circumstances. Access to sources of spiritual strength was important in moving from hoping for cure to accepting that death was inevitable. This process could be facilitated by both patients and medical staff. Although 13 of 15 patients thought it was important that doctors be aware of their spirituality, they felt time spent dealing with spiritual issues would be a trade-off with time needed for discussion of physical problems. Patients were not confident that all doctors had the required skill to deal with such issues.

Bloomer, Melissa J. & Abbas Al-Mutair. 2013. Ensuring cultural sensitivity for Muslim patients in the Australian ICU: Considerations for care. *Australian Critical Care* 26(4). 193–196.
doi:10.1016/j.aucc.2013.04.003.

This discussion paper aims to describe the Islamic faith in terms of Islamic teachings, beliefs and common practices, considering how this impacts upon the perception of illness, the family unit and how it functions, decision-making and care preferences, particularly at the end of life in the intensive care unit.

Boellinghaus, Inga, Fergal W. Jones & Jane Hutton. 2013. Cultivating self-care and compassion in psychological therapists in training: The experience of practicing loving-kindness meditation. *Training and Education in Professional Psychology* 7(4). 267–277.
doi:10.1037/a0033092.

Given significant rates of psychological distress in practicing psychological therapists, including those in training, there is a need to cultivate self-care and compassion during therapy training. Emerging research has suggested that loving-kindness meditation (LKM) increases well-being and compassion, thus, making it a potential tool to foster self-care in trainee therapists (TT). However, studies have also suggested difficulties in engaging with LKM. This study aimed to explore in-depth how a sample of TT experiences a course of LKM, using interpretative phenomenological analysis. Twelve TT who had previously attended a mindfulness-based cognitive therapy course took part in a six-session LKM course and were interviewed about their experience. Five master themes were identified: (a) engaging with the practice, (b) impact on self, (c) impact on relationships, (d) bringing compassion into the therapy room, and (e) integrating LKM into life. Participants perceived LKM to have led to increased self-awareness, compassion for self and others, and therapeutic presence and skills. At the same time, LKM was experienced as emotionally challenging. The findings suggest that it may be useful to offer LKM to TT as an approach to enhancing self-care and compassion, but that it should be taught with care, given its potential emotional impact.

Bryant-Davis, Thema & Eunice C. Wong. 2013. Faith to move mountains: Religious coping, spirituality, and interpersonal trauma recovery. *American Psychologist* 68(8). 675–684.
doi:10.1037/a0034380.

This article focuses on spiritual and religious coping among survivors of child abuse, sexual violence, and war. Research demonstrates increased use of positive religious coping among some survivors with higher rates of posttraumatic stress disorder. Much of the scholarship in this area includes qualitative studies with populations who face increased vulnerability to interpersonal trauma. Research in this area covers the life span from childhood to later adulthood and encompasses both domestic and international studies. The implications of research findings are explored, and future research needs are described. This line of research supports the American Psychological Association (2010) ethical standards that note the recognition of spiritual and religious faith traditions as important aspects of the provision of ethical treatment. Researchers, clinicians, and advocates for trauma survivors are encouraged to attend to the faith traditions and beliefs of persons confronting the potential devastation of traumatic events.

Clemens, Norman A. 2013. Psyche, the Meeting of Mind and Soul: Current Psychoanalytic Views on the Mental Representation of God. *Journal of psychiatric practice* 19(6). 495–497.

doi:10.1097/01.pra.0000438189.97161.59.

The author presents an overview of two contemporary, related psychoanalytic perspectives on religious phenomena. Based on data from systematic interviews, Ana-Maria Rizutto has explored the way the human mind forms the idea of God as it evolves through the various stages of childhood and adult development. The object-representation of God is greatly influenced by the mental representations of mother, father, and other important adults in the child's life. Object relations theory and the writings of Winnicott play an important role in these concepts. William Meissner, a Jesuit priest as well as a psychoanalyst, has addressed Freud's views of religious belief as an illusion, or when accepted with certainty as real, as a delusion. Instead, Meissner sees religious belief as a developmental process that resides in the mental realm of transitional phenomena where spirituality, creativity, appreciation of beauty, transcendental states, play, and the psychoanalytic process itself also take place. In psychoanalytic treatment, religious phenomena are not exempt from exploration and understanding, perhaps resulting in more mature development of object representations, ego functions, and the superego functions of conscience and ego ideal as well as more mature religious life.

