



exploring the nexus of culture, mind and religion

RESEARCH REVIEW

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

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INTRODUCTION

IBCSR Research Review (IRR) is published by the Institute for the Bio-Cultural 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, medicine, 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, 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 851 articles, 114 articles have been retained from 64 journals. There are 77 pre-publication citations from 48 journals.

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PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Atchley, R., D. Klee, T. Memmott, E. Goodrich, H. Wabbeh & B. Oken. 2016. Event-Related Potential Correlates of Mindfulness Meditation Competence. *Neuroscience* 320. 83–92. doi:10.1016/j.neuroscience.2016.01.051.

This cross-sectional study evaluated event-related potentials (ERPs) across three groups: naïve, novice, and experienced meditators as potential physiological markers of mindfulness meditation competence. Electroencephalographic (EEG) data were collected during a target tone detection task and a Breath Counting task. The Breath Counting task served as the mindfulness meditation condition for the novice and experienced meditator groups. Participants were instructed to respond to target tones with a button press in the first task (Tones), and then ignore the primed tones while Breath Counting. The primary outcomes were ERP responses to target tones, namely the N2 and P3, as markers of stimulus discrimination and attention, respectively. As expected, P3 amplitudes elicited by target tones were attenuated within groups during the Breath Counting task in comparison to the Tones task ($p < .001$). There was a task by group interaction for P3 ($p = .039$). Both meditator groups displayed greater change in peak-to-trough P3 amplitudes, with higher amplitudes during the Tones condition and more pronounced reductions in P3 amplitudes during the Breath Counting meditation task in comparison to the naïve group. The authors conclude that meditators had stronger P3 amplitude responses to target tones when instructed to attend to the tones, and a greater attenuation of P3 amplitudes when instructed to ignore the same tones during the Breath Counting task. This study introduces the idea of identifying ERP markers as a means of measuring mindfulness meditation competence, and results suggest this may be a valid approach.

Berkovich-Ohana, Aviva, Michal Harel, Avital Hahamy, Amos Arieli & Rafael Malach. 2016. Alterations in task-induced activity and resting-state fluctuations in visual and DMN areas revealed in long-term meditators. *NeuroImage* 135. 125–134.

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doi:10.1016/j.neuroimage.2016.04.024.

Recently the present researchers proposed that the information contained in spontaneously emerging (resting-state) fluctuations may reflect individually unique neuro-cognitive traits. One prediction of this conjecture, termed the “spontaneous trait reactivation” (STR) hypothesis, is that resting-state activity patterns could be diagnostic of unique personalities, talents and life-styles of individuals. Long-term meditators could provide a unique experimental group to test this hypothesis. Using fMRI this research team found that, during resting-state, the amplitude of spontaneous fluctuations in long-term mindfulness meditation (MM) practitioners was enhanced in the visual cortex and significantly reduced in the DMN compared to naïve controls. Importantly, during a visual recognition memory task, the MM group showed heightened visual cortex responsivity, concomitant with weaker negative responses in Default Mode Network (DMN) areas. This effect was also reflected in the behavioral performance, where MM practitioners performed significantly faster than the control group. Thus, these results uncover opposite changes in the visual and default mode systems in long-term meditators which are revealed during both rest and task. The results support the STR hypothesis and extend it to the domain of local changes in the magnitude of the spontaneous fluctuations.

Luders, Eileen, Nicolas Cherbuin & Christian Gaser. 2016. Estimating brain age using high-resolution pattern recognition: Younger brains in long-term meditation practitioners. *NeuroImage* 134. 508–513.

doi:10.1016/j.neuroimage.2016.04.007.

Normal aging is known to be accompanied by loss of brain substance. The present study was designed to examine whether the practice of meditation is associated with a reduced brain age. Specific focus was directed at age fifty and beyond, as mid-life is a time when aging processes are known to become more prominent. Researchers applied a recently developed machine learning algorithm trained to identify anatomical correlates of age in the brain translating those into one single score: the BrainAGE index (in years). Using this validated approach based on high-dimensional pattern recognition, the researchers re-analyzed a large sample of 50 long-term meditators and 50 control subjects estimating and comparing their brain ages. It was observed that, at age fifty, brains of meditators were estimated to be 7.5 years younger than those of controls. In addition, the researchers examined if the brain age estimates change with increasing age. While brain age estimates varied only little in controls, significant changes were detected in meditators: for every additional year over fifty, meditators’ brains were estimated to be an additional 1 month and 22 days younger than their chronological age. Altogether, these findings seem to suggest that meditation is beneficial for brain preservation, effectively protecting against age-related atrophy with a consistently slower rate of brain aging throughout life.

Mooneyham, Benjamin W., Michael D. Mrazek, Alissa J. Mrazek & Jonathan W. Schooler. 2016. Signal or noise: brain network interactions underlying the experience and training of mindfulness. *Annals of the New York Academy of Sciences* 1369(1). 240–256.

doi:10.1111/nyas.13044.

A broad set of brain regions has been associated with the experience and training of mindfulness. Many of these regions lie within key intrinsic brain networks, including the executive control, salience, and default networks. In this paper, researchers review the existing literature on the cognitive neuroscience of mindfulness through the lens of network science. They describe the characteristics of the intrinsic brain networks implicated in mindfulness and summarize the relevant findings pertaining to changes in functional connectivity (FC) within and between these networks. Convergence across these findings suggests that mindfulness may be associated with increased FC between two regions within the default network: the posterior cingulate cortex and the ventromedial prefrontal cortex. Additionally, extensive meditation experience may be associated with increased FC between the insula and the dorsolateral prefrontal cortex. However, little consensus has emerged within the existing literature owing to the diversity of operational definitions of mindfulness, neuroimaging methods, and network characterizations. The

authors describe several challenges to developing a coherent cognitive neuroscience of mindfulness and provide detailed recommendations for future research.

1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Lindeman, Marjaana, Annika M. Svedholm-Häkkinen & Tapani Riekkki. 2016. Skepticism: Genuine unbelief or implicit beliefs in the supernatural? *Consciousness and Cognition* 42. 216–228. doi:10.1016/j.concog.2016.03.019.

Researchers examined whether skeptics hold implicit supernatural beliefs or implicit cognitive underpinnings of the beliefs. In study 1 (n=57), participants read a biological or a religious story about death. The story content had no effect on skeptics' (or believers') afterlife beliefs. Study 2 examined the relationships between religious and non-religious paranormal beliefs and implicit views about whether supernatural and religious phenomena are imaginary or real (n1=33, n2=31). The less that supernatural beliefs were endorsed the easier it was to connect "supernatural" with "imaginary." Study 3 (n=63) investigated whether participants' supernatural beliefs and ontological confusions differ between speeded and non-speeded response conditions. Only non-analytical skeptics' ontological confusions increased in speeded conditions. The results indicate that skeptics overall do not hold implicit supernatural beliefs, but that non-analytically thinking skeptics may, under supporting conditions, be prone to biases that predispose to supernatural beliefs.

Nieuwboer, Wieteke, Hein van Schie, Johan Karremans & Daniël Wigboldus. 2016. Supernatural Agency Attributions as Possible Mediator of Forgiveness. *Journal for the Cognitive Science of Religion* 3(1). 85–110. doi:10.1558/jcsr.v3i1.18402.

The present research examined the hypothesis that supernatural agency attributions underlie the relation between religion and forgiveness. In two experiments a priming procedure was used to make religious concepts temporarily more salient. In Experiment 1, a religion prime marginally enhanced forgiveness but did not enhance supernatural attributions, compared to a control group. However, correlational support was found for the hypothesis that supernatural attributions were associated with more forgiveness, less punishment and less responsibility of the offender. In Experiment 2, it was attempted to enhance supernatural attributions by first manipulating participants' sense of control (high vs. low) before presenting a religion prime. As expected, in the low control condition, religious priming enhanced the perceived likelihood that a higher power had an influence on violent situations, and enhanced participants' forgiveness toward the offenders. Importantly, mediation analysis further supported the existence of a relation between supernatural agency attributions and participants' ability to forgive.

Shtulman, Andrew & Marjaana Lindeman. 2016. Attributes of God: Conceptual Foundations of a Foundational Belief. *Cognitive Science* 40(3). 635–670. doi:10.1111/cogs.12253.

