

# RESEARCH REVIEW

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

FEBRUARY, 2015

## 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 religion using biocultural techniques. 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: H. W. Wilson Applied Science and Technology, ATLA Religion Database, H. W. Wilson 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 654 articles, 101 articles have been retained from 53 journals. There are 40 pre-publication citations from 33 journals.

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## PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

#### 1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Banks, Jonathan B., Matthew S. Welhaf & Alexandra Srour. 2015. The protective effects of brief mindfulness meditation training. *Consciousness and Cognition* 33C. 277–285. doi:10.1016/j.concog.2015.01.016.

Mindfulness meditation has gained a great deal of attention in recent years due to the variety of physical and psychological benefits, including improved working memory, decreased mind wandering and reduced impact of stress on working memory. The current study examined a one-week, at-home mindfulness meditation intervention compared to an active control intervention. Results suggest that mindfulness meditation does not increase working memory or decrease mind wandering but does prevent stress related working memory impairments. Mindfulness meditation appears to alter the factors that impair working memory such that the negative impact of mind wandering on working memory was only evident at higher levels of negative affect. The use of cognitive mechanism words in narratives of stressful events did not differ by condition but predicted poorer working memory in the control condition.

Crescentini, Cristiano, Marilena Di Bucchianico, Franco Fabbro & Cosimo Urgesi. 2015. Excitatory stimulation of the right inferior parietal cortex lessens implicit religiousness/spirituality. *Neuropsychologia* 70. 71–79.

doi:10.1016/j.neuropsychologia.2015.02.016.

Recent investigations with brain imaging and brain damaged patients, and more recently with brain stimulation methods, have documented important associations between religious and spiritual (RS) beliefs and experiences, and frontoparietal neural activity. In this study, the authors further investigated how individuals' implicit RS self-representations can be modulated by changes in right inferior parietal lobe (IPL) excitability, a key region associated to RS. To this end, researchers combined continuous theta burst stimulation (cTBS), intermittent TBS (iTBS),

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Calendar year memberships US\$45 Discounts for retirees and students and sham TBS with RS-related, Implicit Association Test (IAT) and with a control self-esteem (SE) IAT in a group of fourteen healthy adult individuals. A specific decrease of implicit RS, as measured with the IAT effect, was induced by increasing IPL excitability with iTBS; conversely cTBS, which is supposedly inhibitory, left participants' implicit RS unchanged. The performance in the control SE-IAT was left unchanged by any TBS stimulation. These data showed the causative role of right IPL functional state in mediating plastic changes of implicit RS.

Deepeshwar, Singh, Suhas Ashok Vinchurkar, Naveen Kalkuni Visweswaraiah & Hongasandra RamaRao Nagendra. 2014. Hemodynamic responses on prefrontal cortex related to meditation and attentional task. *Frontiers in Systems Neuroscience* 8. 252. doi:10.3389/fnsys.2014.00252.

Recent neuroimaging studies state that meditation increases regional cerebral blood flow (rCBF) in the prefrontal cortex (PFC). The present study employed functional near infrared spectroscopy (fNIRS) to evaluate the relative hemodynamic changes in PFC during a cognitive task. Twenty-two healthy male volunteers with ages between 18 and 30 years performed a color-word stroop task before and after 20 min of meditation and random thinking. Repeated measures ANOVA was performed followed by a post hoc analysis with Bonferroni adjustment for multiple comparisons between the mean values of "During" and "Post" with "Pre" state. During meditation there was an increased in oxy-hemoglobin (\(\triangle HbO\)) and total hemoglobin (\(\triangle THC\)) concentration with reduced deoxy-hemoglobin (\(\triangle HbR\)) concentration over the right prefrontal cortex (rPFC), whereas in random thinking there was increased \(\triangle HbR\) with reduced total hemoglobin concentration on the rPFC. The mean reaction time (RT) was shorter during stroop color word task with concomitant reduction in \(\triangle THC\) after meditation, suggestive of improved performance and efficiency in task related to attention. These findings demonstrated that meditation increased cerebral oxygenation and enhanced performance, which was associated with activation of the PFC.

Faber, Pascal L., Dietrich Lehmann, Lorena R. R. Gianotti, Patricia Milz, Roberto D. Pascual-Marqui, Marlene Held & Kieko Kochi. 2015. Zazen meditation and no-task resting EEG compared with LORETA intracortical source localization. *Cognitive Processing* 16(1). 87–96. doi:10.1007/s10339-014-0637-x.

Meditation is a self-induced and willfully initiated practice that alters the state of consciousness. The meditation practice of Zazen, like many other meditation practices, aims at disregarding intrusive thoughts while controlling body posture. It is an open monitoring meditation characterized by detached moment-to-moment awareness and reduced conceptual thinking and self-reference. Which brain areas differ in electric activity during Zazen compared to task-free resting? Since scalp electroencephalography (EEG) waveforms are reference-dependent, conclusions about the localization of active brain areas are ambiguous. Computing intracerebral source models from the scalp EEG data solves this problem. In the present study, researchers applied source modeling using low resolution brain electromagnetic tomography (LORETA) to 58-channel scalp EEG data recorded from 15 experienced Zen meditators during Zazen and no-task resting. Zazen compared to no-task resting showed increased alpha-1 and alpha-2 frequency activity in an exclusively right-lateralized cluster extending from prefrontal areas including the insula to parts of the somatosensory and motor cortices and temporal areas. Zazen also showed decreased alpha and beta-2 activity in the left angular gyrus and decreased beta-1 and beta-2 activity in a large bilateral posterior cluster comprising the visual cortex, the posterior cingulate cortex and the parietal cortex. The results include parts of the default mode network and suggest enhanced automatic memory and emotion processing, reduced conceptual thinking and self-reference on a less judgmental, i.e., more detached moment-to-moment basis during Zazen compared to notask resting.

Holbrook, Colin, Jennifer Hahn-Holbrook & Julianne Holt-Lunstad. 2015. Self-reported spirituality correlates with endogenous oxytocin. *Psychology of Religion and Spirituality* 7(1). 46–50. doi:10.1037/a0038255.

Spirituality involves a feeling of profound personal connection to a sacred reality (e.g., God), and is often characterized by experiences of comfort and peace. The neuropeptide oxytocin appears to be a plausible biological mediator of such spiritual experiences, as oxytocin is closely linked with social affiliation, intimacy, and stress-attenuation. Here, researchers investigated the relationship between endogenously generated oxytocin and self-reported trait spirituality among a group of devout North American Christians. In line with emerging perspectives linking oxytocin with social affiliation, but not with positive asocial feelings in general, trait spirituality predicted higher levels of salivary oxytocin, and this association was not explained by co-varying positive mood, optimism, romantic relationship status, or sex. The results are discussed as they motivate future directions in research on oxytocin and spirituality.

Johnstone, Brick, Stacey Bayan, Laura Gutierrez, David Lardizabal, Sean Lanigar, Dong Pil Yoon & Katherine Judd. 2014. Neuropsychological correlates of forgiveness. *Religion, Brain & Behavior* 5(1). 24–35.

doi:10.1080/2153599X.2014.880069.

A recent study of individuals with traumatic brain injury suggests that forgiveness is a neurologically based function related to decreased self-orientation associated with decreased right parietal lobe (RPL) functioning. The current study attempted to replicate these results using 23 individuals with diagnosed seizure disorders. Neuropsychological tests of bilateral frontal, temporal, and parietal lobe functioning were used as indices of cerebral integrity and correlated with a self-report measure of forgiveness. Results indicated that frontal lobe and RPL functions were significantly and negatively correlated with forgiveness. A forward linear regression indicated that only RPL functions predict unique variance in forgiveness. The results support a neuropsychological model of forgiveness that suggests it is related to: (1) decreased self-orientation associated with decreased RPL function, which is experienced as a decreased focus on the perceived wrong to the self; and (2) decreased attention associated with decreased frontal lobe functioning, which is experienced as decreased rumination associated with feeling wronged.

Mascaro, Jennifer S., Alana Darcher, Lobsang T. Negi & Charles L. Raison. 2015. The neural mediators of kindness-based mediation: A theoretical model. *Frontiers in Psychology* 6. 109. doi:10.3389/fpsyg.2015.00109.

Although kindness-based contemplative practices are increasingly employed by clinicians and cognitive researchers to enhance prosocial emotions, social cognitive skills, and well-being, and as a tool to understand the basic workings of the social mind, we lack a coherent theoretical model with which to test the mechanisms by which kindness-based meditation may alter the brain and body. Here, researchers link contemplative accounts of compassion and loving-kindness practices with research from social cognitive neuroscience and social psychology to generate predictions about how diverse practices may alter brain structure and function and related aspects of social cognition. Contingent on the nuances of the practice, kindness-based meditation may enhance the neural systems related to faster and more basic perceptual or motor simulation processes, simulation of another's affective body state, slower and higher-level perspective-taking, modulatory processes such as emotion regulation and self/other discrimination, and combinations thereof.

Sandroff, Brian M., Charles H. Hillman, Ralph H. B. Benedict & Robert W. Motl. 2015. Acute effects of walking, cycling, and yoga exercise on cognition in persons with relapsing-remitting multiple sclerosis without impaired cognitive processing speed. *Journal of Clinical and Experimental Neuropsychology* 37(2). 209–219.

doi:10.1080/13803395.2014.1001723.

Cognitive impairment is a highly prevalent, disabling, and poorly managed consequence of multiple sclerosis (MS). The current study compared the acute effects of moderate-intensity treadmill walking, moderate-intensity cycle ergometry, and guided yoga with those of quiet rest on executive control in 24 persons with relapsing-remitting MS without impaired cognitive processing speed using a within-subjects, repeated measures design. Participants completed four experimental conditions that consisted of 20 minutes of moderate-intensity treadmill walking exercise, moderate-

intensity cycle ergometer exercise, guided yoga, and quiet rest in a randomized, counterbalanced order. Participants underwent a modified-flanker task as a measure of executive control immediately prior to and following each condition. Repeated measures analyses of variance (ANOVAs) indicated general pre-to-post improvements in reaction time, but not accuracy, on the modified-flanker task for all three exercise modalities compared with quiet rest. However, there were additional, selective pre-to-post reductions in the cost of interfering stimuli on reaction time on the modified-flanker task for treadmill walking, but not cycle ergometry or guided yoga, compared with quiet rest. The present results support treadmill walking as the modality of exercise that might exert the largest beneficial effects on executive control in persons with relapsing-remitting MS without impaired cognitive processing speed.

Tang, Yi-Yuan, Qilin Lu, Hongbo Feng, Rongxiang Tang & Michael I. Posner. 2015. Short-term meditation increases blood flow in anterior cingulate cortex and insula. *Frontiers in Psychology* 6. 212. doi:10.3389/fpsyg.2015.00212.

Asymmetry in frontal electrical activity has been reported to be associated with positive mood. One form of mindfulness meditation, integrative body-mind training (IBMT) improves positive mood and neuroplasticity. The purpose of this study is to determine whether short-term IBMT improves mood and induces frontal asymmetry. This study showed that 5-days (30-min per day) IBMT significantly enhanced cerebral blood flow (CBF) in subgenual/adjacent ventral anterior cingulate cortex (ACC), medial prefrontal cortex and insula. The results showed that both IBMT and relaxation training increased left laterality of CBF, but only IBMT improved CBF in left ACC and insula, critical brain areas in self-regulation.

Vaghefi, Mahsa, Ali Motie Nasrabadi, Seyed Mohammad Reza Hashemi Golpayegani, Mohammad-Reza Mohammadi & Shahriar Gharibzadeh. 2015. Spirituality and brain waves. *Journal of Medical Engineering & Technology* 39(2). 153–158. doi:10.3109/03091902.2014.1001528.

The aim of this study is to investigate the effect of Quran on a Persian-speaking Muslims. Volunteers listened to three different audio files: Verses from Sura "Forqan" unconsciously; Arabic text unconsciously; or verses from Sura "Fath" consciously. EEG signals were recorded and the changes in the relative power of theta and alpha band are considered an indicators of relaxation. The findings indicate that conscious listening to Holy Quran increases the relative theta power in most areas of the head, compared to the rest condition, and listening to Quran unconsciously increased relative theta power in the frontal and central lobes of the head significantly, compared to the rest condition. Also, listening to Quran consciously increases the relative alpha power in the frontal lobe, compared to the rest condition.

#### 1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Arli, Denni & Hari Lasmono. 2015. Are religious people more caring? Exploring the impact of religiosity on charitable organizations in a developing country. *International Journal of Nonprofit and Voluntary Sector Marketing* 20(1). 38–51. doi:10.1002/nvsm.1516.

The purpose of this study is to explore the impact of religiosity on reasons that individuals volunteer. Additionally, this study will investigate the pro-social attitudes towards helping others and charitable organizations. This study focuses on Indonesia where religion plays an important role in daily life. The data were derived from a convenience sampling at a large private university in Surabaya, Indonesia (n=258). The results showed that individuals with high intrinsic and extrinsic personal religiosity were more likely to have "other-oriented" reasons when performing philanthropic activities. Nonetheless, religiosity did not influence attitudes of individuals towards helping others.

Barrett, Nathaniel F. 2013. Deacon's negative approach to realism: a metaphysical glass half empty? *Religion, Brain & Behavior* 5(1). 36–41.

doi:10.1080/2153599X.2013.826720.