Deng, Gary & Barrie Cassileth. 2013. Complementary or alternative medicine in cancer care-myths and realities. *Nature reviews. Clinical oncology* 10(11). 656–664.
doi:10.1038/nrclinonc.2013.125.

Complementary therapies are adjuncts to mainstream care, used primarily for symptom control and to enhance physical and emotional strength during and after mainstream cancer treatment. These therapies are rational, noninvasive and evidence-based that have been subjected to study to determine their value, document the problems they aim to ameliorate and define the circumstances under which they are beneficial. By contrast, 'alternative' therapies are generally promoted as such-for use as actual anti-tumor treatments. Typically they lack biological plausibility and scientific evidence of safety and efficacy, and many are outright fraudulent. Combining the helpful complementary therapies with mainstream oncology care to address patients' physical, psychological and spiritual needs constitutes the practice of integrative oncology. By providing patients' non-pharmacological treatment modalities that reduce symptom burden and improve quality of life, physicians enable patients to have an active role in their care, which in turn improves the physician-patient relationship, the quality of cancer care and the well-being of patients and their families.

Higgins, Patricia. 2013. Meeting the religious needs of residents with dementia. *Nursing older people* 25(9). 25–29.
doi:10.7748/nop2013.11.25.9.25.e501.

This article considers practical strategies to help nurses working in care homes meet the religious needs of people with dementia, including attending services in homes or churches, supporting them in private prayer and at the end of life. It also considers the characteristics of person-centered care for such residents and how the Mental Capacity Act 2005 may be called on to support religious needs as dementia advances. To achieve good practice in all these aspects, staff in care homes should work in partnership with local faith communities and ensure they are aware of residents' life histories and preferences, including their faith practices. The focus of the article is on meeting the needs of Christian residents. For residents from other faith groups living in care homes not affiliated to their faith, the same general approach to meeting religious needs could be adopted as a starting point.

Hsiao, Ya-Chu, Yi-Chien Chiang, Hsiang-Chun Lee & Chin-Yen Han. 2013. Psychometric testing of the properties of the spiritual health scale short form. *Journal of Clinical Nursing* 22(21-22). 2981–2990.
doi:10.1111/jocn.12410.

Researchers examined the psychometric properties of the spiritual health scale short form, including its reliability and validity. The study was conducted in six nursing schools in northern, central and southern Taiwan. The inclusion

criterion for participants was nursing students with clinical practice experience. Initially, 1141 participants were recruited for the study, but 67 were absent and 48 did not complete the questionnaires. A total of 1026 participants were finally recruited. The psychometric testing of the spiritual health scale short form included construct validity with confirmatory factor analysis, known-group validity and internal consistency reliability. The results of the confirmatory factor analysis supported the five-factor model as an acceptable model fit. In the known-group validity, the results indicated that people who are in the category of primary religious affiliation have better spiritual health than people in the category of secondary religious affiliation and atheism. The result also indicated that the 24-item spiritual health scale short form achieved an acceptable internal consistency coefficient.

Hunter, Jennifer, Jack Marshall, Katherine Corcoran, Stephen Leeder & Kerry Phelps. 2013. A positive concept of health: Interviews with patients and practitioners in an integrative medicine clinic. *Complementary Therapies in Clinical Practice* 19(4). 197–203.
doi:10.1016/j.ctcp.2013.07.001.