Anthropomorphism, or the attribution of human properties to nonhuman entities, is often posited as an explanation for the origin and nature of God concepts, but it remains unclear which human properties people tend to attribute to God and under what conditions. In three studies, participants decided whether two types of human properties- psychological (mind-dependent) properties and physiological (body-dependent) properties-could or could not be attributed to God. In Study 1 (n=1,525), participants made significantly more psychological attributions than physiological attributions, and the frequency of those attributions was correlated both with participants' religiosity and with their attribution of abstract, theological properties. In Study 2 (n=99) and Study 3 (n=138), participants not only showed the same preference for psychological properties but were also significantly faster, more consistent, and more confident when attributing psychological properties to God than when attributing physiological properties. And when denying properties to God, they showed the reverse pattern-that is, they were slower, less consistent, and less confident when denying psychological properties than when denying physiological properties. These patterns were

observed both in a predominantly Christian population (Study 2) and a predominantly Hindu population (Study 3). Overall, the authors argue that God is conceptualized not as a person in general but as an agent in particular, attributed a mind by default but attributed a body only upon further consideration.

Stich, Stephen. 2016. Why there might not be an evolutionary explanation for psychological altruism. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 56. 3–6.
doi:10.1016/j.shpsc.2015.10.005.

The existence of psychological altruism is hotly debated in the psychological and philosophical literature. In this paper the author argues that even if psychological altruism does exist in some (or all) human groups, there may be no purely evolutionary explanation for existence of psychological altruism.

Watts, Joseph, Oliver Sheehan, Quentin D. Atkinson, Joseph Bulbulia & Russell D. Gray. 2016. Ritual human sacrifice promoted and sustained the evolution of stratified societies. *Nature* 532(7598). 228–231.
doi:10.1038/nature17159.

Evidence for human sacrifice is found throughout the archaeological record of early civilizations, the ethnographic records of indigenous world cultures, and the texts of the most prolific contemporary religions. According to the social control hypothesis, human sacrifice legitimizes political authority and social class systems, functioning to stabilize such social stratification. Support for the social control hypothesis is largely limited to historical anecdotes of human sacrifice, where the causal claims have not been subject to rigorous quantitative cross-cultural tests. Here researchers test the social control hypothesis by applying Bayesian phylogenetic methods to a geographically and socially diverse sample of 93 traditional Austronesian cultures. They find strong support for models in which human sacrifice stabilizes social stratification once stratification has arisen, and promotes a shift to strictly inherited class systems. While evolutionary theories of religion have focused on the functionality of prosocial and moral beliefs, these results reveal a darker link between religion and the evolution of modern hierarchical societies.

Wlodarski, Rafael & Eiluned Pearce. 2016. The God Allusion. *Human Nature* 27(2). 160–172.
doi:10.1007/s12110-016-9256-9.

It has previously been suggested that the historically and geographically widespread persistence of religious beliefs occurs because it is a by-product of normal cognitive processes, ones which first evolved to confer survival advantages in the social domain. If this theory holds, then it is likely that inter-individual variation in the same biases may predict corresponding variation in religious thoughts and behaviors. Using an online questionnaire, 298 participants answered questions regarding their tendency to detect agency, the degree to which they displayed schizotypal traits, their ability to understand the emotions and motivations of others (“mentalizing”), and their religious beliefs and behaviors. Path analysis suggests that mentalizing, agency detection, and schizotypal thinking were each independently related to religiosity. Furthermore, schizotypal thinking and agency detection were highly interrelated with one another, whereas mentalizing was not. Although the degree to which an individual engages with religious or spiritual beliefs will be influenced by their cultural and historical context, this paper helps to elucidate the interplay between various cognitive processes that might predispose some individuals but not others toward holding such beliefs in the first place.

1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND CULTURE

Bayne, Hannah Barnhill. 2016. Helping Gay and Lesbian Students Integrate Sexual and Religious Identities. *Journal of College Counseling* 19(1). 61–75.
doi:10.1002/jocc.12031.

This article explores the impact of sexual and religious identity on college student development, examining developmental models and discussing how counselors can assist gay and lesbian students with integrating these 2 personal identities. Treatment approaches are presented, and the article concludes with an examination of ethical and professional considerations.

- Brown, Kirk Warren, Robert J. Goodman, Richard M. Ryan & Bhikkhu Analayo. 2016. Mindfulness Enhances Episodic Memory Performance: Evidence from a Multimethod Investigation. *Plos One* 11(4). e0153309.
doi:10.1371/journal.pone.0153309.

Training in mindfulness, classically described as a receptive attentiveness to present events and experiences, has been shown to improve attention and working memory. Both are key to long-term memory formation, and the present three-study series used multiple methods to examine whether mindfulness would enhance episodic memory, a key form of long-term memory. In Study 1 (n=143), a self-reported state of mindful attention predicted better recognition performance in the Remember-Know (R-K) paradigm. In Study 2 (n=93), very brief training in a focused attention form of mindfulness also produced better recognition memory performance on the R-K task relative to a randomized, well-matched active control condition. Study 3 (n=57) extended these findings by showing that relative to randomized active and inactive control conditions the effect of very brief mindfulness training generalized to free-recall memory performance. This study also found evidence for mediation of the mindfulness training-episodic memory relation by intrinsic motivation. These findings indicate that mindful attention can beneficially impact motivation and episodic memory, with potential implications for educational and occupational performance.

- Campos, Daniel, Ausiàs Cebolla, Soledad Quero, Juana Bretón-López, Cristina Botella, Joaquim Soler, Javier García-Campayo, Marcelo Demarzo & Rosa María Baños. 2016. Meditation and happiness: Mindfulness and self-compassion may mediate the meditation–happiness relationship. *Personality and Individual Differences* 93. (Individual Differences in Mindfulness). 80–85.
doi:10.1016/j.paid.2015.08.040.

Mindfulness and self-compassion are emerging as crucial constructs in mental health research. Recent studies have shown that both mindfulness and self-compassion skills may play important roles in well-being and positive emotions associated with mindfulness training. Studies are needed to explain this relationship and to determine what facets may be correlating and mediating the meditation–happiness relationship. The aim of this study was to explore the meditation–happiness relationship and examine which mindfulness and self-compassion facets are better predictors of happiness. A total of 365 participants completed an assessment protocol composed of: the Five Facets of Mindfulness Questionnaire (FFMQ), the Self-Compassion Scale-short form (SCS-SF), and the Pemberton Happiness Index (PHI). Hierarchical regression analysis showed that two FFMQ facets (Observing and Awareness) and two SCS components (Self-kindness and Common humanity) were significant predictors of happiness. Mediation results revealed a significant total indirect effect of Observing, Awareness, Self-kindness and Common humanity in the meditation frequency–happiness relationship. Significant indirect effects were found for observing, self-kindness and common humanity. The results supported the model of mindfulness and self-compassion facets as partial mediators of the meditation–happiness relationship. Findings are in line with other studies and provide evidence about the influence of mindfulness and self-compassion on happiness.

- Davis, Don E., Kenneth Rice, Daryl R. Van Tongeren, Joshua N. Hook, Cirleen DeBlaere, Everett L. Worthington & Elise Choe. 2016. The moral foundations hypothesis does not replicate well in Black samples. *Journal of Personality and Social Psychology* 110(4). e23-30.
doi:10.1037/pspp0000056.

The current study examined the generalizability of the moral foundations hypothesis, which predicts that conservatism will be positively related to the binding foundations (i.e., virtues of ingroup/loyalty, authority/respect, and purity/sanctity). Religiosity has been consistently linked with the binding foundations in predominately White

samples, but Black people in the United States are both more religious and more liberal than White people. In a sample of college students (n=693; 58.3% Black, 41.7% White), examination of measurement invariance suggested metric, but not scalar invariance. The relationship between conservatism and the binding foundations—specifically, respect/authority and purity/sanctity—was weaker in Black people than in White people. These results were replicated in a second sample (n=490; 63.5% Black, 36.5% White) using a 4-item measure of conservatism rather than a single item. Once again examination of measurement invariance suggested metric but not scalar invariance, and conservatism was more weakly related to the binding foundations in Black people than it was in White people.

- Edara, Inna Reddy. 2016. Relation of Individualism–Collectivism and Ethnic Identity to Spiritual Transcendence Among European Americans, Asian Indian Americans, and Chinese Americans. *Counseling & Values* 61(1). 44–63.
doi:10.1002/cvj.12025.