The author finds Deacon's approach to the question of emergence theory a useful one for the field. Deacon's descriptions of the emergent transitions of morphodynamics and teleodynamics show a possible way to account for the emergence of qualitatively new phenomena without either reducing it to other phenomena and thereby denying that there is anything new to explain, or positing the kind of discontinuity that is really nothing more than a "hypothesis of no explanation." A commentary in the journal's book symposium on Deacon's Incomplete Nature.

Bokulich, Peter. 2013. Missing or modal? Where emergence finds the physical facts. *Religion, Brain & Behavior* 5(1). 41–47.

doi:10.1080/2153599X.2013.826724.

In the quest to understand emergence and mentality, the author suggests moving from an emphasis on the incompleteness of physics to an emphasis on modal structures: the features that fix what is possible and what is impossible for some system. A commentary in the journal's book symposium on Deacon's Incomplete Nature.

Cassell, Paul. 2013. Incomplete Deacon: Why new research programs in the sciences and humanities should emerge from Terrence Deacon's Incomplete Nature. *Religion, Brain & Behavior* 5(1). 47–54. doi:10.1080/2153599X.2013.826719.

In Deacon's book, the author of this article finds a successful argument for emergence theory that should allow it to be considered in the scientific fields, not only the philosophical arena. By focusing on the causal impact of constraint, Deacon has been able to explain how general types of organization arise in nature. The author identifies four new potential research programs that could be inspired from Deacon's work. A commentary in the journal's book symposium on Deacon's Incomplete Nature.

Deacon, Terrence W. 2013. Making sense of incompleteness: a response to commentaries. Religion, Brain & Behavior 5(1). 72–87.

doi:10.1080/2153599X.2013.826730.

A response to the comments made in this book symposium.

Hoffmeyer, Jesper. 2013. Constraints on matter are real agencies. Religion, Brain & Behavior 5(1). 60–65.

doi:10.1080/2153599X.2013.826718.

The author places Deacon's work in the context of philosophical debates between nominalists and realists to show how new understandings of emergence challenge ingrained conceptions of the world. A commentary in the journal's book symposium on Deacon's Incomplete Nature.

Kurzban, Robert, Maxwell N. Burton-Chellew & Stuart A. West. 2015. The Evolution of Altruism in Humans. *Annual Review of Psychology* 66(1). 575–599. doi:10.1146/annurev-psych-010814-015355.

Humans are an intensely social species, frequently performing costly behaviors that benefit others. Efforts to solve the evolutionary puzzle of altruism have a lengthy history, and recent years have seen many important advances across a range of disciplines. Here the authors bring together this interdisciplinary body of research and review the main theories that have been proposed to explain human prosociality, with an emphasis on kinship, reciprocity, indirect reciprocity, punishment, and morality. Recent methodological advances are highlighted that are stimulating research and point to some areas that either remain controversial or merit more attention.

Neville, Robert Cummings. 2013. Teleodynamic remarks about two cultures. *Religion, Brain & Behavior* 5(1). 54–60.

doi:10.1080/2153599X.2013.826722.

The author writes appreciatively of Deacon's book, though he points out the omission of consideration of the work of Alfred North Whitehead. The result of this omission is the inability to account for first-person subjectivity. A commentary in the journal's book symposium on Deacon's <u>Incomplete Nature</u>.

Norenzayan, Ara & Will M. Gervais. 2013. Secular rule of law erodes believers' political intolerance of atheists. *Religion, Brain & Behavior* 5(1). 3–14. doi:10.1080/2153599X.2013.794749.

Atheists are distrusted in societies with religious majorities. However, relatively little is known about the underlying reasons for this phenomenon. Previous evidence suggests that distrust of atheists is in part the result of believers thinking that being under supernatural surveillance by a watchful God underlies moral behavior. However, secular rule of law, including institutions such as police, judges, and courts, are also potent sources of prosocial behavior in some parts of the world. The presence of such secular authority therefore could replace religion's prosocial role and erode believers' rejection of atheists. In two complementary cross-national analyses, the present researchers found support for this hypothesis: believers from countries with a strong secular rule of law showed markedly reduced political intolerance of atheists compared to believers from countries with a weak secular rule of law. This relationship remained strong after controlling for individual demographic characteristics and several country-level socio-economic predictors of atheist distrust, such as human development, individualism, religious involvement, and distrust of people in general.

Pryor, Adam. 2013. Constrained dynamics both orthograde and contragrade. *Religion, Brain & Behavior* 5(1). 65–71.

doi:10.1080/2153599X.2013.826721.

The author first outlines different meanings of the word "emergence" and approaches to emergence theory, utilizing the work of Philip Clayton. After considering how Clayton applies these categories to Deacon's work, the author then offers an alternative application. A commentary in the journal's book symposium on Deacon's Incomplete Nature.

Sasaki, Joni Y., Taraneh Mojaverian & Heejung S. Kim. 2015. Religion priming and an oxytocin receptor gene (OXTR) polymorphism interact to affect self-control in a social context. *Development and Psychopathology* 27(1). 97–109. doi:10.1017/S0954579414001321.

Using a genetic moderation approach, this study examines how an experimental prime of religion impacts self-control in a social context, and whether this effect differs depending on the genotype of an oxytocin receptor gene (OXTR) polymorphism (rs53576). People with different genotypes of OXTR seem to have different genetic orientations toward sociality, which may have consequences for the way they respond to religious cues in the environment. In order to determine whether the influence of religion priming on self-control is socially motivated, researchers examine whether this effect is stronger for people who have OXTR genotypes that should be linked to greater rather than less social sensitivity (i.e., GG vs. AA/AG genotypes). The results showed that experimentally priming religion increased self-control behaviors for people with GG genotypes more so than people with AA/AG genotypes. Furthermore, this Gene × Religion interaction emerged in a social context, when people were interacting face to face with another person. This research integrates genetic moderation and social psychological approaches to address a novel question about religion's influence on self-control behavior, which has implications for coping with distress and psychopathology. These findings also highlight the importance of the social context for understanding genetic moderation of psychological effects.

#### 1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND CULTURE

Aune, Kristin. 2015. Feminist spirituality as lived religion: How UK feminists forge religio-spiritual lives. *Gender & Society* 29(1). 122–145. doi:10.1177/0891243214545681.

How do feminists in the United Kingdom view spirituality and religion? What are their religious and spiritual attitudes, beliefs, and practices? What role do spirituality and religion play in feminists' lives? This article presents findings from an interview-based study of 30 feminists in England, Scotland, and Wales. It identifies three characteristics of feminists' approaches to religion and spirituality: They are de-churched, are relational, and emphasize practice. These features warrant a new approach to feminists' relationships with religion and spirituality. Rather than, as others have done, equating feminism with secularism, secularization, or alternative spiritualities, the article reveals the complex ways feminists forge religio-spiritual lives. The interview data demonstrate that it is unwise to see "spirituality" and "religion" as analytically distinct. Instead, drawing on the growing field of scholarship on "lived religion," the article proposes conceptualizing feminist spirituality as lived religion.

Eriksson, Cynthia B., Jason M. Holland, Joseph M. Currier, Leslie M. Snider, Alastair K. Ager, Reinhard E. R. Kaiser & Winnifred S. Simon. 2015. Trajectories of spiritual change among expatriate humanitarian aid workers: A prospective longitudinal study. *Psychology of Religion and Spirituality* 7(1). 13–23. doi:10.1037/a0037703.

Expatriate humanitarian aid workers are often exposed to traumatic events and human suffering in the context of their deployments. Internal resources, such as having recourse to a transcendent spiritual framework, may play an important part in creating a meaningful perspective on the work and developing coping strategies to overcome challenging experiences. Aid workers from agencies based in North America and Europe participated in a longitudinal study of stress and mental health between 2005 and 2009. Participants completed assessments of spiritual transcendence, trauma exposure, psychiatric distress, and posttraumatic life changes at predeployment (n=212), postdeployment (n=170), and a 3- to 6-month follow-up assessment (n=154). Latent class growth analysis indicated 3 distinct trajectories of spiritual changes across the sample: (1) a group with high spiritual transcendence at predeployment with small, but significant, decreases over time; (2) a group with moderate and stable spiritual transcendence scores; and (3) a group with low and slightly decreasing spiritual transcendence scores over the study period. Participants who reported a religious affiliation were more likely to be in the high spiritual transcendence group, and different trajectories were not associated with likelihood of psychiatric distress at postdeployment or follow-up. However, those reporting higher spiritual transcendence were more likely to report positive life changes following their deployments. Findings suggest that spiritual transcendence was relatively stable in this sample, and that aid workers with greater spiritual transcendence may be more oriented toward personal growth after trauma exposure in their work.

Henning, Marcus A., Christian Krägeloh, Andrea Thompson, Richard Sisley, Iain Doherty & Susan J. Hawken. 2015. Religious Affiliation, Quality of Life and Academic Performance: New Zealand Medical Students. *Journal of Religion and Health* 54(1). 3–19. doi:10.1007/s10943-013-9769-z.

The present study investigated the connections between religious affiliation, quality of life (QOL) and measures of academic performance. Participants (n=275) were recruited from the School of Medicine within a New Zealand university. Religious affiliation was classified according to three subcategories: Christian (n=104), Eastern religion (n=34) and non-religious (n=117). The participants completed the World Health Organisation quality of life questionnaire (WHOQOL-BREF) and the World Health Organisation Spiritual, Religiousness, and Personal Beliefs questionnaire immediately before their lecture time. The main findings of the study indicated that participants from different religious affiliations expressed different spiritual QOL perceptions. However, these different

expressions did not translate into their perceptions related to hours of study and academic achievement. In addition, the QOL measures did not relate to academic achievement estimation but did predict hours of study. Greater hours of study were related to greater physical health but lower psychological health and poorer engagement in developing social relationships. Data from a small focus group (n=4) revealed that these students believed that having a belief system assisted them when coping with the academic learning environment, although little difference could be found between external religious orientations and internal belief systems.

Jäckle, Sebastian & Georg Wenzelburger. 2015. Religion, religiosity, and the attitudes toward homosexuality: A multilevel analysis of 79 countries. *Journal of Homosexuality* 62(2). 207–241. doi:10.1080/00918369.2014.969071.

Although attitudes toward homosexuality have become more liberal, particularly in industrialized Western countries, there is still a great deal of variance in terms of worldwide levels of homonegativity. Using data from the two most recent waves of the World Values Survey (1999–2004, 2005–2009), this article seeks to explain this variance by means of a multilevel analysis of 79 countries. Researchers include characteristics on the individual level, as age or gender, as well as aggregate variables linked to specificities of the nation-states. In particular, there was a focus on the religious denomination of a person and her religiosity to explain her attitude toward homosexuality. Clear differences were found in levels of homonegativity among the followers of the individual religions.

Johnson, Susan, Ravid Moses Gur, Zhanna David & Elise Currier. 2015. One-session mindfulness meditation: A randomized controlled study of effects on cognition and mood. *Mindfulness* 6(1). 88–98.

doi:10.1007/s12671-013-0234-6.

Participants in previous studies of brief mindfulness meditation (MM) are often tested immediately following a meditation session, making it difficult to separate several days of training from one-session effects. The current study examined the effects of a single session of 25 min of MM compared with a sham meditation (sham M) and a booklistening control. One session of both MM and sham M had a significant effect on state mindfulness compared with the control. Several mood subscales as well as total distress score on the Profile of Mood States (POMS) were also significantly different from control. However, neither meditation condition had significant effects on any of the attention and working memory tasks. These results indicate that one session of meditation was not sufficient to affect the cognitive tasks used in this study. Both MM and sham M positively affected mood states and heightened state mindfulness.

Kirk, Ulrich & P. Read Montague. 2015. Mindfulness meditation modulates reward prediction errors in a passive conditioning task. *Frontiers in Psychology* 6. 90. doi:10.3389/fpsyg.2015.00090.

Reinforcement learning models have demonstrated that phasic activity of dopamine neurons during reward expectation encodes information about the predictability of reward and cues that predict reward. Self-control strategies such as those practiced in mindfulness-based approaches is claimed to reduce negative and positive reactions to stimuli suggesting the hypothesis that such training may influence basic reward processing. Using a passive conditioning task and fMRI in a group of experienced mindfulness meditators and age-matched controls, researchers tested the hypothesis that mindfulness meditation influence reward and reward prediction error (PE) signals. Diminished positive and negative PE-related blood-oxygen level-dependent (BOLD) responses in the putamen were found in meditators compared with controls. In the meditator group this decrease in striatal BOLD responses to reward PE was paralleled by increased activity in posterior insula, a primary interoceptive region. Critically, responses in the putamen during early trials of the conditioning procedure (run 1) were elevated in both meditators and controls. Overall, these results provide evidence that experienced mindfulness meditators are able to attenuate reward prediction signals to valenced stimuli, which may be related to interoceptive processes encoded in the posterior insula.

Krause, Neal & R. David Hayward. 2015. Assessing whether practical wisdom and awe of God are associated with life satisfaction. *Psychology of Religion and Spirituality* 7(1). 51–59. doi:10.1037/a0037694.

Although emotion figures prominently in religious life, there has been little research on one of the strongest religious emotions: awe of God. The purpose of this study was to embed this key religious emotion in a wider latent-variable model that contains the following core hypotheses: (a) more frequent church attendance is associated with greater practical wisdom; (b) people with more practical wisdom are more likely to experience awe of God; (c) individuals who experience awe of God are more likely to say they feel a deep sense of connectedness with others; and (d) those who feel more closely connected with others will be more satisfied with their lives. New measures were developed to assess awe of God and practical wisdom. Findings from a recent nationwide survey (n=1,535) of middle-aged and older adults provided support for each of these relationships.