Using the phenomenography method, interviews with patients and practitioners were undertaken to explore their understanding of health, understanding it as more than the absence of disease. A few interviewees were unable to conceptualize this positive definition of health, some perceived it as an optimum end-state, whereas others saw it as an ongoing process. Many positive attributes of health and its influencers were identified. The more advanced understandings of this concept were of a holistic, multidimensional, expansive state where the all dimensions of health are interdependent and positively reinforcing. The results affirmed that wellness is more than psychological wellbeing, 'happiness' and life satisfaction. Optimum physical and cognitive capacities along with spiritual, social and occupational wellness were equally as important. "Energy and vitality" were sufficiently emphasized by patients and some practitioners to support the inclusion of the principles of vitalism in any discussion about health.

Jastrowski Mano, Kristen E, Katherine S Salamon, Keri R Hainsworth, Kimberly J Anderson Khan, Renee J Ladwig, W Hobart Davies & Steven J Weisman. 2013. A randomized, controlled pilot study of mindfulness-based stress reduction for pediatric chronic pain. *Alternative Therapies in Health & Medicine* 19(6). 8–14.

The primary purpose of the present study was to examine the feasibility, acceptability, and effectiveness of mindfulness-based stress reduction (MBSR) for a treatment-seeking sample of youth with chronic pain. The current study was the first randomized, controlled pilot study of MBSR for pediatric chronic pain. The research team had intended to use block randomization involving a total of five recruitment waves, with each wave consisting of one MBSR group and one psycho-education group. Due to difficulties with recruitment and attrition before the start of either group, however, only MBSR was conducted at each wave after the first wave. The final sample included six adolescents between the ages of 12 and 17 y, four in the MBSR group and two in the psycho-education group. Health-related quality of life, pain catastrophizing, anxiety, functional disability, mindfulness, and treatment acceptability were all assessed pre- and post-intervention as well as at follow-up. Qualitative examination of participants' scores suggested increased mindfulness but inconsistent patterns on other outcome measures.

Kaur, Devinder, Murali Sambasivan & Naresh Kumar. 2013. Effect of spiritual intelligence, emotional intelligence, psychological ownership and burnout on caring behaviour of nurses: A cross-sectional study. *Journal of Clinical Nursing* 22(21-22). 3192–3202.
doi:10.1111/jocn.12386.

The authors propose a model of prediction of caring behavior among nurses that includes spiritual intelligence, emotional intelligence, psychological ownership and burnout. Data were collected between July-August 2011. A sample of 550 nurses in practice from seven public hospitals in and around Kuala Lumpur (Malaysia) completed the questionnaire that captured five constructs. Besides nurses, 348 patients from seven hospitals participated in the study and recorded their overall satisfaction with the hospital and the services provided by the nurses. Data were analysed using structural equation modelling (SEM). The key findings are: (1) spiritual intelligence influences

emotional intelligence and psychological ownership, (2) emotional intelligence influences psychological ownership, burnout and caring behavior of nurses, (3) psychological ownership influences burnout and caring behavior of nurses, (4) burnout influences caring behavior of nurses, (5) psychological ownership mediates the relationship between spiritual intelligence and caring behavior and between emotional intelligence and caring behavior of nurses and (6) burnout mediates the relationship between spiritual intelligence and caring behavior and between psychological ownership and caring behavior of nurses.

- Lee, Eunmi & Klaus Baumann. 2013. German psychiatrists' observation and interpretation of religiosity/spirituality. *Evidence-based complementary and alternative medicine: eCAM* 2013. 280168. doi:10.1155/2013/280168.

The purpose of this study was to explore how contemporary German psychiatrists think about religiosity/ spirituality (ReS) in regard to their therapies. Researchers conducted an anonymous survey among the clinical staff of psychiatry and psychotherapy departments in German university hospitals and faith-based clinics in the same cities. A total of 123 psychiatrists participated in this survey. However, due to incomplete responses, only 99 questionnaires from psychiatrists were analyzed. Results show that German psychiatrists positively experience the influence of ReS on patients' mental health. Psychiatrists' own ReS significantly influenced their interpretation of the effect of ReS on psychiatric patients as well as their attitude toward ReS in the clinical setting. The more religious psychiatrists are, the more they tend to observe a positive influence of ReS on mental health. In light of these results, psychiatrists should be aware of their own religious/spiritual characteristics and also reconsider their assumptions about professional neutrality and value openness. Furthermore, training programs on religious/ spiritual issues and effective teamwork with chaplains are recommended.