The hypothesis that spirituality is influenced by individualism–collectivism and ethnic identity is investigated among European Americans (EAs), Asian Indian Americans (AIAs), and Chinese Americans (CAs) who completed measures of individualism–collectivism, ethnic identity, personality, and spiritual transcendence (ST). Data analyses indicated that EAs scored higher than both AIAs and CAs on the ST. Separate regression analyses on ST with demographics and personality as covariates and individualism–collectivism and ethnic identity as independent variables indicated that collectivism significantly predicted ST for EAs and AIAs, and resolution of ethnic identity significantly predicted ST for Chinese Americans.

- Fleischmann, Fenella, Borja Martinovic & Magdalena Böhm. 2016. Mobilising mosques? The role of service attendance for political participation of Turkish and Moroccan minorities in the Netherlands. *Ethnic and Racial Studies* 39(5). 746–763.
doi:10.1080/01419870.2015.1081962.

Religious service attendance has been identified as an important source of political participation among Christians and Muslims in the USA. In Europe, where religion is seen as a barrier rather than a bridge to Muslims' integration, the role of mosque attendance for the political participation of Muslims remains understudied. This study asks whether the politically mobilizing role of service attendance extends to Muslim minorities in Europe. Researchers examine direct and indirect effects of the frequency of religious service attendance on organizational participation, political trust and voting intentions among large nationwide samples of Turkish and Moroccan minorities in the Netherlands using multi-group structural equation modelling. Results show that service attendance relates positively to engagement in both co-ethnic and mainstream organizations. These two forms of civic engagement translate into a greater intention to vote among Turks, but not Moroccans.

- François Dengah, H. J. 2016. Religious Dissociation and Economic Appraisal in Brazil. *Journal of Religion and Health* 55(2). 522–534.
doi:10.1007/s10943-015-0015-8.

Research on the association between religion and health often neglects to provide an explicit theoretical mechanism of influence between faith and well-being. This research posits that dissociative behaviors, such as glossolalia, may provide a biological pathway that influences both physiological and psychological health. This paper argues that religious dissociation acts as a moderator between economic stressors and psychobiological appraisal. Brazil, with its economic inequality and preponderance of religious dissociative rituals, provides an ideal context to examine religious dissociation as a moderator of stress. Utilizing data from a cross section of Brazilian faiths, this paper examines: (1) Whether individuals with low socioeconomic status preferentially participate and experience religious dissociative states and (2) whether dissociative states are correlated with greater psychological appraisal of status.

Giddings, Leah & Thomas J. Dunn. 2016. The Robustness of Anti-Atheist Prejudice as Measured by Way of Cognitive Errors. *International Journal for the Psychology of Religion* 26(2). 124–135. doi:10.1080/10508619.2015.1006487.

Over the past decade, distrust of atheists has been documented in psychological literature yet remains relatively understudied. The current research sought to test the robustness of anti-atheist prejudice. Specifically, it examined the extent to which an individual's anti-atheist prejudice remained unchanged in light of new information. One hundred participants from the United Kingdom completed an online experiment. The experiment involved reading a vignette describing the actions of an untrustworthy individual. Participants were asked to make a judgment with regards to the untrustworthy individual's identity. The occurrence of a cognitive bias, namely, the conjunction fallacy, was used to measure the frequency of anti-atheist prejudice. An examination of judgment errors (i.e., conjunction fallacies) under different conditions was used to test the robustness of anti-atheism prejudice. The results show that anti-atheist prejudice is not confined either to dominantly religious countries or to religious individuals but rather appears to be a robust judgment about atheists.

Kharlas, Daniel A. & Paul Frewen. 2016. Trait mindfulness correlates with individual differences in multisensory imagery vividness. *Personality and Individual Differences* 93. (Individual Differences in Mindfulness). 44–50. doi:10.1016/j.paid.2015.09.027.

Trait mindfulness is a multifaceted construct, although its association with measures of personality and individual differences remains poorly understood. Given that guided mindfulness meditations (MM) frequently involve focused imagery and are typically experienced as pleasant, Researchers predicted that visual and embodied imagery vividness would mediate the association between mindful observing traits and pleasant experiences in response to guided MM. Participants were 137 undergraduate students as well as 371 participants from Amazon's MTurk web service. Both groups completed questionnaire measures of mindfulness traits and multisensory imagery vividness. They then completed an 8-10 min MM involving guided imagery of visualizing and embodying the positive characteristics of natural objects (a mountain, sun, or tree). Participants rated the level of imagery vividness they experienced in the visual and embodied modalities as well as their emotional responses to the MM. Mindful "observing" correlated with increased imagery vividness, both in response to standardized questionnaire and a guided MM. As predicted, vividness of visual and particularly embodied imagery mediated the association between trait mindful observing and experienced pleasantness in response to the MM. The authors conclude that individual differences in vividness of visual and embodied imagery are a construct of relevance to understanding mindfulness both as a state and trait.

Lebuda, Izabela, Darya L. Zabelina & Maciej Karwowski. 2016. Mind full of ideas: A meta-analysis of the mindfulness–creativity link. *Personality and Individual Differences* 93. (Individual Differences in Mindfulness). 22–26. doi:10.1016/j.paid.2015.09.040.

Mindfulness improves people's functioning in many areas, but its relationship with creativity is equivocal. To assess the link between mindfulness and creativity, researchers present a multilevel meta-analysis of 89 correlations obtained from 20 samples in studies published between 1977 and 2015 and demonstrate a statistically significant, but relatively weak correlation between these two constructs. This effect was moderated by the type of mindfulness, being significantly lower in case of the awareness aspect of mindfulness, than in the case of the open-monitoring aspect.

Mathras, Daniele, Adam B. Cohen, Naomi Mandel & David Glen Mick. 2016. The effects of religion on consumer behavior: A conceptual framework and research agenda. *Journal of Consumer Psychology* 26(2). 298–311. doi:10.1016/j.jcps.2015.08.001.

This article provides a conceptual framework for studying the effects of religion on consumer behavior, with the goal of stimulating future research at the intersection of these two topics. The authors delineate religion as a multidimensional construct and propose that religion affects consumer psychology and behavior through four dimensions: beliefs, rituals, values, and community. For each dimension of religion, researchers offer definitions and measures, integrate previous findings from research in the psychology, consumer behavior, marketing, and religion literatures, and propose testable future research directions. With this conceptual framework and research agenda, they challenge consumer researchers to ask deeper questions about why religious affiliation and level of religiosity may be driving previously established differences in consumer behavior, and to uncover the psychological mechanisms underlying the effects. This framework complements and extends previous literature and provides a new delineated framework for considering research on the effects of religion on consumer behavior.

Noronha, Konrad J. 2016. Influences on God Images of Older Vowed Religious Men. *Counseling & Values* 61(1). 64–79.
doi:10.1002/cvj.12026.

This study aimed to understand the influences that contributed to the formation of God images of 8 older vowed religious men in the Society of Jesus (Jesuits) throughout their life courses and the effect of those influences. The study used Rizutto's object relations theory, interpretive phenomenological analysis, and a semi-structured interview format. Participants reported evolving God images, modifications of God images, or completely changed God images, thus evidencing continued spiritual growth through their life spans. Counselors can use influences on God images when working with such populations. These influences can be in the form of persons, books, scripture, or any other object representations specific to the client.

Pennycook, Gordon, Robert M. Ross, Derek J. Koehler & Jonathan A. Fugelsang. 2016. Atheists and Agnostics Are More Reflective than Religious Believers: Four Empirical Studies and a Meta-Analysis. *PloS One* 11(4). e0153039.
doi:10.1371/journal.pone.0153039.

Individual differences in the mere willingness to think analytically has been shown to predict religious disbelief. Recently, however, it has been argued that analytic thinkers are not actually less religious; rather, the putative association may be a result of religiosity typically being measured after analytic thinking (an order effect). In light of this possibility, the authors report four studies in which a negative correlation between religious belief and performance on analytic thinking measures is found when religious belief is measured in a separate session. The researchers also performed a meta-analysis on all previously published studies on the topic along with our four new studies (n=15,078), focusing specifically on the association between performance on the Cognitive Reflection Test (the most widely used individual difference measure of analytic thinking) and religious belief. This meta-analysis revealed an overall negative correlation (r) of -.18, 95% CI. Although this correlation is modest, self-identified atheists (n=133) scored 18.7% higher than religiously affiliated individuals (n=597) on a composite measure of analytic thinking administered across our four new studies. These results indicate that the association between analytic thinking and religious disbelief is not caused by a simple order effect. There is good evidence that atheists and agnostics are more reflective than religious believers.