Lim, Daniel, Paul Condon & David DeSteno. 2015. Mindfulness and compassion: an examination of mechanism and scalability. *PloS One* 10(2). e0118221. doi:10.1371/journal.pone.0118221.

Emerging evidence suggests that meditation engenders prosocial behaviors meant to benefit others. However, the robustness, underlying mechanisms, and potential scalability of such effects remain open to question. The current experiment employed an ecologically valid situation that exposed participants to a person in visible pain. Following three-week, mobile-app based training courses in mindfulness meditation or cognitive skills (i.e., an active control condition), participants arrived at a lab individually to complete purported measures of cognitive ability. Upon entering a public waiting area outside the lab that contained three chairs, participants seated themselves in the last remaining unoccupied chair; confederates occupied the other two. As the participant sat and waited, a third confederate using crutches and a large walking boot entered the waiting area while displaying discomfort. Compassionate responding was assessed by whether participants gave up their seat to allow the uncomfortable confederate to sit, thereby relieving her pain. Participants' levels of empathic accuracy was also assessed. As predicted, participants assigned to the mindfulness meditation condition gave up their seats more frequently than did those assigned to the active control group. In addition, empathic accuracy was not increased by mindfulness practice, suggesting that mindfulness-enhanced compassionate behavior does not stem from associated increases in the ability to decode the emotional experiences of others.

Lynch, Timothy. 2015. Investigating Children's Spiritual Experiences through the Health and Physical Education (HPE) Learning Area in Australian Schools. *Journal of Religion and Health* 54(1). 202–220.

doi:10.1007/s10943-013-9802-2.

The purpose of this study is to explore spirituality within the Health and Physical Education (HPE) learning area, through investigating children's experiences within three Brisbane Catholic Education primary schools (Queensland, Australia). There are seven dimensions of wellness: physical, intellectual, emotional, social, spiritual, environmental, and occupational, which are all strongly connected. It is logical that HPE, which promotes students to adopt lifelong health and well-being, offers opportunities for spirituality to be experienced and warrants investigation. Data gathered in this qualitative research suggest that regular quality inclusive HPE lessons increased students' potential for spiritual experiences.

Mhizha, Samson. 2015. The Religious–Spiritual Self-Image and Behaviours Among Adolescent Street Children in Harare, Zimbabwe. *Journal of Religion and Health* 54(1). 187–201. doi:10.1007/s10943-013-9799-6.

The present study sought to explore the relationship between street childhood and adolescent religious: spiritual self-image. In Zimbabwe, there has been a rise in street children population in the urban centers. The current study

investigated whether adolescent street children live and work in an eco-developmentally risky context for the development of positive religious—spiritual self-image. This rise in street children population has been in the context of a socio-politico-economic crisis, which was marked by record inflation rates and the HIV and AIDS pandemic. The research objectives were to investigate the nature of religious—spiritual self-image for street-living adolescent children, and to determine the effects of self-image on the behavior of street-living adolescent children. The participants were 16 street-living adolescent children aged between 12 and 18 years and six key informants all in Harare in Zimbabwe. A total of 22 participants took part in this study. Data analysis revealed that the adolescent street children's religious—spiritual self-image is largely negative. Most street-living adolescent children believed that they were controlled and influenced by evil spirits and that their relatives were casting bad spells on them. The negative religious—spiritual self-image among the street children had important negative implications on psychological functioning, moral behaviors, and social relations for the street-living children.

O'Brien, Timothy L. & Shiri Noy. 2015. Traditional, modern, and post-secular perspectives on science and religion in the United States. *American Sociological Review* 80(1). 92–115. doi:10.1177/0003122414558919.

Using General Social Survey data, researchers examine perspectives on science and religion in the United States. Latent class analysis reveals three groups based on knowledge and attitudes about science, religiosity, and preferences for certain religious interpretations of the world. The traditional perspective (43 percent) is marked by a preference for religion compared to science; the modern perspective (36 percent) holds the opposite view. A third perspective, which researchers call post-secular (21 percent), views both science and religion favorably. However, when faced with competing accounts of events such as creation and evolution, post-seculars root their views in religion rather than in mainstream science. Regression models indicate that perspectives on science and religion do not simply mirror other denominational or ideological differences. Furthermore, religio-scientific perspectives shape attitudes about political issues where scientific and some religious communities diverge, including on abortion rights and stem cell research. Overall, most individuals favor either scientific or religious ways of understanding, but many scientifically inclined individuals prefer certain religious accounts. This suggests that public divisions related to science and religion are cultural and epistemological. This article underscores the complexity of the boundary between reason and faith and highlights the roots of political conflict in perspectives on science and religion in the United States.

Palasinski, Marek & Kyoung Ok Seol. 2015. Examination of religious identity metastereotypes when defying its relevant source through out-group helping. *Psychology of Religion and Spirituality* 7(1). 80–89.

doi:10.1037/a0037622.

In this article researchers address a deficit in research on indirect and direct sources of threat to metastereotypes in strategic out-group helping. In Study 1 (n=70), where the source of threat to participants' own religious identities was directly relevant, offers of help were made only if the available forms of help were pertinent to negating the negative religious stereotypes or if such offers could put the stereotypes in a favorable light. This pattern also held in Study 2 (n=97), where the source of threat to participants' religious identities was peripheral and therefore indirect. Taken together, it appeared that it was less likely to be the directness of sources of threat to metastereotypes as the possibility of meaningfully rebutting the negative stereotype or presenting it in favorable terms that had importance in strategic out-group helping.

Prickett, Pamela J. 2015. Negotiating gendered religious space: The particularities of patriarchy in an African American mosque. *Gender & Society* 29(1). 51–72. doi:10.1177/0891243214546934.

Much research on women's religious participation centers on their abilities to act within constricted institutional spaces. Drawing on five years of ethnographic fieldwork, this study analyzes how African American Muslim women use the mosque as a physical space to enact public performances of religious identity. By occupying, protecting, and

appropriating spaces in the mosque for meaningfully gender-specific ways of engaging Islam, the women further a project of religious self-making that bonds African American Muslim women together. In their maneuverings of different forms of physical space as a sisterhood, the women enable themselves to resist gender, economic, and racial oppression. This study reveals that even within men-dominated religious organizations with limited symbolic and material spaces for women, women participants successfully exert agency over their own religious experiences.

Ray, Shanna D., Jennifer D. Lockman, Emily J. Jones & Melanie H. Kelly. 2015. Attributions to God and Satan about life-altering events. *Psychology of Religion and Spirituality* 7(1). 60–69. doi:10.1037/a0037884.

When faced with negative life events, people often interpret the events by attributing them to the actions of God or Satan. To explore these attributions, researchers conducted a mixed-method study of Christians who were college freshmen. Participants read vignettes depicting a negative life event that had a beginning and an end that was systematically varied. Participants assigned a larger role to God in vignettes where an initially negative event (e.g., relationship breakup) led to a positive long-term outcome (e.g., meeting someone better) than with a negative (e.g., depression and loneliness) or unspecified long-term outcome. Participants attributed a lesser role to Satan when there was positive outcome rather than negative or unspecified outcome. Participants also provided their own narratives, recounting personal experiences that they attributed to the actions of God or Satan. Participant-supplied narratives often demonstrated "theories" about the actions of God, depicting God as being involved in negative events as a rescuer, comforter, or one who brings positive out of the negative. Satan-related narratives were often lacking in detail or a clear theory of how Satan worked. Participants who did provide this information depicted Satan as acting primarily through influencing one's thoughts and/or using other people to encourage one's negative behavior.

Razza, Rachel A., Dessa Bergen-Cico & Kimberly Raymond. 2015. Enhancing preschoolers' self-regulation via mindful yoga. *Journal of Child and Family Studies* 24(2). 372–385. doi:10.1007/s10826-013-9847-6.

This study evaluated the effectiveness of a mindfulness-based yoga intervention in promoting self-regulation among preschool children (3–5 years old). Twenty-nine children (16 intervention and 13 control) participated in the yearlong study that used a quasi-experimental pretest/posttest treatment and control design. The mindful yoga intervention was implemented regularly by the classroom teacher for the treatment group. Treatment and control participants completed evaluations that assessed multiple indices of children's self-regulation (i.e., attention, delay of gratification and inhibitory control) using a combination of parent report and direct assessments. Results from the direct assessments indicated significant effects of the intervention across all three indices of self-regulation. There was also some evidence that the children who were most at risk of self-regulation dysfunction benefited the most from the intervention. Implications of this study for current practice in early childhood education are discussed along with possibilities for future research in this area.

Wong, Lok Ping, Helene H. Fung & Da Jiang. 2015. Associations between religiosity and death attitudes: Different between Christians and Buddhists? *Psychology of Religion and Spirituality* 7(1). 70–79.

doi:10.1037/a0037993.

This study investigated the association between religiosity and death attitudes among Christians and Buddhists. Christians (n=123) and Buddhists (n=137) from both sexes, matched in demographic characteristics, completed a battery of tests on death attitudes and religiosity. Multiple linear regression results confirmed that a higher level of intrinsic religiosity predicted a reduced level of fear of death and dying, and a higher level of death acceptance in both religious groups. However, extrinsic religiosity was positively associated with both death acceptance and death avoidance among Buddhists, but not Christians. Subsequent qualitative analysis revealed unique themes underlying the death attitude profiles of each religious group. Findings suggest that while both Buddhism and Christianity might

protect people from death fear and promote acceptance of death through the mechanism of intrinsic religiosity, cross-religion differences in other aspects of death attitudes should not be ignored.

Zion-Waldoks, Tanya. 2015. Politics of devoted resistance: Agency, feminism, and religion among Orthodox Agunah activists in Israel. *Gender & Society* 29(1). 73–97. doi:10.1177/0891243214549353.

This study explores how religious women become legitimate actors in the public sphere and analyzes their agency: its meanings, capacities, and transformative aims. It presents a novel case study of Israeli Modern-Orthodox Agunah activists who engage in highly politicized collective feminist resistance as religious actors working for religious ends. Embedded in and activated by Orthodoxy, they advocate women's rights to divorce, voicing a moral critique of tradition and its agents precisely because they are devoutly devoted to them. Such political agency is innovatively conceptualized as "devoted resistance": critique within relationship, enabled by cultural schema, and comprising both interpretive skills and "relational-autonomy" capacities. This study contends that understanding agency within religious grammars reveals its underlying logics, highlighting how structures shape the meanings and realization of women's varied "agentive capacities." It challenges current dichotomies like feminism/religion, resistance/submission, and autonomy/dependence. Overall, the author argues for a nuanced, culturally specific, capacity-based, relational approach to analyzing religious women's agency.

#### 1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Büssing, Arndt, Franz Reiser, Andreas Michalsen, Anne Zahn & Klaus Baumann. 2015. Do Patients with Chronic Pain Diseases Believe in Guardian Angels: Even in a Secular Society? A Cross-Sectional Study Among German Patients with Chronic Diseases. *Journal of Religion and Health* 54(1). 76–86.

doi:10.1007/s10943-013-9735-9.

In this study, researchers investigate whether patients with chronic diseases believe in guardian angels (GdA) as a coping resource. In a cross-sectional survey, data from 576 German patients with chronic diseases was analyzed. Researchers found that 56% of the patients often or even regularly believed in GdA, with significantly more women than men believing. Particularly interesting was the fact that 38% of patients who were identified as neither religious nor spiritual (R-S-) believed in GdAs. This belief may indicate that patients are interested in bridging the gap between the concrete struggle to manage illness and non-rational/transcendent realms.

Capretto, Peter. 2015. Empathy and Silence in Pastoral Care for Traumatic Grief and Loss. *Journal of Religion and Health* 54(1). 339–357. doi:10.1007/s10943-014-9904-5.

This paper evaluates silence as a therapeutic practice in pastoral care for traumatic grief and loss. Informed by the history of attachment and mourning theory, its research considers the basic effect that empathy has upon the therapeutic relationship around psychic difference. The study appraises the potential resources and detriments that empathic language may have for the grief process. Offering clinical examples in hospice chaplaincy, it refutes the idea that silence is a formulaic tool to be used. It instead offers silence as the acceptance of the limits of empathic language and the affirmation of psychological difference and theological wholeness.

Cohen, Adam B. 2015. Religion's profound influences on psychology: Morality, intergroup relations, self-construal, and enculturation. *Current Directions in Psychological Science* 24(1). 77–82. doi:10.1177/0963721414553265.

Religion affects psychological processes in many important ways and is the subject of increasing attention on the part of psychologists. In this article, the author discusses four reasons why religion is important, including that religion is a central foundation for moral judgment (e.g., Protestants but not Jews find lustful thoughts to be morally suspect)

and that religion strongly affects intergroup relations (e.g., theology regarding forgiveness affects intergroup relations). It is then proposed that religion broadly shapes self-construal (e.g., Protestants tend toward independent selves) and that the myriad ways in which religion shapes individuals' psychologies is a complex issue that can be instructive in terms of how culture gets inside people's heads.

Hoverd, William James, Joseph Bulbulia, Negar Partow & Chris G. Sibley. 2013. Forecasting religious change: a Bayesian model predicting proportional Christian change in New Zealand. *Religion, Brain & Behavior* 5(1). 15–23. doi:10.1080/2153599X.2013.824497.