- Loetz, Cécile, Jakob Müller, Eckhard Frick, Yvonne Petersen, Niels Christian Hvidt & Christine Mauer. 2013. Attachment theory and spirituality: two threads converging in palliative care? *Evidence-based complementary and alternative medicine: eCAM* 2013. 740291. doi:10.1155/2013/740291.

The aim of this paper is to discuss and explore the interrelation between two concepts, attachment theory and the concept of spirituality, which are important to palliative care and to founding a multivariate understanding of the patient's needs and challenges. Both concepts have been treated by research in diverse and multiform ways, but little effort has yet been made to integrate them into one theoretical framework in reference to the palliative context. In this paper, the authors begin an attempt to close this scientific gap theoretically. They assume that spirituality can be conceptualized as an adequate response of a person's attachment pattern to the peculiarity of the palliative situation. Spirituality can be seen both as a recourse to securely based relationships and as an attempt to explore the ultimate unknown, the mystery of one's own death. Thus, spirituality in the palliative context corresponds to the task of attachment behavior: to transcend symbiosis while continuing bonds and thus to explore the unknown environment independently and without fear. Spiritual activity is interpreted as a human attachment behavior option that receives special quality and importance in the terminal stage of life.

- Lun, Vivian Miu-Chi & Michael Harris Bond. 2013. Examining the relation of religion and spirituality to subjective well-being across national cultures. *Psychology of Religion and Spirituality* 5(4). 304–315. doi:10.1037/a0033641.

Religion and spirituality have often been associated with the higher subjective well-being of individuals, but departures from this relationship have also been noted in previous research. Researchers identified two important issues that may affect this relationship: the various measurements of religion, spirituality, and subjective well-being used, and the national cultural contexts in which the relationship is examined. Using the World Values Survey, they found that both life satisfaction and happiness were positively associated with many measures of religion and spirituality, except for that of spiritual practice in different national contexts. In national cultures in which socialization for religious faith is more common, spiritual practice was positively related to subjective well-being, whereas in cultures

where religious socialization is less prevalent, the relationship between spiritual practice and subjective well-being was reversed. In nations where social hostility toward religious groups is more intense, the positive association between belief in the authority of religious leaders and subjective well-being was stronger than in nations where such hostility was weaker. Different measures of religion and spirituality thus have varying relationships with measures of subjective well-being in different national contexts. Future research must accommodate this variability in conceptualizing the interface between cultural contexts and the psychology of religion and spirituality.

Martyn, Helen, Anthony Barrett & Helen D Nicholson. 2013. Medical students' understanding of the concept of a soul. *Anatomical Sciences Education* 6(6). 410–414.
doi:10.1002/ase.1372.

The concept of a soul has been discussed throughout religious, philosophical, and scientific circles, yet no definitive description exists. Recent interviews with medical students during the production of a documentary film identified that many believed in the concept of a soul. This study explores students' understanding of the concept of a soul. The 2011 cohort of second-year medical students at the University of Otago in Dunedin, New Zealand were invited to participate in an online survey with a free text response asking students to describe their understanding of the soul. The descriptions of the soul included the soul as a "spirit" or "life force" and some described the soul as giving a person their "values" and "personality." Students discussed the location of a soul with most stating that the soul was not attached to the body, but others mentioned the heart or the brain as the seat of the soul. A common theme related to the mortality of the soul emerged, with most believing that the soul left the body at death. Some students' concept of a soul was related to their religious beliefs, while others who did not believe in the concept of a soul described it as a "myth" used to bring comfort at the time of death. Medical students have varied opinions on the concept and importance of the soul. The authors conclude that it is important to recognize the diversity of views when exploring the process of death and spirituality with medical students.