Rutjens, Bastiaan T. & Steven J. Heine. 2016. The Immoral Landscape? Scientists Are Associated with Violations of Morality. *Plos One* 11(4). e0152798.
doi:10.1371/journal.pone.0152798.

Do people think that scientists are bad people? Although surveys find that science is a highly respected profession, a growing discourse has emerged regarding how science is often judged negatively. Researchers report ten studies (n=2,328) that investigated morality judgments of scientists and compared those with judgments of various control groups, including atheists. A persistent intuitive association between scientists and disturbing immoral conduct emerged for violations of the binding moral foundations, particularly when this pertained to violations of purity.

However, there was no association in the context of the individualizing moral foundations related to fairness and care. Other evidence found that scientists were perceived as similar to others in their concerns with the individualizing moral foundations of fairness and care, yet as departing for all of the binding foundations of loyalty, authority, and purity. Furthermore, participants stereotyped scientists particularly as robot-like and lacking emotions, as well as valuing knowledge over morality and being potentially dangerous. The observed intuitive immorality associations are partially due to these explicit stereotypes but do not correlate with any perceived atheism. The authors conclude that scientists are perceived not as inherently immoral, but as capable of immoral conduct.

Schötz, Eva, Simone Otten, Marc Wittmann, Stefan Schmidt, Niko Kohls & Karin Meissner. 2016. Time perception, mindfulness and attentional capacities in transcendental meditators and matched controls. *Personality and Individual Differences* 93. (Individual Differences in Mindfulness). 16–21. doi:10.1016/j.paid.2015.10.023.

Only a few studies have investigated the sense of time in experienced meditators. In the current case–control study, researchers investigated whether 20 practitioners in transcendental meditation (TM) showed differences in the perception of time as compared to 20 matched controls. Perception of time was assessed with a battery of psychophysical tasks including duration reproduction and time estimation tasks in the milliseconds-to-minutes range as well as with psychometric instruments related to subjective time and assessments concerning the subjective passage of time. Attentional capacities were measured with the Attention Network Test. Trait-mindfulness was assessed with the Freiburg Mindfulness Inventory. Results indicate that the TM meditators performed more consistently in the duration reproduction tasks in the multiple seconds' range and responded more accurately in the time estimation tasks in the minutes' range as well as in the duration discrimination task than controls. Self-rated mindfulness was more pronounced in meditators, while attentional capacities did not differ. In conclusion, experts in TM performed more accurately in psychophysical time perception tasks and had higher mindfulness than non-meditating controls. Whether these differences are causally related to the practice of meditation should be investigated in future studies.

Van der Bracht, Koen, Fanny D'hondt, Mieke Van Houtte, Bart Van de Putte & Peter A. J. Stevens. 2016. The role of ethnic school segregation for adolescents' religious salience. *Oxford Review of Education* 42(2). 129–145. doi:10.1080/03054985.2016.1151409.

Public concerns over the possible effects of school segregation on immigrant and ethnic majority religiosity have been on the rise over the last few years. In this paper researchers focus on (1) the association between ethnic school composition and religious salience, (2) intergenerational differences in religious salience and (3) the role of ethnic school composition for intergenerational differences in religious salience. The authors perform analyses on religious salience, one five-point Likert scale item measuring religious salience among 3,612 16-year-old pupils in Belgian secondary schools. National origin was used as a proxy for ethnicity. Ethnic minority pupils in schools with a higher share of ethnic minorities tend to be more religious. This relation holds for Muslim as well as other religious and ethnic minorities. Ethnic school composition also moderates the relationship between migrant generation and religious salience: second generation migrants tend to be more religious in ethnic minority dominated schools. For ethnic Belgians the association is moderated by their religious affiliation: Catholics tend to be more religious, while non-affiliated ethnic Belgians are less religious in schools with a higher share of ethnic minority pupils.

1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Ambasciano, Leonardo. 2016. Mind the (Unbridgeable) Gaps. *Method & Theory in the Study of Religion* 28(2). 141–225. doi:10.1163/15700682-12341372.

In this paper, the author explores two of the most pernicious kinds of scientific distortions and misconceptions pertinent to the study of religion: pseudoscientific trends focused on allegedly paranormal/ supernatural phenomena

and discontinuity between human and non-human cognition. He argues that a) the adherence to the prestigious reputation of Eliadean academic frameworks may still cause grave distortions in the comprehension of relevant scientific fields; b) a reliance on cognition alone does not guarantee ipso facto a more epistemically warranted study of religion; c) an evolutionary and cognitively continuist approach to the study of religion is, instead, the most promising and fundamental scholarly tool to bridge the gap between the humanities and the natural sciences, even though it remains a long-term goal; d) the obsolete language of “aboriginal cultures” as open-air museums for our past is rooted in the aforementioned misconceptions and, though basically flawed, is still very much alive.

Asprem, Egil. 2016. How Schrödinger’s Cat Became a Zombie. *Method & Theory in the Study of Religion* 28(2). 113–140.
doi:10.1163/15700682-12341373.

Research on cultural transfers between science and religion has not paid enough attention to popular science. This article develops models that grasp the complexities of the epidemiology of science-based representations in non-scientific contexts by combining tools from the cognitive science of religion, the history, sociology, and philosophy of science, and the study of new religious movements. The popularization of science is conceptualized as a process of cognitive optimization, which starts with the communication efforts of scientists in science-internal forums and accelerates in popular science. The popularization process narrows the range of scientific representations that reach the public domain in structured ways: it attracts minimally counterintuitive representations, minimizes the massively counterintuitive, and re-represents (or translates) hard-to-process concepts in inferentially rich metaphors. This filtered sample trigger new processes of meaning-making as they are picked up and re-embedded in new cultural contexts.

Gardiner, Mark Q. & Steven Engler. 2016. The Philosophy and Semantics of the Cognitive Science of Religion. *Journal for the Cognitive Science of Religion* 3(1). 7–35.
doi:10.1558/jcsr.v3i1.21033.

This article brings philosophy into dialogue with cognitive science of religion (CSR). After a brief overview of CSR and theories of meaning, the authors explore the philosophical semantic constraints of CSR. They focus on how the beliefs and behaviors of religious adherents, as conceived by CSR, can be meaningful in ways that illuminate the scholar’s understanding of religious phenomena. They argue that CSR is committed to an externalist and holistic semantics. This highlights a potentially problematic tension between the beliefs of religious people and the explanations proposed by CSR. The authors end by suggesting that this tension could be resolved if CSR were to give more attention to external factors (e.g., biological, cultural, environmental etc.).

Lau, Wilfred W. F., C. Harry Hui, Jasmine Lam, Esther Y. Y. Lau, Doris Ng & Shu-Fai Cheung. 2016. Psychometric Evaluation of the Spiritual Transcendence Scale in a Chinese Sample: Is There Factorial Invariance Across Gender, Occupation, and Religion? *International Journal for the Psychology of Religion* 26(2). 136–151.
doi:10.1080/10508619.2015.1021654.

This study investigated the reliability and validity of the widely used 23-item Spiritual Transcendence Scale and tested whether there was factorial invariance of the scale by demographic variables such as gender, occupation, and religion in a large Chinese sample (n=1,894). Exploratory factor analysis with a random subsample supported the original 3-factor structure (prayer fulfillment, universality, and connectedness) in a revised 16-item scale. Confirmatory factor analysis suggested that a 15-item model provided a good fit to the data of the remaining subsample. The scale had alpha reliabilities ranging from .64 to .92 in the exploratory factor analysis and .60 to .92 in the confirmatory factor analysis. Subsequent factorial invariance tests indicated that the scale was invariant across gender and occupation but not religion. Evidence of construct validity was equivocal. Additional empirical studies should be conducted to evaluate the psychometric properties of the scale in other culturally and religiously diverse settings.

Schaap-Jonker, Hanneke, Iris J. L. Egberink, Arjan W. Braam & Jozef M. T. Corveleyn. 2016. An Item Response Theory Analysis of The Questionnaire of God Representations. *International Journal for the Psychology of Religion* 26(2). 152–166.
doi:10.1080/10508619.2014.1003520.