For over a century, sociologists of religion have been describing declining trends in religious affiliation across most industrialized countries, a trend that Max Weber characterized as "the disenchantment of the world." Although secularization is a matter of ongoing debate, there is relatively little predictive modeling. For this article, using New Zealand census data from 1966–2006, researchers develop a Bayesian predictive model to forecast the proportion of the population identifying as Christian in the future. A surprisingly simple linear model revealed that Christian affiliation in New Zealand has been steadily declining at a constant rate of around 0.90% per year since 1966. The model explained 97.4% of the variance in proportional change in the New Zealand Christian population over the past half-century. The model also offers testable predictions. It is estimated that 46.1% of the population will identify as Christian in New Zealand in 2015, with a further decline to 41.7% by 2020. The 95% credible interval for the 2020 estimate is between 42.5% and 49.6%. The 95% credible interval for the 2020 estimate is between 37.7% and 45.8%.

Kramp, Joseph M. 2015. Call of the Wild: The Negative Tendency in the Nature Religions of American Youth. *Journal of Religion and Health* 54(1). 61–75. doi:10.1007/s10943-013-9732-z.

The author argues that the paucity of options for sanctioned rebellion in contemporary American society drive an ever-increasing number of idealistic youth in search of isolation in nature, where they construct what the author here calls "nature religions." These worldviews focus on purification of falsehood, ritualized through enduring extreme physical pain, social isolation, and extreme weather conditions in hopes of experiencing reality more authentically. The author argues that unemployment, limited vocational options, and the homogenization of American society are among the major catalysts for this ever-expanding breed of seekers, each of whom struggles with a negative tendency (a theoretical term created by Erik Erikson). Furthermore, the author argues that the emphasis in the nature religions on connection to nature is constructed to compensate for the lack of community and sense of human connectedness in contemporary American society. A representative case study from Jon Krakauer's Into the Wild is presented to illuminate and justify the argument made by the author for more institutionally housed options for sanctioned, licit rebellion to manage the negative tendency.

McCartney, Mark & David H. Glass. 2015. A three-state dynamical model for religious affiliation. *Physica A: Statistical Mechanics and its Applications* 419. 145–152. doi:10.1016/j.physa.2014.09.052.

In the last century the western world has seen a rapid increase in the number of people describing themselves as affiliated with no religious group. Here, researchers construct a set of models using coupled differential equations in which members of a society can be in one of three groups; religiously committed, religiously affiliated or religiously not affiliated. These models are then used to analyze post World War II census data for Northern Ireland.

Utinans, A., G. Ancane, J. J. Tobacyk, G. Boyraz, M. M. Livingston & J. S. Tobacyk. 2015. Paranormal beliefs of Latvian college students: a Latvian version of the revised paranormal belief scale. *Psychological Reports* 116(1). 116–126. doi:10.2466/08.17.PR0.116k14w9.

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A Latvian version of the Revised Paranormal Belief Scale (RPBS) was completed by 229 Latvian university students. Exploratory and confirmatory factor analyses revealed six relatively independent factors labeled Magical Abilities, Psychokinesis, Traditional Religious Belief, Superstition, Spirit Travel, and Extraordinary Life Forms. Based on the motivational-control model, it was hypothesized that the societal stressors affecting Latvian society during the last 50 years have led to a reduced sense of personal control which, in turn, has resulted in increased endorsement of paranormal beliefs to re-establish a sense of control. The motivational-control hypothesis was not supported. Results indicated that (except for Traditional Religious Belief in women), the majority of these students were disbelievers in paranormal phenomena. As hypothesized, Latvian women reported significantly greater paranormal belief than men.

### PART 2: ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

#### 2.1 Spirituality & Health: General Health & Well-Being

Carlson, Linda E., Tara L. Beattie, Janine Giese-Davis, Peter Faris, Rie Tamagawa, Laura J. Fick, Erin S. Degelman & Michael Speca. 2015. Mindfulness-Based Cancer Recovery and Supportive-Expressive Therapy Maintain Telomere Length Relative to Controls in Distressed Breast Cancer Survivors. *Cancer* 121(3). 476–484. doi:10.1002/cncr.29063.

Group psychosocial interventions including mindfulness-based cancer recovery (MBCR) and supportive-expressive group therapy (SET) can help breast cancer survivors decrease distress and influence cortisol levels. Although telomere length (TL) has been associated with breast cancer prognosis, the impact of these two interventions on TL has not been studied to date. The objective of the current study was to compare the effects of MBCR and SET with a minimal intervention control condition (a 1-day stress management seminar) on TL in distressed breast cancer survivors in a randomized controlled trial. MBCR focused on training in mindfulness meditation and gentle Hatha yoga whereas SET focused on emotional expression and group support. Eighty-eight distressed breast cancer survivors with a diagnosis of stage I to III cancer who had completed treatment at least 3 months prior participated. Using analyses of covariance on a per-protocol sample, there were no differences noted between the MBCR and SET groups with regard to the telomere/single-copy gene ratio, but a trend effect was observed between the combined intervention group and controls; TL in the intervention group was maintained whereas it was found to decrease for control participants. There were no associations noted between changes in TL and changes in mood or stress scores over time.

Coe, Kathryn, Colleen Keller & Jenelle R. Walker. 2015. Religion, kinship and health behaviors of African American women. *Journal of Religion and Health* 54(1). 46–60. doi:10.1007/s10943-013-9784-0.

A positive relationship exists between functional health and religion. Researchers here present an empirical definition of religion and describe the key elements of religious behavior, building a model that can be used to explore the presumed relationship between religion and health. Semi-structured interactive interviews were conducted with 22 participants over a 6-month period. The authors focus on social relationships and propose that prophet-created religions mimic kinship relationships and encourage kinship-like cooperation between members.

Garg, Sumit, C. S. Ramya, Vinutha Shankar & Karthiyanee Kutty. 2015. Efficacy of short-term Yoga therapy program on quality of life in patients with psychosomatic ailments. *Indian Journal of Psychiatry* 57(1). 78–80. doi:10.4103/0019-5545.148530.

Researchers studied the effect of short-term Yoga therapy program on quality of life in patients suffering from psychosomatic ailments. Participants were individuals coming to Svyasa Arogyadhama for Yoga therapy for various psychosomatic ailments, and were free of any primary psychiatric illness. All subjects (n=94) who were enrolled in the study underwent Integrated Approach to Yoga Therapy, which included Asanas, Pranayamas, meditation, Kriyas and lectures on practice of Yoga and derived special techniques in their respective sections. The quality of life was assessed by SF-12 questionnaire and thereby calculating Physical and Mental Composite Scores (PCS and MCS) before and after 1 week of Yoga therapy. Results indicate a significant improvement in the study group in both PCS and MCS with minor variations in patients of various departments.

Grabara, Malgorzata & Janusz Szopa. 2015. Effects of hatha yoga exercises on spine flexibility in women over 50 years old. *Journal of Physical Therapy Science* 27(2). 361–365.

The aim of this study was to access the flexibility of the spine in women practicing yoga as a part of the "University for Health" project. The study included 56 women ranging in age from 50-79 and attending 90 minutes hatha

yoga sessions once a week. The measurements were performed twice at the beginning of the project and after its completion, i.e., after 20 weeks of classes. Results indicate that the applied yoga exercises increased spinal mobility and flexibility of the hamstring muscles regardless of age.

Grodensky, Catherine A., Carol E. Golin, Chaunetta Jones, Meheret Mamo, Alexis C. Dennis, Melinda G. Abernethy & Kristine B. Patterson. 2015. "I Should Know Better": The Roles of Relationships, Spirituality, Disclosure, Stigma, and Shame for Older Women Living With HIV Seeking Support in the South. *Journal of the Association of Nurses in AIDS Care* 26(1). 12–23. doi:10.1016/j.jana.2014.01.005.

Researchers conducted semi-structured in-depth interviews with 15 women (13 African American, 2 Caucasian) 50 years of age and older (range 50–79 years) in HIV care in the southeastern United States, and coded transcripts for salient themes. Many women felt isolated and inhibited from seeking social connection due to reluctance to disclose their HIV status, which they viewed as more shameful at their older ages. Those receiving social support did so mainly through relationships with family and friends, rather than romantic relationships. Spirituality provided great support for all participants, although fear of disclosure led several to restrict connections with a church community.

Kemper, Kathi J., Daniel Powell, Christine Carlisle Helms & Daniel B. Kim-Shapiro. 2015. Loving-Kindness Meditation's Effects on Nitric Oxide and Perceived Well-being: A Pilot Study in Experienced and Inexperienced Meditators. *Explore (New York, N.Y.)* 11(1). 32–39. doi:10.1016/j.explore.2014.10.002.

Meditation is associated with lower blood pressure, but little is known about how loving-kindness meditation affects nitric oxide (NO) metabolism, a key mediator of cardiovascular physiology associated with vasodilation. For this study, researchers studied seven inexperienced and five experienced healthy meditators at one study visit, after they refrained from eating nitrate-rich foods for at least 12 h. Researchers measured nitrite and nitrate and self-reported stress at baseline, after a neutral reading period (prior to meditation), immediately after, and 10 min following a standardized 20-min loving-kindness meditation. Stress was significantly lower at baseline in the experienced group as was heart rate (HR). Stress levels fell significantly with meditation while relaxation increased in the inexperienced group. Plasma nitrite levels were not significantly higher, but nitrate levels were more than twice as high for experienced vs. inexperienced meditators before and after loving-kindness meditation.

McCall, M. C., A. Ward & C. Heneghan. 2015. Yoga in adult cancer: a pilot survey of attitudes and beliefs among oncologists. *Current Oncology* 22(1). 13–19. doi:10.3747/co.22.2129.

Depending on interest, knowledge, and skills, oncologists are adapting clinical behavior to include integrative approaches, supporting patients to make informed complementary care decisions. The present study sought to improve the knowledge base in three ways: 1) Test the acceptability of a self-reported online survey for oncologists. 2) Provide preliminary data collection concerning knowledge, attitudes, beliefs, and current referral practices among oncologists with respect to yoga in adult cancer. 3) List the perceived benefits of and barriers to yoga intervention from a clinical perspective. A 38-item self-report questionnaire was administered online to medical, radiation, and surgical oncologists in British Columbia. Some of the 29 oncologists who completed the survey (n=10) reported having recommended yoga to patients to improve physical activity, fatigue, stress, insomnia, and muscle or joint stiffness. Other responding oncologists were hesitant or unlikely to suggest yoga for their patients because they had no knowledge of yoga as a therapy (n=15) or believed that scientific evidence to support its use is lacking (n=11). All 29 respondents would recommend that their patients participate in a clinical trial to test the efficacy of yoga. In qualitative findings, oncologists compared yoga with exercise and suggested that it might have similar psychological and physical health benefits that would improve patient capacity to endure treatment.

Namageyo-Funa, Apophia, Jessica Muilenburg & Mark Wilson. 2015. The Role of Religion and Spirituality in Coping with Type 2 Diabetes: A Qualitative Study among Black Men. *Journal of Religion and Health* 54(1). 242–252. doi:10.1007/s10943-013-9812-0.

Religion and spirituality are instrumental to coping with health; however, there is limited literature on the use of religion and spirituality among Black men with type 2 diabetes. The purpose of this study is to explore how Black men use religion or spirituality to cope with diabetes management. Researchers conducted in-depth interviews with 30 Black men recruited from a diabetes clinic in Atlanta, Georgia as part of a larger study. This article reports on data from 12 of the 30 Black men who reported the use of religion and spirituality as a coping strategy for diabetes management. The following coping strategies were reported: prayer and belief in God, keeping me alive, turning things over to God, changing my unhealthy behaviors, supplying my needs, reading the Bible, and religious or spiritual individuals helping me.

Nyklicek, Ivan, Frans Hoogwegt & Toon Westgeest. 2015. Psychological distress across twelve months in patients with rheumatoid arthritis: The role of disease activity, disability, and mindfulness. *Journal of Psychosomatic Research* 78(2). 162–167. doi:10.1016/j.jpsychores.2014.08.004.

Mindfulness may diminish effects of adversities on psychological well-being in medical patients, but studies are scarce, especially in patients with rheumatoid arthritis (RA). The purpose of this study was to examine the prospective moderating effect of mindfulness regarding psychological distress associated with disease activity and disability in patients with RA. Patients with RA (n=201) completed questionnaires at baseline and at six and twelve month follow-up. Controlled for potential confounders, mixed linear model analyses showed a strong prospective association of higher baseline mindfulness with lower psychological distress up to the twelve month follow-up. In addition, a mindfulness by disability by time interaction showed that higher baseline mindfulness was associated with lower disability related psychological distress at follow-up.

Patel, Kirti, Kathleen Wall, Nicholas T. Bott, Doralee Grindler Katonah & Cheryl Koopman. 2015. A Qualitative Investigation of the Effects of Psycho-Spiritual Integrative Therapy on Breast Cancer Survivors' Experience of Paradox. *Journal of Religion and Health* 54(1). 253–263. doi:10.1007/s10943-014-9827-1.