McSherry, Wilfred & Steve Jamieson. 2013. The qualitative findings from an online survey investigating nurses' perceptions of spirituality and spiritual care. *Journal of Clinical Nursing* 22(21-22). 3170–3182.
doi:10.1111/jocn.12411.

The Royal College of Nursing (RCN) conducted an online survey of its membership to ascertain their perceptions of spirituality and spiritual care identifying current practice. This article presents the findings from the final part of the survey that asked respondents to use a free-text facility to add comments on the subjects of spirituality and spiritual care. Overall, 4054 RCN members responded. Of these, 2327 provided additional comments. These comments were analyzed using keyword and content/thematic analysis. Five broad themes emerged: (1) theoretical and conceptual understanding of spirituality, (2) fundamental aspects of nursing, (3) notion of integration and integrated care, (4) education and professional development and (5) religious belief and professional practice. Findings suggest that nurses have diverse understandings of spirituality and the majority consider spirituality to be an integral and fundamental element of the nurses' role.

Peterman, Amy H., Charlie L. Reeve, Eboni C. Winford, Sian Cotton, John M. Salsman, Richard McQuellon, Joel Tsevat & Cassie Campbell. 2013. Measuring Meaning and Peace With the FACIT–Spiritual Well-Being Scale: Distinction Without a Difference? *Psychological Assessment*.
doi:10.1037/a0034805.

The Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being Scale (FACIT–Sp) has become a widely used measure of spirituality; however, there remain questions about its specific factor structure and the validity of scores from its separate scales. Specifically, it remains unclear whether the Meaning and Peace scales denote distinct factors. The present study addresses previous limitations by examining the extent to which the Meaning and Peace scales relate differentially to a variety of physical and mental health variables across 4 sets of data from adults with a number of chronic health conditions. Although a model with separate but correlated factors fit the data better,

discriminant validity analyses indicated limited differences in the pattern of associations each scale showed with a wide array of commonly used health and quality-of-life measures. In total, the results suggest that people may distinguish between the concepts of Meaning and Peace, but the observed relations with health outcomes are primarily due to variance shared between the 2 factors. Additional research is needed to better understand the separate and joint role of Meaning and Peace in the quality of life of people with chronic illness.

- Picco, Louisa, Mythily Subramaniam, Edimansyah Abdin, Janhavi Ajit Vaingankar, Yunjue Zhang & Siow Ann Chong. 2013. Roles of Religious and Spiritual Advisors Among Adults in Singapore With Mental Illnesses. *Psychiatric Services* 64(11). 1150–1156.
doi:10.1176/appi.ps.201200533.

This study examined the role of religious and spiritual advisors in providing help to people with mental illnesses in Singapore role. Data were collected as part of a nationally representative household survey of residents 18 years and older in Singapore. A total of 6,616 respondents completed the survey; in the overall sample, 1.5% reported seeking help from religious or spiritual advisors. This rate increased to 6.6% among those with at least one mental illness, with the prevalence being higher among respondents with lifetime dysthymia, generalized anxiety disorder, or bipolar disorder. Sociodemographic correlates associated with a lower likelihood of consultation with a religious or spiritual advisor included reporting “other” race-ethnicity as well as faith in Buddhism, Hinduism, or Islam. Most respondents who sought help from a religious or spiritual advisor in the last 12 months were satisfied with the help they received, and about half reported it to be very useful.

- Popper-Giveon, Ariela, Elad Schiff & Eran Ben-Arye. 2013. We and they in the house of healing: Debate among Arab complementary medicine practitioners on an integrative versus alternative approach to supportive cancer care. *Integrative cancer therapies* 12(6). 488–495.
doi:10.1177/1534735413485818.