The Dutch Questionnaire of God Representations (QGR) was investigated by means of item response theory (IRT) modeling in a clinical (n=329) and a nonclinical sample (n=792). Through a graded response model and IRT-based differential functioning techniques, detailed item-level analyses and information about measurement invariance between the clinical and nonclinical sample were obtained. On the basis of the results of the IRT analyses, a shortened version of the QGR (S-QGR) was constructed, consisting of 22 items, which functions in the same way in both the clinical and the nonclinical sample. Results indicated that the QGR consists of strong and reliable scales which are able to differentiate among persons. Psychometric characteristics of the S-QGR were adequate.

PART 2: ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

2.1 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Agnihotri, Shruti, Surya Kant, S. K. Mishra & Renu Singh. 2016. Efficacy of yoga in mild to moderate persistent chronic bronchial asthma. *Indian Journal of Traditional Knowledge* 15(2). 337–340.

The Global Initiative for asthma guidelines defined asthma as a chronic inflammatory disorder characterized by reversible airways obstruction and airways hyper-responsiveness. It is a chronic disease that cannot be cured but medicines and life style changes can help to control these symptoms. Now, GINA (Global Initiative for Asthma) has also considered a breathing technique (buteyko) as helpful in controlling asthma. Yoga is one of the methods to increase muscular efficiency, endurance time and aerobic capacity, and can reduce perceived exertion after exercise. Many studies have been done in the field of asthma and many more review articles have presented the current state of the disease, but none of the review articles have considered the field of yoga and asthma. A number of studies examine the benefits of yoga practice which help to manage asthma. People incorporating holistic program of asana, pranayama and meditation, had fewer weekly asthma attacks, improved breathing and better response to their medication. These findings suggest that the regular practice of yoga can improve the quality of life of patients with improvement in pulmonary functions.

Almutairi, Khalid M. 2016. Predicting Relationship of Smoking Behavior Among Male Saudi Arabian College Students Related to Their Religious Practice. *Journal of Religion and Health* 55(2). 469–479. doi:10.1007/s10943-015-0003-z.

This study describes the relationships of smoking behavior among a sample of male college students in Kingdom of Saudi Arabia (KSA) to their religious practice, parents' smoking behaviors and attitudes, peers' smoking behaviors and attitudes, and knowledge about the dangers of smoking. A 49-item questionnaire was developed and pilot tested in KSA. This questionnaire was completed during the academic year 2013 by 715 undergraduate male students at the King Saud University in Riyadh. 29.8% of the students were smokers (13.8% cigarette smokers, 7.3% sheesha smokers, and 27% cigarette and sheesha smokers). Students in the College of Education were much more likely to be smokers than the students in the College of Science. The differences between the College of Education and the College of Science was statistically significant. Logistic regression analysis suggested that students who were more faithful in their practice of Islam were 15% less likely to smoke. Students who were more knowledgeable about the dangers of smoking were 8% less likely to smoke. The logistic analysis identified peers (friends) as the most powerful factor in predicting smoking. The four-factor model had an overall classification accuracy of 78%. The need to understand more fully the dynamics of peer relations among Saudi Arabian males as a basis for developing tobacco education/prevention programs. Prevention programs will need to include education and changes in the college level or earlier in KSA.

Berardi, Vincent, John Bellettiere, Orit Nativ, Slezak Ladislav, Melbourne F. Hovell & Orna Baron-Epel. 2016. Fatalism, Diabetes Management Outcomes, and the Role of Religiosity. *Journal of Religion and Health* 55(2). 602–617. doi:10.1007/s10943-015-0067-9.

This study aimed to determine whether fatalistic beliefs were associated with elevated levels of glycated hemoglobin (HbA1c) and to establish the role of religiosity in this relationship. A cross-sectional survey was conducted on a sample of 183 Jewish adults with diabetes visiting a large medical center in northern Israel. Self-administered questionnaires assessed level of religiosity, fatalistic beliefs, diabetes management behaviors, and demographic/personal characteristics; laboratory tests were used to measure HbA1c. Multivariate regression indicated that fatalism was significantly associated with HbA1c. The association was no longer statistically significant after including self-reported religiosity in the model. This phenomenon is likely due to a confounding relationship between the religious/spiritual coping component of the fatalism index and self-reported religiosity. The

results indicate that addressing fatalistic attitudes may be a viable strategy for improving diabetes management, but call for a better understanding of the interplay between religiosity and fatalism in this context.

- Beutler, Eveline, Fernando G. Beltrami, Urs Boutellier & Christina M. Spengler. 2016. Effect of Regular Yoga Practice on Respiratory Regulation and Exercise Performance. *Plos One* 11(4). e0153159.
doi:10.1371/journal.pone.0153159.

Yoga alters spontaneous respiratory regulation and reduces hypoxic and hypercapnic ventilatory responses. Since a lower ventilatory response is associated with an improved endurance capacity during whole-body exercise, researchers tested whether yogic subjects (YOGA) show an increased endurance capacity compared to matched non-yogic individuals (CON) with similar physical activity levels. Resting ventilation, the ventilatory response to hypercapnia, passive leg movement and exercise, as well as endurance performance were assessed. YOGA (n=9), compared to CONTROL (n=6), had a higher tidal volume at rest and a reduced ventilatory response to hypercapnia. A YOGA subgroup (n=6) with maximal performance similar to CONTROL showed a blunted ventilatory response to passive cycling and a tendency towards lower exercise ventilation while cycling endurance did not differ. Thus, yoga practice was not associated with improved exercise capacity nor with significant changes in exercise ventilation despite a significantly different respiratory regulation at rest and in response to hypercapnia and passive leg movement.

- Camilleri, Géraldine M., Caroline Méjean, France Bellisle, Serge Hercberg & Sandrine Péneau. 2016. Mind-Body Practice and Body Weight Status in a Large Population-Based Sample of Adults. *American Journal of Preventive Medicine* 50(4). e101-109.
doi:10.1016/j.amepre.2015.10.005.

In industrialized countries characterized by a high prevalence of obesity and chronic stress, mind-body practices such as yoga or meditation may facilitate body weight control. However, virtually no data are available to ascertain whether practicing mind-body techniques is associated with weight status. The purpose of this study is to examine the relationship between the practice of mind-body techniques and weight status in a large population-based sample of adults. A total of 61,704 individuals aged ≥ 18 years participating in the NutriNet-Santé study (2009-2014) were included in this cross-sectional analysis conducted in 2014. Data on mind-body practices were collected, as well as self-reported weight and height. The association between the practice of mind-body techniques and weight status was assessed using multiple linear and multinomial logistic regression models adjusted for sociodemographic, lifestyle, and dietary factors. After adjusting for sociodemographic and lifestyle factors, regular users of mind-body techniques were less likely to be overweight or obese than never users. In addition, regular users had a lower BMI than never users. These data provide novel information about an inverse relationship between mind-body practice and weight status. If causal links were demonstrated in further prospective studies, such practice could be fostered in obesity prevention and treatment.

- Carter, Kirtigandha Salwe & Robert Carter III. 2016. Breath-based meditation: A mechanism to restore the physiological and cognitive reserves for optimal human performance. *World Journal of Clinical Cases* 4(4). 99–102.
doi:10.12998/wjcc.v4.i4.99.

Stress can be associated with many physiological changes resulting in significant decrements in human performance. Due to growing interests in alternative and complementary medicine by Westerners, many of the traditions and holistic yogic breathing practices today are being utilized as a measure for healthier lifestyles. These state-of-the-art practices can have a significant impact on common mental health conditions such as depression and generalized anxiety disorder. However, the potential of yogic breathing on optimizing human performance and overall well-being is not well known. Breathing techniques such as alternate nostril, Sudarshan Kriya and bhastrika utilizes rhythmic breathing to guide practitioners into a deep meditative state of relaxation and promote self-awareness. Furthermore, yogic breathing is physiologically stimulating and can be described as a natural “technological” solution to optimize

human performance which can be categorized into: (1) cognitive function (i.e., mind, vigilance); and (2) physical performance (i.e., cardiorespiratory, metabolism, exercise, whole body). Based on previous studies, the present researchers postulate that daily practice of breathing meditation techniques play a significant role in preserving the compensatory mechanisms available to sustain physiological function. This preservation of physiological function may help to offset the time associated with reaching a threshold for clinical expression of chronic state (i.e., hypertension, depression, dementia) or acute state (i.e., massive hemorrhage, panic attack) of medical conditions. However, additional rigorous biomedical research is needed to evaluate the physiological mechanisms of various forms of meditation (i.e., breath-based, mantra, mindfulness) on human performance. These efforts will help to define how compensatory reserve mechanisms of cardiovascular and immune systems are modulated by breath-based meditation. While it has been suggested that breath-based meditation is easier for beginning practitioners when compared to other forms of meditation more research is needed to elucidate these observations. A breath-based meditation sequence such as Sudarshan Kriya has the potential to help develop an individual's self-awareness and support better integration of the brain (i.e., mind) with other organ systems (i.e., body) for enhanced human performance.