This study is an exploratory, qualitative investigation of breast cancer survivors' experiences of paradox, following psycho-spiritual integrative therapy (PSIT). Previous studies examined the role of paradox in spiritual development among women diagnosed with cancer; this study investigated a psycho-spiritual intervention for multicultural cancer survivors. Twelve multicultural breast cancer survivors, from a sample of 30 women participants in an 8-week PSIT group intervention, were recruited. Researchers conducted semi-structured, open-ended interviews lasting 1–2 h regarding participants' experiences coping with cancer and their experience of PSIT. Researchers transcribed interviews and conducted blind searches for both new and previously identified paradoxes and themes. Two previously identified themes emerged: (1) attempting to maintain coherence in new and old ways and (2) letting go of ultimate control in life. Additionally, three novel themes emerged: (1) interconnection between helpers and hinderers, (2) spiritual edges and tensions, and (3) new paths to empowerment. Results of this qualitative analysis indicate participants experienced previously identified themes and experienced an expanded range of paradoxes. After learning compassionate acceptance through PSIT, breast cancer survivors develop greater access to the multidimensionality of paradoxes, which can go beyond a binary (either/or) construction to a more interdependent (both/and) relationship. Devoting greater attention to investigating and understanding how diverse participants engage with and move through paradoxical change processes could enhance the effectiveness of existential and spiritual interventions.

Salomé, Geraldo Magela, Sergio Aguinaldo de Almeida & Lydia Masako Ferreira. 2015. Association of Sociodemographic Factors with Hope for Cure, Religiosity, and Spirituality in Patients with Venous Ulcers. *Advances in Skin & Wound Care* 28(2). 76–82. doi:10.1097/01.ASW.0000459844.07689.02.

The objective of the study was to evaluate the association of sociodemographic factors with hope for cure and levels of religiosity and spirituality in patients with venous leg ulcers (VLUs). A convenience sample of 50 adult patients with VLUs and Doppler ankle-brachial index ranging from 0.8 to 1.0 participated in the study. Patients with mixed ulcers, arterial ulcers, and diabetic foot ulcers were excluded from the study. A questionnaire assessing sociodemographic and clinical characteristics of patients, the Spirituality Self-rating Scale (SSRS), and the Herth Hope Index (HHI) were administered to all patients. The mean SSRS score was 10.20, and the mean HHI was 25.5, corresponding to low levels of spirituality and moderate hope for cure, respectively. Patients aged between 50 and 59 years, men, nonsmokers, and those who were unemployed had the lowest mean SSRS scores. The lowest mean HHI values were reported by patients whose ulcers had exudate and odor, those aged 20 to 39 years, retired, and living with the wound for 1 year or less. Patients who had no religion or were not practicing a religion and those who considered living with an ulcer as a punishment reported low SSRS scores.

Selman, Lucy, Kelly McDermott, DorAnne Donesky, Tracie Citron & Jill Howie-Esquivel. 2015. Appropriateness and acceptability of a Tele-Yoga intervention for people with heart failure and chronic obstructive pulmonary disease: Qualitative findings from a controlled pilot study. *BMC Complementary and Alternative Medicine* 15. 21. doi:10.1186/s12906-015-0540-8.

Heart failure (HF) and chronic obstructive pulmonary disease (COPD) are highly prevalent and associated with a large symptom burden, which is compounded in a dual HF-COPD diagnosis. Yoga has potential benefit for symptom relief; however functional impairment hinders access to usual yoga classes. Therefore researchers developed a Tele-Yoga intervention and evaluated it in a controlled pilot trial. This paper reports on the appropriateness and acceptability of the intervention and the evaluation design. A controlled, non-randomized trial was conducted of an 8-week Tele-Yoga intervention versus an educational control (information leaflets mailed to participants with one phone call a week). Biweekly one-hour Tele-Yoga classes were implemented via multipoint videoconferencing that connected participants to live classes via an Internet connection to their televisions. Semi-structured qualitative interviews were conducted with participants post study exit to explore reasons for and experiences of participating, including views of study outcome measures and physiological tests. Transcribed interviews were analyzed using thematic content analysis. Fifteen people participated in the pilot study (7 in the intervention group, 8 in the control). Of these, 12 participants were interviewed, 6 in each group. Themes are reported in the following categories: acceptability and appropriateness of the intervention, potential active ingredients of the intervention, acceptability and appropriateness of the control, participation in the research, and acceptability of the testing procedures. The intervention was acceptable and appropriate: the intervention group reported enjoying yoga and valuing the homebased aspect and participants described a high symptom burden and social isolation. However, technological problems resulted in poor video-streaming quality for some participants. Potential active ingredients included physical postures, breathing exercises and guidance in relaxation and meditation. The educational control intervention was acceptable and appropriate, with participants reporting little effect on their well-being and no impact on mechanisms hypothesized to explain yoga's effectiveness. The questionnaires and home physiological testing were acceptable to participants.

Turan, Bulent, Carol Foltz, James F. Cavanagh, B. Alan Wallace, Margaret Cullen, Erika L. Rosenberg, Patricia A. Jennings, Paul Ekman & Margaret E. Kemeny. 2015. Anticipatory sensitization to repeated stressors: The role of initial cortisol reactivity and meditation/emotion skills training. *Psychoneuroendocrinology* 52. 229–238. doi:10.1016/j.psyneuen.2014.11.014.

Anticipation may play a role in shaping biological reactions to repeated stressors. In this paper, researchers aimed to demonstrate that: (a) individuals who display a larger cortisol response to an initial stressor exhibit progressive anticipatory sensitization, showing progressively higher cortisol levels before subsequent exposures, and (b) attention/emotional skills training can reduce the magnitude of this effect on progressive anticipatory sensitization. Female school teachers (n=76) were randomly assigned to attention/emotion skills and meditation training or to a control group. Participants completed 3 separate Trier Social Stress Tests (TSST): at baseline (Session 1), posttraining (Session 2), and five months post (Session 3). Each TSST session included preparing and delivering a speech and performing an arithmetic task in front of critical evaluators. In each session participants' salivary cortisol levels were determined before and after the stressor. Control participants with larger cortisol reactivity to the first stressor showed increasing anticipatory (pre-stressor) cortisol levels with each successive stressor exposure (TSST session)-suggesting progressive anticipatory sensitization. Yet this association was absent in the training group. Supplementary analyses indicated that these findings occurred in the absence of group differences in cortisol reactivity. Findings suggest that the stress response can undergo progressive anticipatory sensitization, which may be modulated by attention/emotion-related processes. An important implication of the construct of progressive anticipatory sensitization is a possible self-perpetuating effect of stress reactions, providing a candidate mechanism for the translation of short-to-long-term stress reactions.

Wang, Zhizhong, Harold G. Koenig & Saad Al Shohaib. 2015. Religious involvement and tobacco use in mainland China: A preliminary study. *BMC Public Health* 15. 155. doi:10.1186/s12889-015-1478-y.

Cigarette smoking causes serious health, economic, and social problems throughout the world. Religious involvement is known to be an important predictor of health behaviors and substance use. The present study examines the correlation between religious involvements and tobacco use, and explores connections between religiosity and tobacco use in Muslims and non-Muslims in Western China. Data were examined from a representative sample of 2,770 community-dwelling adults in the province of Ningxia located in Western China. Self-report smoking, past smoking, religious attendance and the importance of religious in daily life were measured. The WHO Composite International Diagnostic Interview was used to diagnose tobacco use disorders. Three separate logistic regression models were used to examine correlations between religious involvement and smoking status. In the overall sample, religious attendance was inversely associated with current smoking, as was importance of religion. Current smoking was also less common in those categorized as high on religious involvement. No association, however, was found between religious involvement and either past smoking or tobacco use disorders. In Muslims, both religion attendance and high religiosity were inversely associated with current smoking, although no association was found in non-Muslims.

Williamson, W. Paul & Ralph W. Hood, Jr. 2015. The role of mentoring in spiritual transformation: A faith-based approach to recovery from substance abuse. *Pastoral Psychology* 64(1). 135–152. doi:10.1007/s11089-013-0558-0.

Little research in the psychology of religion has been directly concerned with spiritual mentoring. This study centers on spiritual mentoring and relates it to the spiritual transformation of substance abusers in a Pentecostal-based recovery program called the Lazarus Project (LP). Researchers interviewed six of the most effective mentors from the LP about various aspects of their mentoring relationships and present in this paper the results. Also included in each interview was a phenomenological question that asked for detailed descriptions of the participant's most successful mentoring relationships. From a hermeneutic-thematic analysis, the authors found that a pattern of five themes emerged across all six protocols to collectively describe the meaning of the experience of a successful mentormentee relationship: (1) Connection, (2) Compassion, (3) Encouragement, (4) Spiritual Change, and (5) Parental Pride.

#### 2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Anand, Varun, June Jones & Paramjit S. Gill. 2015. The relationship between spirituality, health and life satisfaction of undergraduate students in the UK: An online questionnaire study. *Journal of Religion and Health* 54(1). 160–172. doi:10.1007/s10943-013-9792-0.

US students with higher spirituality scores report better health and life satisfaction. This is the first UK study to explore the relationship between spirituality, health and life satisfaction of undergraduate students. Over 500 undergraduates completed an online questionnaire. Significant differences in spirituality score were present across college, ethnicity and religious belief. There appears to be a desire for spirituality amongst many students. Universities have a role to play in supporting students' search for meaning and purpose. Additional research is warranted to further understand the role of spirituality in the health and well-being of undergraduates.

Cassone, Andrew R. 2015. Mindfulness Training as an Adjunct to Evidence-Based Treatment for ADHD Within Families. *Journal of Attention Disorders* 19(2). 147–157. doi:10.1177/1087054713488438.

Individuals with ADHD face significant neurodevelopmental hurdles with inattention and/or hyperactive/impulsive behavior through their life span. Mindfulness training may be one self-regulatory method for strengthening attentional processes (orienting, alerting, and executive attention). This review's goals are to (a) argue for the use of mindfulness training as an adjunct to evidence-based treatment for ADHD and (b) call for improving psychosocial intervention for ADHD within families by integrating mindfulness training with behavioral parent training. Researchers searched 29 psychology-related research databases through Athabasca University and concluded that mindfulness training should be incorporated into current treatment guidelines as a psychosocial option for families with ADHD.

Currier, Joseph M., Jason M. Holland & Kent D. Drescher. 2015. Spirituality Factors in the Prediction of Outcomes of PTSD Treatment for U.S. Military Veterans: Spirituality and PTSD Treatment. *Journal of Traumatic Stress* 28(1). 57–64. doi:10.1002/jts.21978.

Spirituality is a multifaceted construct that might affect veterans' recovery from posttraumatic stress disorder (PTSD) in adaptive and maladaptive ways. Using a cross-lagged panel design, this study examined longitudinal associations between spirituality and PTSD symptom severity among 532 U.S. veterans in a residential treatment program for combat-related PTSD. Results indicated that spirituality factors at the start of treatment were uniquely predictive of PTSD symptom severity at discharge, when accounting for combat exposure and both synchronous and autoregressive associations between the study variables. Specifically, veterans who scored higher on adaptive dimensions of spirituality (daily spiritual experiences, forgiveness, spiritual practices, positive religious coping, and organizational religiousness) at intake fared significantly better in this program. In addition, possible spiritual struggles (operationalized as negative religious coping) at baseline were predictive of poorer PTSD outcomes. In contrast to these results, PTSD symptomatology at baseline did not predict any of the spirituality variables at posttreatment. In keeping with a spiritually integrative approach to treating combat-related PTSD, these results suggest that understanding the possible spiritual context of veterans' trauma-related concerns might add prognostic value and equip clinicians to alleviate PTSD symptomatology among those veterans who possess spiritual resources or are somehow struggling in this domain.

Feinson, Marjorie C. & Adi Meir. 2015. Exploring mental health consequences of childhood abuse and the relevance of religiosity. *Journal of Interpersonal Violence* 30(3). 499–521. doi:10.1177/0886260514535094.

Although childhood abuse is an established risk factor for mental health problems in adulthood, there is relatively little empirical evidence concerning intervening factors that may mitigate the risk. One potentially protective factor is religiosity. A unique opportunity to explore religiosity's relevance exists with a community-based sample of adult Jewish women that includes sizable subsamples of both rigorously devout ultra-Orthodox (Haredi) and nonreligious Secular Jews. A global measure of any childhood abuse (ACA) includes sexual, physical, and/or emotional abuse. Mental health is assessed with the Brief Symptom Inventory (BSI distress) and a single item reflecting unresolved anger about the past. Predictors of distress severity are examined with separate hierarchical regressions for each religious observance (RO) group. Despite being located at opposite ends of the religiosity spectrum, several surprising similarities emerge including no significant RO group differences in distress among abuse survivors. Moreover, ACA emerges as the strongest predictor of BSI distress within both groups and regressions explain similar amounts of variance. In contrast, two important differences emerge regarding unresolved anger and any recent abuse (ARA). Anger makes a strong contribution to explaining Haredi distress severity, less so for Secular respondents (6.1% vs. 2.9% respectively) while ARA is significant only for Haredi respondents. These initial findings suggest that abusive traumas in childhood may seriously compromise religiosity's potentially protective role. Broadening the research agenda to focus on resilient survivors would expand our understanding of healing resources—both within and outside of a religious framework. Moreover, a better understanding of unresolved anger would likely enhance interventions with greater potential for mitigating the suffering of those abused in childhood.

Galek, Kathleen, Kevin J. Flannelly, Christopher G. Ellison, Nava R. Silton & Katherine R. B. Jankowski. 2015. Religion, meaning and purpose, and mental health. *Psychology of Religion and Spirituality* 7(1). 1–12. doi:10.1037/a0037887.