Complementary and traditional medicine (CTM) plays an important role in culture-centered care for cancer patients in the Middle East. In this article, researchers studied the attitudes of 27 Arab CTM therapists concerning integration of complementary medicine within the conventional supportive cancer care of Arab patients in northern Israel. The authors first summarized the different characteristics of the various CTM therapists, including training, typical practice, and so on. Thematic analysis revealed that folk healers and complementary medicine therapists describe their role as supportive and secondary to that of physicians. Their goal was not to cure patients with cancer but rather to enhance their quality of life by reducing the severity of both the disease symptoms and the side effects of cancer treatment. Religious healers, by contrast, purport to cure the disease. While folk healers opt for parallel alternative care and complementary therapists support integrative care, religious healers claimed that they offer an alternative to conventional medicine in terms of both etiology and practice.

- Ramondetta, Lois M., Charlotte Sun, Antonella Surbone, Ian Olver, Carla Ripamonti, Tatsuya Konishi, Lea Baider & Judith Johnson. 2013. Surprising results regarding MASCC members’ beliefs about spiritual care. *Supportive Care in Cancer* 21(11). 2991–2998.
doi:10.1007/s00520-013-1863-y.

Through a survey of Multinational Association of Supportive Care in Cancer (MASCC) members and its analysis, researchers sought to gain a broader, more inclusive perspective of physicians’ understanding of patients’ spiritual care needs and improve our approach to providing spiritual care to patients. The authors developed a 16-question survey to assess spiritual care practices. MASCC members (n=635) were sent four e-mails, each inviting them to complete the survey via an online survey service. Demographic information was collected. The results were tabulated, and summary statistics were used to describe the results. Two hundred seventy-one MASCC members (42.7 %) from 41 countries completed the survey. The two most common definitions of spiritual care the respondents specified were “offering emotional support as part of addressing psychosocial needs” (49.8 %) and “alleviating spiritual/existential pain/suffering” (42.4 %). Whether respondents considered themselves to be “spiritual”

correlated with how they rated the importance of spiritual care. One hundred six respondents (39.1 %) reported that they believe it is their role to explore the spiritual concerns of their cancer patients, and 33 respondents (12.2 %) reported that they do not feel it is their role. Ninety-one respondents (33.6 %) reported that they seldom provide adequate spiritual care, and 71 respondents (26.2 %) reported that they did not feel they could adequately provide spiritual care. The majority of MASCC members who completed the survey reported that spiritual care plays an important role in the total care of cancer patients, but few respondents from this supportive care-focused organization actually provide spiritual care.

- Saenz, Roswitha & Michael Waldo. 2013. Clients' preferences regarding prayer during counseling. *Psychology of Religion and Spirituality* 5(4). 325–334.
doi:10.1037/a0033711.

This study used a mixed-method approach to examine clients' preferences regarding prayer interventions during their counseling sessions. One hundred and nine adult clients at Arizona State University's Counseling and Consultation Center were given the following assessment instruments: the Intrinsic Spirituality Scale, the Religious Commitment Inventory–10, a demographic data sheet, and the Prayer Preference in Counseling Questionnaire. It was hypothesized that there would be significant differences between participants' spirituality and participants' religious commitment and their preferences regarding prayer in counseling. More than half of the participants indicated that they preferred not to have prayer integrated into their counseling sessions. Clients who wanted their counselor to pray with them in session had higher self-reported levels of spirituality and religious commitment. Clients who preferred to have their counselor encourage out-of-session prayer had mid-range levels of spirituality and religious commitment. Clients who preferred not to have prayer mentioned during their counseling session had lower levels of spirituality and religious commitment. Answers to open-ended questions identified that many clients found prayer to be helpful and important, but preferred not to integrate it in their counseling sessions. Clients who do not believe in a higher power indicated that prayer in their counseling sessions would be inappropriate, unhelpful, and awkward.

- Sun, Jun-Fang. 2013. Medical implication in the Bible and its relevance to modern medicine. *Journal of integrative medicine* 11(6). 416–421.
doi:10.3736/jintegrated2013052.

The Holy Bible, as the root of Western civilization, has imposed great influence in the fields far beyond religion. In this thesis, the author intends to reveal the medical implication in the Holy Bible and its relevance to the modern medical science by exploring the biblical medical information and comparing it with the current medical theory and practice. The conclusion of the exploration is surprising yet inspiring: the Holy Bible, as an ancient religious book, contains rich medical information around themes such as sexual relations, dietary guidelines, hygiene, etc., which is not at odds, but in harmony with the modern medicine.