Charlemagne-Badal, Sherma J. & Jerry W. Lee. 2016. Intrinsic Religiosity and Hypertension Among Older North American Seventh-Day Adventists. *Journal of Religion and Health* 55(2). 695–708. doi:10.1007/s10943-015-0102-x.

A unique lifestyle based on religious beliefs has been associated with longevity among North American Seventh-day Adventists (SDAs); however, little is known about how religion is directly associated with hypertension in this group. Identifying and understanding the relationship between hypertension and its predictors is important because hypertension is responsible for half of all cardiovascular-related deaths and one in every seven deaths in the USA. The relationship between intrinsic religiosity and hypertension is examined. Cross-sectional data from the Biopsychosocial Religion and Health Study (n=9581) were used. The relationship between intrinsic religiosity and hypertension when controlling for demographics, lifestyle variables, and church attendance was examined using binary logistic regression. While lifestyle factors such as vegetarian diet and regular exercise were important predictors of reduced rates of hypertension, even after controlling for these, intrinsic religiosity was just as strongly related to lower hypertension rates as the lifestyle factors. This study is the first to examine the relationship between intrinsic religiosity and hypertension among North American SDAs and demonstrates that in addition to the positive effects of lifestyle choices on health noted in the group, religion may offer direct salutary effects on hypertension. This finding is particularly important because it suggests that religiosity and not just lifestyle is related to lower risk of hypertension, a leading cause of death in the USA.

Charlemagne-Badal, Sherma J. & Jerry W. Lee. 2016. Religious Social Support and Hypertension Among Older North American Seventh-Day Adventists. *Journal of Religion and Health* 55(2). 709–728. doi:10.1007/s10943-015-0104-8.

Seventh-day Adventists have been noted for their unique lifestyle, religious practices and longevity. However, we know little about how religion is directly related to health in this group. Specifically, we know nothing about how religious social support is related to hypertension. Using data from the Biopsychosocial Religion and Health Study, the authors carried out a cross-sectional study of 9581 and a prospective study of 5720 North American Seventh-day Adventists examining new 534 cases of hypertension occurring up to 4 years later. The authors used binary logistic regression analyses to examine study hypotheses. Of the religious social support variables, in both the cross-sectional and prospective study only anticipated support significantly predicted hypertension, but the relationship was mediated by BMI. There were no significant race or gender differences. The favorable relationships between anticipated support and hypertension appear to be mediated by BMI and are an indication of how this dimension of religion combined with lifestyle promotes good health, specifically, reduced risk of hypertension.

Cheung, Corjena, Jean F. Wyman & Kay Savik. 2016. Adherence to a Yoga Program in Older Women with Knee Osteoarthritis. *Journal of Aging and Physical Activity* 24(2). 181–188.
doi:10.1123/japa.2015-0048.

Yoga is beneficial for osteoarthritis (OA) management in older adults; however, adherence to yoga practice is unknown. The purposes of this secondary analysis were to examine: (1) yoga adherence during the intervention and follow-up periods; (2) the relationship between social cognitive theory (SCT) constructs and adherence; and (3) the impact of adherence on OA-related symptoms in 36 community-dwelling older women with knee OA. SCT was used as a framework to promote adherence to a yoga intervention program that included both group/home-based practices. Adherence to yoga was high during the intervention period but decreased over time. Although SCT was a useful framework for reducing attrition during the intervention, self-efficacy was the only construct that correlated with class attendance. Higher yoga adherence was correlated with improved symptoms, physical function, sleep quality, and quality of life. Yoga adherers were likely to be older, less educated, and had a lower body mass index than nonadherers.

Cramer, Holger, Romy Lauche, Jost Langhorst & Gustav Dobos. 2016. Is one yoga style better than another? A systematic review of associations of yoga style and conclusions in randomized yoga trials. *Complementary Therapies in Medicine* 25. 178–187.
doi:10.1016/j.ctim.2016.02.015.

To determine whether the odds of positive conclusions in randomized controlled trials (RCTs) of yoga, differ between yoga styles. Study design was a systematic review of yoga RCTs. The RCTs' conclusions were classified as positive (yoga is helpful for a respective condition) or not positive; and these were compared between different yoga styles using the Chi squared test and multiple logistic regression analysis. A total of 306 RCTs were included. These applied 52 different yoga styles, the most commonly used of which were: hatha yoga (36 RCTs); Iyengar yoga (31 RCTs); pranayama (26 RCTs); and the integrated approach to yoga therapy (15 RCTs). Positive conclusions were reached in 277 RCTs (91%); the proportion of positive conclusions did not differ between yoga styles. The authors conclude that RCTs with different yoga styles do not differ in their odds of reaching positive conclusions. Given that most RCTs were positive, the choice of an individual yoga style can be based on personal preferences and availability.

Cramer, Holger, Bijay Pokhrel, Claudia Fester, Beate Meier, Florian Gass, Romy Lauche, Brandon Eggleston, et al. 2016. A randomized controlled bicenter trial of yoga for patients with colorectal cancer. *Psycho-Oncology* 25(4). 412–420.
doi:10.1002/pon.3927.

The aim of this trial was to evaluate the effects of yoga on health-related quality of life in patients with colorectal cancer. Patients with non-metastatic colorectal cancer were randomly assigned to a 10-week yoga intervention (90 min once weekly) or a waitlist control group. Primary outcome measure was disease-specific quality of life (Functional Assessment of Cancer Therapy - Colorectal [FACT-C]) at week 10. Secondary outcome measures included FACT-C subscales: spiritual well-being (FACT - Spirituality); fatigue (FACT - Fatigue); sleep disturbances (Pittsburgh Sleep Quality Inventory); depression and anxiety (Hospital Anxiety and Depression Scale); body awareness (Scale of Body Connection); and body-efficacy expectations (Body-Efficacy Expectations Scale). Outcomes were assessed at week 10 and week 22 after randomization. Fifty-four patients were randomized to yoga (n=27) and control group (n=27). Patients in the yoga group attended a mean of 5.3 yoga classes. Following intervention, no effects of yoga on health-related quality of life in patients with colorectal cancer were found. Given the high attrition rate and low intervention adherence, no definite conclusions can be drawn from this trial.

Dermatis, Helen & Marc Galanter. 2016. The Role of Twelve-Step-Related Spirituality in Addiction Recovery. *Journal of Religion and Health* 55(2). 510–521.
doi:10.1007/s10943-015-0019-4.

This paper reviews empirical studies conducted on the role of spirituality and religiosity (S/R) characteristics in 12-step recovery among program members followed up after substance abuse treatment and those assessed independent of formal treatment. Aspects of spiritual functioning that change in relation to program participation and those S/R characteristics that were found to mediate the association between program involvement and drinking-related outcomes are discussed. In addition, a review is provided of 12-step program studies investigating S/R-related predictors of clinical outcomes relevant to risk of relapse among members in long-term recovery. To further examine the role of S/R characteristics in recovery, a study was conducted on long-term AA members to assess the relationship of S/R characteristics and AA program involvement to craving for alcohol and emotional distress after controlling for relevant demographic variables. Feeling God's presence daily, believing in a higher power as a universal spirit, and serving as an AA sponsor were all predictive of positive outcomes.

Drabble, Laurie, Karen F. Trocki & Jamie L. Klinger. 2016. Religiosity as a protective factor for hazardous drinking and drug use among sexual minority and heterosexual women: Findings from the National Alcohol Survey. *Drug and Alcohol Dependence* 161. 127–134.
doi:10.1016/j.drugalcdep.2016.01.022.