The present study was specifically designed to examine the associations among religious commitment, belief in meaning and purpose in life, and psychiatric symptoms among the general public using data from the 2010 Baylor Religion Survey (BRS). The BRS obtained data from a nationwide sample of 1,714 U.S. adults, 1,450 of which are included in the current analyses. The central hypothesis of the study, based on identity theory, was that religious commitment would interact with belief in meaning and purpose in their net associations on psychiatric symptoms: general anxiety, social anxiety, paranoia, obsession, and compulsion. Specifically, it was hypothesized that believing life lacks meaning and purpose will have a more pernicious association among highly religious individuals, than it will among individuals who are less religious. Other hypotheses derived from previous research were also tested. The results confirm the central hypothesis of the study for 4 of the 5 classes of psychiatric symptoms. The results are discussed with respect to identity theory, evolutionary threat assessment systems (ETAS) theory, and the hostile world scenario.

Gallagher, Stephen, Anna C. Phillips, Helen Lee & Douglas Carroll. 2015. The Association Between Spirituality and Depression in Parents Caring for Children with Developmental Disabilities: Social Support and/or Last Resort. *Journal of Religion and Health* 54(1). 358–370. doi:10.1007/s10943-014-9839-x.

Associations between spirituality and depression were examined in parents of children with developmental disabilities using both quantitative and qualitative methodology. Spirituality was positively associated with depression, whereas social support was negatively related; parents with higher spiritual beliefs and lower levels of support had higher depression scores. Themes emerging from interviews were spiritual/religious coping as a way of dealing with difficulty, as a last resort, and as a form of release from their situation. Associations between spirituality and depression in these parents are more complex than previously thought.

Gau, Li-Shiue, Arch G. Woodside & Drew Martin. 2015. Explaining Seemingly Paradoxical Consumer Experiences: Conjoining Weekly Road Rage and Church Attendance. *Journal of Religion and Health* 54(1). 93–111.

doi:10.1007/s10943-013-9759-1.

The purposes of the current study are threefold: first, provide evidence that an extreme paradoxical group exists people frequently attending church and exhibiting road rage; second, profile this group; third, frame possible explanations for the seemingly paradoxical behaviors. This study employs data from a national (USA) lifestyle survey conducted by Market Facts with 3,350 American respondents. The major questions asked about church participation and road-rage behavior ("giving a finger" and "flashing headlights"). Nomologically, relevant activities include 3 items for church goers and 3 items for road-rage givers. Additionally, 14 items profiled the lifestyles of the unique paradoxical behavior segment. Utilizing cross-tabulation tables, property space analyses identify the double extreme (XX) group (18 people) and other 6 groups with a significant chi-square test, confirming the extreme group exists. Analyses of variance test results show that comparing nomologically relevant activities among the seven groups is all statistically significant, indicating the nomological validity is met. Overall, the XX group tends to have more males, be younger, and have a higher proportion of people working in sales. The profile of lifestyle analyses shows the XX group members have both high ambitions and expectations, might be very frustrated individuals, and equip with the adventurous and masculine traits related to aggression. The XX behavior group's demographic and psychographic characteristics portray similar lifestyles that differ from other groups. Case-based analyses provide further contextual information of nuances to XX segment individuals. The limited energy theory, the Eagleman's theory of unconscious mind, and justification theory help to explain why people conjointly go to church and commit road rage. Addressing chronic paradoxical behaviors provides implications for social de-marketing to reduce aggressive anti-social behavior such as road rage. Frequent church attendance may help make people more sensitive to their wrongdoings and gradually revise the anti-social behavior.

Gong, Hong, Chenxu Ni, Xiaoliang Shen, Tengyun Wu & Chunlei Jiang. 2015. Yoga for prenatal depression: A systematic review and meta-analysis. *BMC psychiatry* 15(1). 14. doi:10.1186/s12888-015-0393-1.

Prenatal depression can negatively affect the physical and mental health of both mother and fetus. The aim of this study was to determine the effectiveness of yoga as an intervention in the management of prenatal depression. A systematic review and meta-analysis of randomized controlled trials (RCTs) was conducted, and six RCTs were identified in the systematic search. The sample consisted of 375 pregnant women, most of whom were between 20 and 40 years of age. The diagnoses of depression were determined by their scores on Structured Clinical Interview for DSM-IV and the Center for Epidemiological Studies Depression Scale. When compared with comparison groups (e.g., standard prenatal care, standard antenatal exercises, social support, etc.), the level of depression statistically significantly reduced in yoga groups. One subgroup analysis revealed that both the levels of depressive symptoms in prenatally depressed women and non-depressed women were statistically significantly lower in yoga group than that in control group. There were two kinds of yoga: the physical-exercise-based yoga and integrated yoga, which, besides physical exercises, included pranayama, meditation or deep relaxation. Therefore, the other subgroup analysis was conducted to estimate effects of the two kinds of yoga on prenatal depression. The results showed that the level of depression was significantly decreased in the integrated yoga group but not significantly reduced in physical-exercise-based yoga group.

Hayward, R. David & Neal Krause. 2015. Religion and strategies for coping with racial discrimination among African Americans and Caribbean Blacks. *International Journal of Stress Management* 22(1). 70–91.

doi:10.1037/a0038637.

This study examines the relationship between facets of religious behavior, religious identity, and church-based social support with strategies used for coping with racial discrimination. Data come from the National Survey of American Life and includes separate representative samples of African Americans (n=2,032) and Caribbean Blacks (n=857). Binary logistic regression was used to determine the relationship between 8 religion variables and the

likelihood of using each of 7 coping strategies. Among African Americans, religious factors were related to greater likelihood of coping by using prayer, working harder, and talking the situation over with others, and had mixed effects on seeking to resolve the problem. Among Caribbean Blacks, religious factors were related to greater likelihood of coping by using prayer, seeking resolution, and working harder, with mixed effects on coping with passive acceptance, self-blame, and anger. Consumption of religious media, strength of identification with the Black church, and spirituality played the largest roles, with religiosity, church-based social support, and negative church interaction also related to coping outcomes. Results indicate that religious involvement may be associated with some potentially negative coping styles, especially among Caribbean Blacks, in addition to some positive ones. They also suggest that there may be ethnic group differences among Black Americans in terms of the influence of religion on some potentially important coping outcomes.

Krägeloh, Christian U., Marcus A. Henning, Rex Billington & Susan J. Hawken. 2015. The relationship between quality of life and spirituality, religiousness, and personal beliefs of medical students. *Academic Psychiatry* 39(1). 85–89. doi:10.1007/s40596-014-0158-z.

This study investigated the effects of spirituality, religiousness, and personal beliefs on the quality of life (QOL) of medical students affiliated with a religious faith and those without affiliation. Using a cross-sectional design, 275 medical students (78 % response rate) in their fourth and fifth year of study completed the WHOQOL-BREF quality of life instrument and the WHOQOL-SRPB module for spirituality, religiousness, and personal beliefs. For religious students, a larger range of characteristics of existential beliefs were positively related to quality of life. For all students, hope and optimism and meaning of life predicted higher scores on psychological.

Poorsheikhali, Fatemah & Hamid Reza Alavi. 2015. Correlation of Parents' Religious Behavior with Family's Emotional Relations and Students' Self-actualization. *Journal of Religion and Health* 54(1). 235–241.

doi:10.1007/s10943-013-9809-8.

The main goal of this research is to study the relationship between parents' religious behavior, emotional relations inside family, and self-actualization of male and female high school students in Kerman (Iran). Questionnaires of parent's religious behavior, emotional relations inside family, and students' self-actualization were used in the research. After collecting questionnaires, data were analyzed by SPSS, MINITAB, and EXCEL software. The sample volume in the research has been 309 students and their parents, and the sampling method was in the form of classification and then in the form of cluster in two stages. 1.29 % of students had a low self-actualization, 17.15 % had average, and 81.55 % of them had high self-actualization. Further, the results showed that 9.4 % of emotional relations in families were undesirable, 55.3 % were relatively desirable, and 35.3 % were desirable. Finally, 2.27 % of parents' religious behavior was inappropriate, 29.13 % was relatively appropriate, and 68.61 % was appropriate. The main results of the research are as follows: (1) There is a significant positive correlation between parents' religious behavior and emotional relations inside students' self-actualization. (3) There is not any significant correlation between emotional relations inside family and students' self-actualization.

Rahim, Twana Abdulrahman, Banaz Adnan Saeed, Hafidh Muhammed Farhan & Rosh Rauf Aziz. 2015. Trends of Indigenous Healing Among People with Psychiatric Disorders: Comparative Study of Arabic and Kurdish Ethnicities in Iraq. *Journal of Religion and Health* 54(1). 316–326. doi:10.1007/s10943-014-9915-2.

Indigenous healing is commonly practiced in Middle East. Little is known about trends of indigenous therapies among patients with psychiatric disorders in Iraq. To determine and compare rates and predictors of indigenous healings by individuals with psychiatric disorders, and the practiced rituals among Arabic and Kurdish ethnicities in Iraq, patients aged 18 year and older attending outpatients in Erbil and Najaf were assessed for their prior

contacts with indigenous healers. About 48.9 % had indigenous healer's consultations before visiting their psychiatrists; the figure was three times higher among Arabs than Kurds. Higher consultation rate was detected among younger and less formally educated patients. Fourteen types of religious therapeutic rituals have been practiced. Indigenous healing is widespread in Iraq. It is more common among Arabs, younger and less educated people with psychiatric disorders. Participants consider indigenous healing for their psychiatric more than non-psychiatric disorders.

Shiah, Yung-Jong, Frances Chang, Shih-Kuang Chiang, I-Mei Lin & Wai-Cheong Carl Tam. 2015. Religion and Health: Anxiety, Religiosity, Meaning of Life and Mental Health. *Journal of Religion and Health* 54(1). 35–45. doi:10.1007/s10943-013-9781-3.

Researchers examined the association among anxiety, religiosity, meaning of life and mental health in a nonclinical sample from a Chinese society. Four hundred fifty-one Taiwanese adults (150 males and 300 females) ranging in age from 17 to 73 years completed measures of Beck Anxiety Inventory, Medical Outcomes Study Health Survey, Perceived Stress Scale, Social Support Scale, and Personal Religiosity Scale (measuring religiosity and meaning of life). Meaning of life has a significant negative correlation with anxiety and a significant positive correlation with mental health and religiosity; however, religiosity does not correlate significantly anxiety and mental health after controlling for demographic measures, social support and physical health. Anxiety explains unique variance in mental health above meaning of life. Meaning of life was found to partially mediate the relationship between anxiety and mental health. These findings suggest that benefits of meaning of life for mental health can be at least partially accounted for by the effects of underlying anxiety.

Smernoff, Eric, Inbal Mitnik, Ken Kolodner & Shahar Lev-Ari. 2015. The effects of "The Work" meditation (Byron Katie) on psychological symptoms and quality of life: A pilot clinical study. *Explore (New York, N.Y.)* 11(1). 24–31. doi:10.1016/j.explore.2014.10.003.

"The Work" is a meditative technique that enables the identification and investigation of thoughts that cause an individual stress and suffering. Its core is comprised of four questions and turnarounds that enable the participant to experience a different interpretation of reality. In this study, researchers assessed the effect of "The Work" meditation on quality of life and psychological symptoms in a non-clinical sample. This study was designed as a single-group pilot clinical trial (open label). Participants (n=197) enrolled in a nine-day training course ("The School for The Work") and completed a set of self-administered measures on three occasions: before the course (n=197), after the course (n=164), and six months after course completion (n=102). Following intervention, at both intervention end and six-month follow-up, significant positive changes were revealed in several measures of mental health.

Steiner, Lisa M., Sabrina Durand, Dawn Groves & Charletta Rozzell. 2015. Effect of infidelity, initiator status, and spiritual well-being on men's divorce adjustment. *Journal of Divorce & Remarriage* 56(2). 95–108.

doi:10.1080/10502556.2014.996050.

Adjusting to divorce can be a painful process to endure. Fortunately, research is available to help understand what factors contribute to a healthier recovery for both men and women. Similar to an earlier study conducted only on women, this study focuses on the effect of infidelity, initiator status, and spiritual well-being on men's divorce adjustment. One hundred and three divorced men in the United States were surveyed using the Fisher Divorce Adjustment Scale, Spiritual Well-Being Scale, and a participant questionnaire. Results indicate that spiritual well-being can predict 21% of the divorce adjustment in men. Recommendations for researchers and implications for clinicians are discussed.

Sundquist, Jan, Asa Lilja, Karolina Palmer, Ashfaque A. Memon, Xiao Wang, Leena Maria Johansson & Kristina Sundquist. 2015. Mindfulness group therapy in primary care patients with depression, anxiety and stress and adjustment disorders: randomised controlled trial. *British Journal of Psychiatry* 206(2). 128–135.

doi:10.1192/bjp.bp.114.150243.

The aim of this randomized controlled trial (RCT) was to compare mindfulness-based group therapy with treatment as usual (primarily individual-based CBT) in primary care patients with depressive, anxiety or stress and adjustment disorders. This 8-week RCT was conducted during spring 2012 at 16 general practices in Southern Sweden. In total, 215 patients were randomized. For all scales and in both groups, the scores decreased significantly. There were no significant differences between the mindfulness and control groups. Mindfulness-based group therapy was non-inferior to treatment as usual for patients with depressive, anxiety or stress and adjustment disorders.