- Tan, Min-Min, Carina K. Y. Chan & Daniel D. Reidpath. 2013. Religiosity and Spirituality and the Intake of Fruit, Vegetable, and Fat: A Systematic Review. *Evidence-based complementary and alternative medicine: eCAM* 2013. 146214.
doi:10.1155/2013/146214.

In this article, the authors systematically review articles investigating the relationship between religion and spirituality (R/S) and fruit, vegetable, and fat intake. The studies were divided into two categories: denominational studies and degree of R/S studies. The degree of R/S studies was further analyzed to (1) determine the categories of R/S measures and their relationship with fruit, vegetable, and fat intake, (2) evaluate the quality of the R/S measures and the research design, and (3) determine the categories of reported relationship. Thirty-nine studies were identified. There were 14 denominational studies and 21 degree of R/S studies, and 4 studies were a combination of both. Only 20% of the studies reported validity and 52% reported reliability of the R/S measures used. All studies were cross-sectional, and only one attempted mediation analysis. Most studies showed a positive association with fruit and vegetable intake and a mixed association with fat intake. The authors conclude that the positive association between

R/S and fruit and vegetable intake may be one possible link between R/S and positive health outcome. However, the association with fat intake was mixed, and recommendations for future research are made.

- Timmins, Fiona & Freda Neill. 2013. Teaching nursing students about spiritual care: A review of the literature. *Nurse Education in Practice* 13(6). 499–505.
doi:10.1016/j.nepr.2013.01.011.

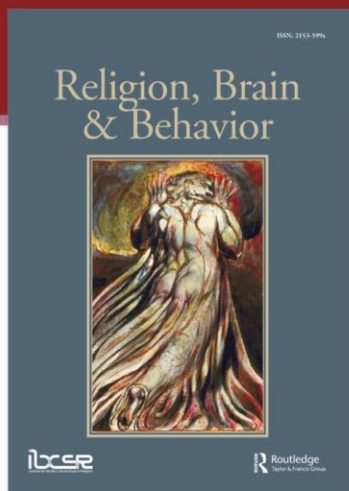
This paper examines the content, process and outcome of spirituality teaching programs for nursing students. The authors searched the CINAHL database spanning the years 2007–2012 using the key words “spirituality” and “education”. Three papers were identified that examined teaching approaches with nurses and nursing students. Due to methodological issues such as small sample sizes and limited testing generalizing from these studies is difficult. Approaches used were firmly rooted in a religiosity framework.

- Yaacob, Nik Rosila Nik. 2013. Cognitive Therapy Approach from Islamic Psycho-spiritual Conception. *Procedia - Social and Behavioral Sciences* 97. 182–187.
doi:10.1016/j.sbspro.2013.10.220.

The purpose of this paper is to highlight a cognitive therapy approach from Islamic psycho-spiritual conception. The first section of this paper discusses on the concept of human abnormal from Islamic psycho-spiritual perspective. The discussion in this section will elaborate on the nature of man, the dynamic elements inherent in human soul, and how these elements influence the cognitive, affective and behavioral aspects of man. The second part of this article focuses on the cognitive therapy approach as devised by Muslim scholars. In this respect, the article will explain techniques and procedures in Islamic cognitive therapy approach. The techniques involved are opposite therapy, contemplation, prayer, and the power of suggestion.

- Youssef, J. & F. P. Deane. 2013. Arabic-speaking religious leaders’ perceptions of the causes of mental illness and the use of medication for treatment. *Australian & New Zealand Journal of Psychiatry* 47(11). 1041–1050.
doi:10.1177/0004867413499076.

The article presents a study related to the perception of Arabic-speaking religious leaders about causes and treatment of mental disorders. According to the leaders causes for mental illness were addiction to alcohol and drugs and psychosocial factors. It highlights that though Muslim clerics think that medication is important they were concerned about side effects of drugs.



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