Despite research documenting disparities in risk for alcohol-related problems among sexual minority women, few studies explore potential protective factors within this population. This study examines how religiosity may function as a protective or risk factor for alcohol-problems or other substance use among sexual minorities compared to heterosexuals. Data from 11,169 women who responded to sexual identity and sexual behavior questions from three population-based National Alcohol Survey waves (2000, 2005, 2010) were utilized for analyses of religiosity in relation to lifetime drinking, past year hazardous drinking, and past year drug use. Religiosity was significantly greater among exclusively heterosexual women compared to all sexual minority groups (lesbian, bisexual and heterosexual women who report same sex partners). Lesbians reported the lowest rates of affiliation with religions/denominations discouraging alcohol use. Past year hazardous drinking and use of any illicit drugs were significantly lower among exclusively heterosexual women compared to all sexual minority groups. High religiosity was associated with lifetime alcohol abstinence and was found to be protective against hazardous drinking and drug use among both sexual minority and heterosexual women. Reporting religious norms unfavorable to drinking was protective against hazardous drinking among exclusively heterosexual women but not sexual minority women.

Fischer, Nicole L., Dorian A. Lamis, Marissa N. Petersen-Coleman, Carla S. Moore, Huaiyu Zhang & Nadine J. Kaslow. 2016. Mediating effects of existential and religious well-being among abused, suicidal African American women. *Journal of Family Violence* 31(3). 315–323.
doi:10.1007/s10896-015-9771-1.

Intimate partner violence (IPV), an international public health matter, is linked to psychological distress including suicidal behavior. Despite the noted sequelae associated with IPV, many individuals display resilience in the face of IPV exposure. This study examines two potential protective factors in the IPV-suicidal ideation link, namely existential and religious well-being, in a sample of African American women. Low-income, African American, female suicide attempters who were abused by a partner within the previous year (n=111) were administered the Conflicts Tactics Scale-2, Spiritual Well-Being Scale, and Beck Scale for Suicide Ideation. Mediation models testing indirect effects through the bootstrapping method revealed that the total effect of IPV on suicidal ideation was positive and significant, confirming suicidal ideation as a consequential outcome of IPV among African American women. This effect was mediated by existential well-being; however, religious well-being was not a significant mediator, suggesting that existential well-being serves a unique protective role in the IPV-suicidal ideation relation. The results provide additional support for the well-known positive effects of existential well-being on mental health among African American samples. Culturally-informed, meaning-making interventions to enhance existential well-being appear to be effective in reducing suicidal ideation in this population.

- Frick, Eckhard, Arndt Büssing, Klaus Baumann, Wolfgang Weig & Christoph Jacobs. 2016. Do Self-efficacy Expectation and Spirituality Provide a Buffer Against Stress-Associated Impairment of Health? A Comprehensive Analysis of the German Pastoral Ministry Study. *Journal of Religion and Health* 55(2). 448–468.
doi:10.1007/s10943-015-0040-7.

The authors aimed to analyze stress perception, psychosomatic health and life satisfaction in pastoral professionals, paying particular attention to their individual and shared resources. After enrolling 8574 German pastoral professionals (48% priests, 22% parish expert workers, 18% pastoral assistants, 12% deacons), researchers found that pastoral professionals' stress perception is associated with psychosomatic health impairment. General self-efficacy was a beneficial resource to protect against stress perceptions, while perception of the transcendent had a further yet weakly positive influence for stress-related impairment of health. External stressors (i.e. team size, duration of work per week and size of pastoral unit) were only of marginal independent relevance.

- Giordano, Amanda L., Elizabeth A. Prosek, Sahar Loseu, Cynthia M. Bevly, Julia Stamman, Citlali E. Molina, Molly M. Callahan & Richard-Michael Calzada. 2016. Self-Efficacy Among Adults in Substance Abuse Treatment: The Role of Religious Coping. *Journal of Addictions & Offender Counseling* 37(1). 35–48.
doi:10.1002/jaoc.12014.

In substance abuse treatment, general self-efficacy and religiousness are factors that may support positive outcomes. The authors surveyed clients receiving substance abuse treatment (n=121) and found that religious coping predicted general self-efficacy scores.

- Goode, Adam P., Remy R. Coeytaux, Jennifer McDuffie, Wei Duan-Porter, Poonam Sharma, Hillary Mennella, Avishek Nagi & John W. Williams. 2016. An evidence map of yoga for low back pain. *Complementary Therapies in Medicine* 25. 170–177.
doi:10.1016/j.ctim.2016.02.016.

Yoga is being increasingly studied as a treatment strategy for a variety of different clinical conditions, including low back pain (LBP). Researchers set out to conduct an evidence map of yoga for the treatment, prevention and recurrence of acute or chronic low back pain (cLBP). Following a literature review, three eligible systematic reviews were identified that included 10 RCTs (n=956) that evaluated yoga for non-specific cLBP. No additional RCTs beyond those included in the systematic reviews were identified. From an analysis of these RCTs, the authors conclude that evidence suggests benefit of yoga in midlife adults with non-specific cLBP for short- and long-term pain and back-specific disability, but the effects of yoga for health-related quality of life, wellbeing and acute LBP are uncertain. Without additional studies, further systematic reviews are unlikely to be informative.

- Harvey, Idethia Shevon, Chandra R. Story, Douglas Knutson & Melicia C. Whitt-Glover. 2016. Exploring the Relationship of Religiosity, Religious Support, and Social Support Among African American Women in a Physical Activity Intervention Program. *Journal of Religion and Health* 55(2). 495–509.
doi:10.1007/s10943-015-0017-6.

Religious belief has been linked to a variety of positive mental and physical health outcomes. This exploratory study will address the relationship between religious involvement and social connectedness among African American women. Results from a physical activity intervention research project (n=465) found that total religious support and social support were significantly negatively correlated with total religiosity, while total general social support was significantly positively correlated with total religious support. Overall, the study indicates that more research is needed on ways to encourage interaction between the positive dimensions of both religiosity and social support to bring about healthy behaviors.

Kim, Suk-Sun, Yeoun Soo Kim-Godwin & Harold G. Koenig. 2016. Family Spirituality and Family Health Among Korean-American Elderly Couples. *Journal of Religion and Health* 55(2). 729–746. doi:10.1007/s10943-015-0107-5.

Spirituality has been regarded as an individual and private matter; consequently, research on spirituality as a family phenomenon has been largely neglected. In addition, most published research has been focused on Western cultures. The purpose of this study was to explore the experience of family spirituality and how it influences health among Korean-American elderly couples who are the first generation to reside in the Southeastern USA. A thematic and interpretive data analysis method was used. Thirteen elderly couples (n=26) participated in in-depth individual interviews in Korean with the primary author. Interviews were audio-taped, transcribed, and then translated by two bilingual researchers with a background in Korean and American culture. Three main themes of family spirituality were identified: (1) family togetherness, (2) family interdependence, and (3) family coping. Also, participants reported that family spirituality strengthened family health by fostering family commitment, improving emotional well-being, developing new healthy behaviors, and providing healing experiences. This finding implies that healthcare providers need to assess family spiritual issues of elderly couples to maximize their strengths for coping with health problems. As society becomes more culturally diverse, healthcare providers should seek to understand family spirituality from different cultural perspectives to develop a more holistic approach to care.

Kumar, Vinod, Aarti Jagannathan, Mariamma Philip, Arun Thulasi, Praveen Angadi & Nagarathna Raghuram. 2016. Role of yoga for patients with type II diabetes mellitus: A systematic review and meta-analysis. *Complementary Therapies in Medicine* 25. 104–112. doi:10.1016/j.ctim.2016.02.001.

To understand the role and efficacy of yoga in the management of type 2 diabetes mellitus, a meta-analysis was conducted using electronic databases. Eligible outcomes were fasting blood sugar (FBS), post prandial blood sugar (PPBS) and glycosylated haemoglobin (HBA1C). A total of 17 RCTs were included for review. Data from research articles on patients, methods, interventions- control and results were extracted. Beneficial effects of yoga as an add-on intervention to standard treatment in comparison to standard treatment were observed for FBS and PPBS, as well as HBA1C. However, risk of bias was overall high for included studies.