Waechter, Randall L. & Christine Wekerle. 2015. Promoting resilience among maltreated youth using meditation, Yoga, Tai Chi and Qigong: A scoping review of the literature. *Child & Adolescent Social Work Journal* 32(1). 17–31. doi:10.1007/s10560-014-0356-2.

Examining factors that support resilience is critical to ameliorating the impact of child maltreatment. This paper evaluated existing evidence for the effects of "Eastern Arts" (i.e., meditation, yoga, tai chi, qigong) on resilience (i.e., positive health and socioeconomic outcomes) among maltreated youth. Using a scoping review framework as outlined by Arksey and O'Malley, researchers searched through five peer-reviewed databases, limiting the search to Englishlanguage articles, with no limit on time frame of publication. They then used pre-specified six-point inclusion/exclusion criteria to select journal articles for review. The initial literature search returned 330 articles, eight of which met the criteria and were selected for further review. All but one of the studies showed some improvement in the targeted dependent variable for the Eastern Arts intervention group versus the control group/pre-post intervention. Though the number of articles examining Eastern Arts interventions is extremely limited, the majority of studies included in this review showed an improvement in the targeted health outcome. Given the strong theoretical background, positive (though limited) research outcomes, and minimal side effects, further examination of the Eastern Arts for supporting resilience among maltreated youth, and use in the child welfare context, is warranted.

#### 2.3 SPIRITUALITY & HEALTH: METHOD AND THEORY

Abara, Winston, Jason D. Coleman, Amanda Fairchild, Bambi Gaddist & Jacob White. 2015. A Faith-Based Community Partnership to Address HIV/AIDS in the Southern United States: Implementation, Challenges, and Lessons Learned. *Journal of Religion and Health* 54(1). 122–133. doi:10.1007/s10943-013-9789-8.

Though race and region are not by themselves risk factors for HIV infection, regional and racial disparities exist in the burden of HIV/AIDS in the US. Specifically, African Americans in the southern US appear to bear the brunt of this burden due to a complex set of upstream factors like structural and cultural influences that do not facilitate HIV/AIDS awareness, HIV testing, or sexual risk-reduction techniques while perpetuating HIV/AIDS-related stigma. Strategies proposed to mitigate the burden among this population have included establishing partnerships and collaborations with non-traditional entities like African American churches and other faith-based organizations. Though efforts to partner with the African American church are not necessarily novel, most of these efforts do not present a model that focuses on building the capacity of the African American church to address these upstream factors and sustain these interventions. This article will describe Project Fostering AIDS Initiatives That Heal (F.A.I.T.H), a faith-based model for successfully developing, implementing, and sustaining locally developed HIV/AIDS prevention interventions in African American churches in South Carolina. This

was achieved by engaging the faith community and the provision of technical assistance, grant funding and training for project personnel. Elements of success, challenges, and lessons learned during this process will also be discussed.

Archer, S., E. Phillips, J. Montague, A. Bali & H. Sowter. 2015. "I'm 100% for it! I'm a convert!": Women's experiences of a yoga programme during treatment for gynaecological cancer; an interpretative phenomenological analysis. *Complementary Therapies in Medicine* 23(1). 55–62. doi:10.1016/j.ctim.2014.12.003.

The purpose of this study was to explore patients' experiences of taking part in a yoga intervention while undergoing treatment for gynecological cancer. Sixteen women participated in focus groups based on a semi-structured question schedule. Resulting discussions were audio-recorded, transcribed verbatim and analyzed using interpretative phenomenological analysis (IPA). Patients took part in a 10-week course of Hatha yoga, where they participated in a one hour long class per week. Three themes emerged from the data: applying breathing techniques, engaging in the physicality of yoga and finding a community. The first theme was particularly important to the patients as they noted the breadth and applicability of the techniques in their day-to-day lives. The latter two themes reflect physical and social perspectives, which are established topics in the cancer and yoga literature and are contextualized here within the women's experiences of cancer treatment.

Clements, Andrea D., Tifani R. Fletcher, Natalie A. Cyphers, Anna V. Ermakova & Beth Bailey. 2015. RSAS-3: Validation of a Very Brief Measure of Religious Commitment for Use in Health Research. *Journal of Religion and Health* 54(1). 134–152. doi:10.1007/s10943-013-9791-1.

Religious Commitment is a construct known to be predictive of various health-related factors of importance to researchers. However, data collection efficiency and instrument brevity in healthcare settings are priorities regardless of the construct being measured. Brief, valid instruments are particularly valuable in health research and will be vital for testing mechanisms by which health may be improved or maintained. This series of studies aims to demonstrate that Religious Commitment can be validly measured with a very brief instrument, the Religious Surrender & Attendance Scale-3 (RSAS-3), which combines a 2-item measure of Surrender, a specific type of religious coping, with a 1-item measure of Attendance at religious services. Three studies are reported, two utilizing undergraduate university students (n=964 and n=466) and one utilizing a clinical-based pregnant population (n=320), all in southern Appalachia. The original 12-item Surrender Scale, a 2-item subset of Surrender items, and Attendance were found to be highly positively correlated with each other and with Intrinsic Religiosity, an additional measure of Religious Commitment employed to demonstrate concurrent validity. Religiosity variables were found to be strongly negatively correlated with Anxiety and stress, which were the health outcomes of interest. Hierarchical multiple regression analysis was used to confirm the similarity of Anxiety and stress prediction using the 12-item and 2-item Surrender measures and to confirm the superior stress prediction of the 3-item instrument RSAS-3.

DeHoff, Susan L. 2015. Distinguishing mystical religious experience and psychotic experience: A qualitative study interviewing Presbyterian Church (U.S.A.) professionals. *Pastoral Psychology* 64(1). 21–39.

doi:10.1007/s11089-013-0584-y.

Mystical religious experience and psychotic disorders share non-rational experiences. Often it is difficult to distinguish one from the other. This qualitative research study interviewed 20 members of the Presbytery of Boston of the Presbyterian Church (U.S.A.) to explore what clergy consider to be mystical religious experiences and the methods they employ to distinguish such experience from psychotic experience. Results revealed that they were able to make clear distinction between these two types of experience. Considerations they used to interpret non-rational experiences included the after-effects of the experience, personal experience, Scripture, and Presbyterian beliefs. They also used

the characteristics of psychotic behavior congruent with diagnostic criteria given in the Diagnostic and Statistical Manual IV, used by mental health professionals.

Evans, Jean. 2015. Experience and convergence in spiritual direction. *Journal of Religion and Health* 54(1). 264–278.

doi:10.1007/s10943-014-9824-4.

The practice of spiritual direction concerns the human experience of God. As praxis, spiritual direction has a long tradition in Western Christianity. It is a process rooted in spirituality with theology as its foundation. This paper explores the convergences between aspects of philosophy (contemplative awareness), psychology (Rogerian client-centered approach) and phenomenology. There are significant points of convergence between phenomenology and spiritual direction: first, in Ignatius of Loyola's phenomenological approach to his religious experience; second, in the appropriation by spiritual directors of concepts of epochē and empathy; third, in the process of "unpacking" religious experience within a spiritual direction interview.

Hodge, David R. & Robert J. Wolosin. 2015. Addressing the spiritual needs of American Indians: Predictors of satisfaction. *Social Work in Health Care* 54(2). 118–133. doi:10.1080/00981389.2014.971213.

Spirituality is instrumental to health and wellness in many American Indian (AI) cultures. Although the Joint Commission requires spiritual assessments to identify and address clients' spiritual needs during hospitalization, little is known about the operationalization of this process for American Indians (AIs). To address this gap in the literature, the present study employed a national sample of AIs (n=1,281) to identify predictors of satisfaction with the manner in which their spiritual needs were addressed. The results suggest the discharge process, physicians, room quality, and nurses play important roles in satisfactorily addressing AIs' spiritual needs. Of these, the discharge process had the largest effect on satisfaction, underscoring the salience of social workers in addressing the spiritual needs of hospitalized AIs.

Hodge, David R. & Robert J. Wolosin. 2015. Failure to address African Americans' spiritual needs during hospitalization: Identifying predictors of dissatisfaction across the arc of service provision. *Journal of Gerontological Social Work* 58(2). 190–205. doi:10.1080/01634372.2014.958886.

Using a national sample of recently hospitalized older African Americans (n=2,227), this study identified predictors of dissatisfaction with the manner in which clients' spiritual needs were addressed during hospitalization. Of 8 major areas of service provision examined, 3 were significant predictors of dissatisfaction: nurses, physicians, and the discharge process. The findings underscore the importance of collaborative efforts to address elderly Black clients' spiritual needs. Social workers, who frequently oversee the discharge process, can play an important role in addressing African Americans' spiritual needs by developing discharge plans that incorporate clients' spiritual strengths and resources into the planning process.

Horton, Shalonda E. B. 2015. Religion and Health-Promoting Behaviors among Emerging Adults. *Journal of Religion and Health* 54(1). 20–34. doi:10.1007/s10943-013-9773-3.

The purpose of this qualitative descriptive study was to determine how emerging adults used religion to manage their health. Two focus groups were conducted among White and African American participants. Content analysis of the data revealed categories about their attitudes regarding parental and religious influences, religion's influence on behavior, negative health effects of religion, barriers, obesity prevention, and health promotion programs.

Kraegeloh, Christian U., D. Rex Billington, Marcus A. Henning & Penny Pei Minn Chai. 2015. Spiritual quality of life and spiritual coping: evidence for a two-factor structure of the WHOQOL spirituality, religiousness, and personal beliefs module. *Health and Quality of Life Outcomes* 13. 26.

doi:10.1186/s12955-015-0212-x.

The WHOQOL-SRPB has been a useful module to measure aspects of QOL related to spirituality, religiousness, and personal beliefs, but recent research has pointed to potential problems with its proposed factor structure. Three of the eight facets of the WHOQOL-SRPB have been identified as potentially different from the others, and to date only a limited number of factor analyses of the instrument have been published. Analyses were conducted using data from a sample of 679 university students who had completed the WHOQOL-BREF quality of life questionnaire, the WHOQOL-SRPB module, the Perceived Stress scale, and the Brief COPE coping strategies questionnaire. Informed by these analyses, confirmatory factor analyses suitable for ordinal-level data explored the potential for a two-factor solution as opposed to the originally proposed one-factor solution. It was found that the WHOQOL-SRPB facets connected, strength, and faith were highly correlated with each other as well as with the religious coping sub-scale of the Brief COPE. Combining these three facets to one factor in a two-factor solution for the WHOQOL-SRPB yielded superior goodness-of-fit indices compared to the original one-factor solution.

Lambie, D., R. Egan, S. Walker & R. MacLeod. 2015. How spirituality is understood and taught in New Zealand medical schools. *Palliative & Supportive Care* 13(1). 53–58. doi:10.1017/S147895151300062X.

The objective of this research was to explore how spirituality is currently understood and taught in New Zealand Medical Schools. A mixed methods study was carried out involving interviews (n=14) and a survey (n=73). The first stage of the study involved recorded semi-structured interviews of people involved in curriculum development from the Dunedin School of Medicine (n=14); which then informed a cross-sectional self-reported electronic survey (n=73). The results indicate that spirituality is regarded by many involved in medical education in New Zealand as an important part of healthcare that may be taught in medical schools, but also that there is little consensus among this group as to what the topic is about.

Ledford, Christy J. W., Mollie R. Canzona, Dean A. Seehusen, Lauren A. Cafferty, Monica E. Schmidt, Joseph C. Huang & Melinda M. Villagran. 2015. Differences in Physician Communication When Patients Ask Versus Tell About Religion/Spirituality: A Pilot Study. Family Medicine 47(2). 138– 142.

Research suggests that physicians should pursue spiritual issues and that patients desire to discuss religion/spirituality (R/S) in medical encounters. This study explored the differences in physician communication in response to patient inquiry or disclosure of R/S and hypothesizes that physician communication will differ when patients disclose R/S as contrasted to inquire about R/S. Family physicians and family medicine resident physicians were recruited from a family medicine department at a community hospital (n=27). An objective structured clinical examination, with a standardized patient encounter, was used to expose the participants to a conversation regarding R/S. Participants were assigned, by alternating clustered assignment, to two conditions: patient disclosure of R/S or patient inquiry about physician R/S. The primary outcome measure was physician response, specifically physician-control, partnership-building, and supportive-talk messages. It was found that, when the patient asks questions about R/S, physicians communicate more control messages and less supportive talk messages than when the patient discloses information about R/S.

Lucchetti, Giancarlo, Alessandra Lamas Granero Lucchetti, Juliane Piasseschi de Bernardin Gonçalves & Homero P. Vallada. 2015. Validation of the Portuguese Version of the Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being Scale (FACIT-Sp 12) Among Brazilian Psychiatric Inpatients. *Journal of Religion and Health* 54(1). 112–121. doi:10.1007/s10943-013-9785-z.

Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being scale (FACIT-Sp 12) is one of the most used and most validated instruments for assessing spiritual well-being in the world. Some Brazilian studies have

used this instrument without, however, assessing its psychometric properties. The present study aims to validate the Portuguese version of the FACIT-Sp 12 among Brazilian psychiatric inpatients. A self-administered questionnaire, covering spiritual well-being (FACIT-Sp 12), depression, anxiety, religiosity, quality of life, and optimism, was administered. Of those who met the inclusion criteria, 579 patients were invited to participate and 493 (85.1 %) were able to fill out the FACIT-Sp 12 twice (test and retest). Subsequently, the validation analysis was carried out. Estimation of test—retest reliability, discriminant, and convergent validity was determined by the Spearman's correlation test, and the internal consistency was examined by the Cronbach's alpha. The total FACIT-Sp 12 scale as well as the subscales demonstrated high internal consistency, good convergent and divergent validity, and satisfactory test—retest reliability.

Moylan, Matthew M., Lindsay B. Carey, Ric Blackburn, Rick Hayes & Priscilla Robinson. 2015. The Men's Shed: Providing Biopsychosocial and Spiritual Support. *Journal of Religion and Health* 54(1). 221–234.

doi:10.1007/s10943-013-9804-0.

Community Men's Sheds (CMS) have been a unique approach within Australia for addressing and promoting men's health and well-being issues by providing biopsychosocial support. Given the decline of traditional religious influence, and the contemporary understanding of spirituality, it can be argued that CMS may also develop and demonstrate characteristics of a communal spirituality. This research aimed to explore the individual and community contribution of CMS in terms of men's health and well-being and subsequently whether CMS programs satisfied the contemporary and consensus understanding of spirituality. A qualitative case study was undertaken combining both participant observation over a 6-month period and semi-structured in-depth interviews with 21 men of varying ages and occupations attending a Melbourne suburban CMS (Victoria, Australia). Thematic analysis indicated that the CMS provided a number of health and well-being benefits at individual, family, community and public health levels. These included increased self-esteem and empowerment, respite from families, a sense of belonging in the community and the opportunity to exchange ideas relating to personal, family, communal and public health issues. It is concluded that CMS, through the provision of an appropriate spatial context and organizational activities, encourage intra-personal and inter-personal reflection and interaction that subsequently results in men meaningfully, purposefully and significantly connecting with the moment, to self, to others and to their environment—and thus, CMS not only provides biopsychosocial support but can also deliver spiritual support.

Noronha, Konrad Joseph. 2015. God images in older adulthood: Clinical applications. *Pastoral Psychology* 64(1). 41–49. doi:10.1007/s11089-014-0595-3.

Continued spiritual growth is evidenced by older adults, indicated by their evolving God images. Rizzuto's object relations theory presents a framework for understanding the inter- and intrapsychic dimensions of older adults' God images, and continuity theory talks about development throughout the life span. Object relations theory is complemented by continuity theory, and together they help us understand how both primary object relations and experiences across the lifespan influence one's God images. The incorporation of God images in therapy with older adults can create significant changes in their overall health, especially those who are religiously or spiritually inclined.

Olano, Henry A., Diana Kachan, Stacey L. Tannenbaum, Ashwin Mehta, Debra Annane & David J. Lee. 2015. Engagement in Mindfulness Practices by U.S. Adults: Sociodemographic Barriers. *Journal of Alternative and Complementary Medicine* 21(2). 100–102. doi:10.1089/acm.2014.0269.

Researchers aimed to examine the effect of sociodemographic factors on mindfulness practices using National Health Interview Survey Alternative Medicine Supplement data. It was found that greater education was associated with mindfulness practices, men were half as likely as women to engage in any practice, and lower engagement was found among non-Hispanic blacks and Hispanics.

Parameshwaran, Ramakrishnan. 2015. Theory and practice of chaplain's spiritual care process: A psychiatrist's experiences of chaplaincy and conceptualizing trans-personal model of mindfulness. *Indian Journal of Psychiatry* 57(1). 21–29. doi:10.4103/0019-5545.148511.

Of various spiritual care methods, mindfulness meditation has found consistent application in clinical intervention and research. "Listening presence," a chaplain's model of mindfulness and its trans-personal application in spiritual care is least understood and studied. The aim of this study was to develop a conceptualized understanding of chaplain's spiritual care process based on neuro-physiological principles of mindfulness and interpersonal empathy. Current understandings on neuro-physiological mechanisms of mindfulness-based interventions (MBI) and interpersonal empathy such as theory of mind and mirror neuron system are used to build a theoretical framework for chaplain's spiritual care process. Practical application of this theoretical model is illustrated using a carefully recorded clinical interaction, in verbatim, between chaplain and his patient. Qualitative findings from this verbatim are systematically analyzed using neuro-physiological principles. Chaplain's deep listening skills to experience patient's pain and suffering, awareness of his emotions/memories triggered by patient's story and ability to set aside personal emotions, and judgmental thoughts formed intra-personal mindfulness. Chaplain's insights on and ability to remain mindfully aware of possible emotions/thoughts in the patient, and facilitating patient to return and rereturn to become aware of internal emotions/thoughts helps the patient develop own intra-personal mindfulness leading to self-healing. This form of care involving chaplain's mindfulness of emotions/thoughts of another individual, that is, patient, may be conceptualized as trans-personal model of MBI.

Piderman, Katherine M., Simon Kung, Sarah M. Jenkins, Terin T. Euerle, Timothy J. Yoder, Gracia M. Kwete & Maria I. Lapid. 2015. Respecting the spiritual side of advanced cancer care: A systematic review. *Current Oncology Reports* 17(2). 6. doi:10.1007/s11912-014-0429-6.

Spirituality is among the resources that many turn to as they deal with a diagnosis of advanced cancer. Researchers have made much progress in exploring and understanding spirituality's complex and multifaceted role in the midst of metastatic disease. As a result, spirituality is seen as an important aspect of a holistic and respectful approach to clinical care for patients and their loved ones. In this article, researchers provide a systematic review of the literature related to the interface between spirituality and metastatic cancer. Included are articles published from January 2013 to June 2014. Twenty-two articles were reviewed, consisting of clinical intervention trials, association studies, surveys, qualitative studies, and review articles. The articles discussed efforts to improve patients' spiritual well-being, with relevant measurement scales; the associations of spirituality and end of life treatment practices; and efforts to better understand and meet the spiritual needs of patients and caregivers.

Abu-Raiya, Hisham & Kenneth I. Pargament. 2015. Religious coping among diverse religions: Commonalities and divergences. *Psychology of Religion and Spirituality* 7(1). 24–33. doi:10.1037/a0037652.

In this article, researchers review and evaluate the steadily growing body of research on religious coping among diverse religious samples. Comparisons are made between findings generated from Christian samples and those generated from other religious groups. Several conclusions are drawn based on this review. First, many people across diverse religious traditions rely on their religious and spiritual teachings, beliefs, and practices to cope with life's difficulties, challenges, and stressors. Second, though religious coping is common in all religious traditions, its nuances and particulars vary in ways that reflect the nature and tenants of each faith. Third, as in the case of Christian samples, findings from studies of other religious groups reveal that some forms of religious coping are associated with desirable outcomes, whereas others are linked to undesirable outcomes. Fourth, as in the case of Christian samples, findings from other religious samples indicate that people report using positive religious coping methods far more frequently than their negative counterparts.

Rivera-Hernandez, Maricruz. 2015. The Role of Religious Leaders in Health Promotion for Older Mexicans with Diabetes. *Journal of Religion and Health* 54(1). 303–315. doi:10.1007/s10943-014-9829-z.

Clergy in the Mexico play a major role in addressing the health care needs of their congregants. With qualitative semi-structured key-informant interviews, this study explored the views of ten male Mexican religious leaders (mostly Catholic) about their understanding of their role in diabetes health promotion. The major themes from the qualitative interviews emphasized the importance of open communication between church leaders and their parishioners, the role of the church in diabetes programs, and the unique position of religious institutions as a link between physical and spiritual aspects of health.

Shields, Michele, Allison Kestenbaum & Laura B. Dunn. 2015. Spiritual AIM and the work of the chaplain: A model for assessing spiritual needs and outcomes in relationship. *Palliative & Supportive Care* 13(1). 75–89. doi:10.1017/S1478951513001120.

Distinguishing the unique contributions and roles of chaplains as members of healthcare teams requires the fundamental step of articulating and critically evaluating conceptual models that guide practice. However, there is a paucity of well-described spiritual assessment models. Even fewer of the extant models prescribe interventions and describe desired outcomes corresponding to spiritual assessments. This article describes the development, theoretical underpinnings, and key components of one model, called the Spiritual Assessment and Intervention Model (Spiritual AIM). Three cases are presented that illustrate Spiritual AIM in practice. Spiritual AIM was developed over the past 20 years to address the limitations of existing models. The model evolved based in part on observing how different people respond to a health crisis and what kinds of spiritual needs appear to emerge most prominently during a health crisis. Spiritual AIM provides a conceptual framework for the chaplain to diagnose an individual's primary unmet spiritual need, devise and implement a plan for addressing this need through embodiment/relationship, and articulate and evaluate the desired and actual outcome of the intervention. Spiritual AIM's multidisciplinary theory is consistent with the goals of professional chaplaincy training and practice, which emphasize the integration of theology, recognition of interpersonal dynamics, cultural humility and competence, ethics, and theories of human development.

Shirazi, Mehra, Aida Shirazi & Joan Bloom. 2015. Developing a Culturally Competent Faith-Based Framework to Promote Breast Cancer Screening Among Afghan Immigrant Women. *Journal of Religion and Health* 54(1). 153–159. doi:10.1007/s10943-013-9793-z.

For the tens of thousands of Afghan immigrant women currently living in the USA, religious and cultural beliefs can act as a barrier to health care access. Islamic frameworks and men's gatekeeping roles often control women's decision-making power about their health care needs. Gatekeepers, however, can be reconceived as facilitators empowered to protect the well-being of the family, and positive messages within Islam can foster collaborative investment in women's health. Drawing upon a pilot study utilizing community-based participatory research involving the largest Afghan community in the USA, this paper documents the need for culturally sensitive faith-based education to promote breast cancer screening among this growing population.

Skalla, Karen & Betty Ferrell. 2015. Challenges in assessing spiritual distress in survivors of cancer. Clinical Journal of Oncology Nursing 19(1). 99–104. doi:10.1188/15.CJON.99-104.

Many efforts have been made to better integrate spiritual assessment into the care of patients with cancer, with varying degrees of success in different parts of the United States. Little work has been done to describe challenges that face those who seek to implement assessment in busy ambulatory settings, particularly in the northeastern section

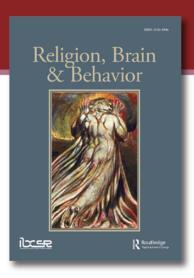
of the United States. This study sought to test the feasibility of a screening process describing spirituality, distress, and spiritual transformation in cancer survivors after chemotherapy for lung or gastrointestinal cancer. This descriptive pilot study took place in a rural National Cancer Institute-designated comprehensive cancer center, referral center, and outpatient medical oncology clinic. A web-based questionnaire was completed by 29 survivors, and 22 declined participation. Respondents were primarily Christian, aged 60 years or older, and an average of 18 months post-diagnosis. The mean spiritual distress score was 1.38 and the mean psychological distress score was 3.03. Participants reported mean spiritual well-being, positive degree of spiritual growth, and little spiritual decline. The opportunity for spiritual growth among survivors creates a need for effective assessment and intervention to promote spiritual growth and mitigate spiritual decline and spiritual distress.

Skomakerstuen Ødbehr, Liv, Kari Kvigne, Solveig Hauge & Lars Johan Danbolt. 2015. A qualitative study of nurses' attitudes towards' and accommodations of patients' expressions of religiosity and faith in dementia care. *Journal of Advanced Nursing* 71(2). 359–369. doi:10.1111/jan.12500.

The aim of this study was to investigate nurses' attitudes towards and accommodations of patients' expressions of religiosity and faith in dementia care. Holistic care for people with dementia addresses patients' religiosity and faith. Nurses' accommodations of patients' religiosity have not been studied extensively even though nurses report a lack of experience and knowledge regarding religious care. Therefore eight focus group interviews with 16 nurses and 15 care workers in four Norwegian nursing homes were conducted from June 2011 to January 2012. The interview text was analyzed using van Manen's hermeneutic-phenomenological approach and Lindseth and Nordberg's structural analysis. The following three main themes reflected the nurses' and care workers' attitudes towards and accommodations of patients' expressions of religiosity and faith: (i) embarrassment vs. comfort, described in the subthemes 'feelings of embarrassment' and 'religiosity as a private matter'; (ii) unknown religious practice vs. known religious practice, described as 'religious practice that was recognizable'; and (iii) death vs. life, described as 'difficulty talking about death 'or 'focusing on life and the quality of life'.

Stein, Emma M., Evelyn Kolidas & Alyson Moadel. 2015. Do spiritual patients want spiritual interventions?: A qualitative exploration of underserved cancer patients' perspectives on religion and spirituality. *Palliative & Supportive Care* 13(1). 19–25. doi:10.1017/S1478951513000217.

This study examines religion and spirituality among advanced cancer patients from an underserved, ethnically-diverse population by exploring patient conceptualizations of religion and spirituality, the role of religion and spirituality in coping with cancer, and patient interest in spiritual support. Qualitative semi-structured interviews were conducted with patients who had participated in a study of a "mind-body" support group for patients with all cancer types. Analysis based on grounded theory was utilized to identify themes and theoretical constructs. With regard to patient conceptualizations of religion and spirituality, three categories emerged: (1) Spirituality is intertwined with organized religion; (2) Religion is one manifestation of the broader construct of spirituality; (3) Religion and spirituality are completely independent, with spirituality being desirable and religion not. Religion and spirituality played a central role in patients' coping with cancer, providing comfort, hope, and meaning. Patients diverged when it came to spiritual support, with some enthusiastic about interventions incorporating their spiritual values and others stating that they already get this support through religious communities.



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#### PART 3: BOOKS

#### 3.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

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