Liboro, Renato M. & Richard T. G. Walsh. 2016. Understanding the Irony: Canadian Gay Men Living with HIV/AIDS, Their Catholic Devotion, and Greater Well-being. *Journal of Religion and Health* 55(2). 650–670. doi:10.1007/s10943-015-0087-5.

Nine Canadian Catholic HIV-positive gay men were interviewed to obtain a better understanding of why and how they were able to persevere in their faith despite their religion's teachings against homosexuality and contributions to the stigmatization of HIV/AIDS. By examining the lived experiences and personal perspectives of the participants, the study aimed to explore and elucidate the significant role of Catholicism and the Catholic Church both as a continued source of marginalization and oppression, as well as strength and support, for Canadian gay men living with HIV/AIDS today.

Malboeuf-Hurtubise, Catherine, Marie Achille, Lorraine Muise, Raphaëlle Beaugard-Lacroix, Majorie Vadnais & Éric Lacourse. 2016. A Mindfulness-Based Meditation Pilot Study: Lessons Learned on Acceptability and Feasibility in Adolescents with Cancer. *Journal of Child & Family Studies* 25(4). 1168–1177. doi:10.1007/s10826-015-0299-z.

A growing body of research has documented the psychological impact of cancer on adolescents (such as symptoms of depression, anxiety and withdrawal). Findings from the adult literature suggest that mindfulness-based interventions (MBIs) are a promising treatment option for helping individuals manage cancer and alleviate the associated

psychological symptoms. The aim of the present pilot study was to assess the feasibility and acceptability of a MBI for adolescents with cancer and examine its potential positive impact on sleep, mood, and quality of life. Over 9 months of recruitment, 481 youth were screened for participation in this project. Of these, 418 (86.9%) were excluded because they lived further than 1 h from the intervention site, had no history of cancer, had died, or were not reachable by telephone. Of the 63 who were contacted, only 7 (1.4%) agreed to participate, gave their consent, and provided a complete dataset. A prospective quasi-experimental pretest-posttest design with two groups (experimental; n=7 and no treatment; n=7) was used to assess the MBI. Only participants from the experimental group completed follow-up measures at 6 months. Repeated-measure ANOVAs were conducted to assess the impact of the intervention. No significant differences between or within groups were found pre to post assessment and at follow-up. A narrow pool of eligible participants, a high refusal rate, school scheduling conflicts and absenteeism had a significant impact on the final sample size. Suggestions to conduct future trials are presented. Larger randomized-controlled trials are necessary to assess whether MBIs have significant beneficial effects in teenagers with cancer.

Middendorp, Henriët van, Matthijs Kox, Peter Pickkers & Andrea W. M. Evers. 2016. The role of outcome expectancies for a training program consisting of meditation, breathing exercises, and cold exposure on the response to endotoxin administration: a proof-of-principle study. *Clinical Rheumatology* 35(4). 1081–1085.
doi:10.1007/s10067-015-3009-8.

Expectancies play a major role for the treatment outcome of a broad variety of immune-mediated conditions and may strengthen or mimic the effects of regular long-term therapies. This study adds to a recently published study of Kox et al. (PNAS 111:7379-7384, 2014) on the ability to voluntarily influence the physiological stress response in healthy men after a training program consisting of meditation, breathing techniques, and exposure to cold, which found highly promising results on the clinical, autonomic, and immune response to experimentally induced inflammation (using the experimental human endotoxemia model). Within this project, a number of variables were included to assess the role of generalized (optimism, neuroticism) and specific outcome expectancies (related to the effects of the training on health) on the response to endotoxin administration after training. Indications were found that especially the generalized outcome expectancy optimism is a potential determinant of the autonomic and immune response to induced inflammation after training, whereas more specific expectations with regard to the effects of the training could be especially relevant for the clinical symptom report. This proof-of-principle study provides first indications for potential innovative treatments to change immune-modulating responses by means of psychological mechanisms. If replicated, these findings may be used for predicting training responses and potentiate their effects by means of optimism-inducing interventions in patients with immune-mediated rheumatic conditions.

Muthukrishnan, Shobitha, Reena Jain, Sangeeta Kohli & Swaraj Batra. 2016. Effect of Mindfulness Meditation on Perceived Stress Scores and Autonomic Function Tests of Pregnant Indian Women. *Journal of Clinical and Diagnostic Research* 10(4). CC05-08.
doi:10.7860/jcdr/2016/16463.7679.

Various pregnancy complications like hypertension, preeclampsia have been strongly correlated with maternal stress. One of the connecting links between pregnancy complications and maternal stress is mind-body intervention which can be part of Complementary and Alternative Medicine (CAM). Biologic measures of stress during pregnancy may get reduced by such interventions. This article evaluates the effect of Mindfulness meditation on perceived stress scores and autonomic function tests of pregnant Indian women. Pregnant Indian women of 12 weeks gestation were randomized to two treatment groups: Test group with Mindfulness meditation and control group with their usual obstetric care. The effect of Mindfulness meditation on perceived stress scores and cardiac sympathetic functions and parasympathetic functions (Heart rate variation with respiration, lying to standing ratio, standing to lying ratio and respiratory rate) were evaluated. Following intervention there was a significant decrease in perceived stress scores, a significant decrease of blood pressure response to cold pressor test and a significant increase in heart rate variability

in the test group, which indicates that mindfulness meditation is a powerful modulator of the sympathetic nervous system and can thereby reduce the day-to-day perceived stress in pregnant women.

- Ni, Meng, Kiersten Mooney & Joseph F. Signorile. 2016. Controlled pilot study of the effects of power yoga in Parkinson's disease. *Complementary Therapies in Medicine* 25. 126–131.
doi:10.1016/j.ctim.2016.01.007.

This randomized controlled trial evaluates the effects of a specially designed power yoga program (YOGA) on bradykinesia, rigidity, muscular performance and quality of life in older patients with Parkinson's disease (PD). Twenty-six patients with mild to moderate PD were randomly assigned to a YOGA or control group (CON). The YOGA program was three months, incorporating two sessions per week of yoga classes. Outcome measures were upper and lower limb bradykinesia and rigidity scores from the Unified Parkinson's Disease Rating Scale, one repetition maximums (1RM) and peak powers on biceps curl, chest press, leg press, hip abduction and seated calf, and quality of life (PDQ-39). Following intervention the YOGA group produced significant improvement in both upper and lower limbs bradykinesia scores, rigidity score, 1RM for all 5 machines and leg press power. Significant improvements were seen in the PDQ-39 overall score, mobility and activities of daily living domain for the YOGA group.

- Pivarunas, Bernadette. 2016. A Qualitative Exploration of a Faith-based Support Group for Women with Disordered Eating. *Pastoral Psychology* 65(2). 215–225.
doi:10.1007/s11089-015-0675-z.

Religious faith is associated with fewer health risk behaviors, decreased psychological distress, anxiety, and depression, and increased coping skills and self-esteem. Amongst those with eating disorders and identifying as religious, there is evidence that an eating disorder has negative religious ramifications, yet only one investigation to date has examined a faith-based intervention for this population. The present study qualitatively explored the experience of faith-based support group participation for five women with an eating disorder. Participants identified a need for relational growth both in their relationship with God and others and, ultimately, experienced increased self-efficacy, connectedness, and hope. These themes are discussed in terms of their limitations and clinical implications.

- Schmid, Arlene A., Kristine K. Miller, Marieke Van Puymbroeck & Nancy Schalk. 2016. Feasibility and results of a case study of yoga to improve physical functioning in people with chronic traumatic brain injury. *Disability and Rehabilitation* 38(9). 914–920.
doi:10.3109/09638288.2015.1062927.

The purpose of this mixed-methods case study was to investigate whether an 8-week 1:1 yoga program was feasible and beneficial to people with traumatic brain injury (TBI). This was a mixed-methods case study of one-to-one yoga for people with TBI included three people. Researchers completed assessments before and after the 8-week yoga intervention and included measures of balance, balance confidence, pain, range of motion, strength and mobility. Qualitative interviews were included at the post-assessment. The writers include a percent change calculation and salient quotes that represent the perceived impact of the yoga intervention. All participants completed the yoga intervention and all demonstrated improvements in physical outcome measures. For the group, balance increased by 36%, balance confidence by 39%, lower extremity strength by 100% and endurance by 105%. Qualitative data support the use of yoga to improve multiple aspects of physical functioning, one participant stated: "I mean it's rocked my world. It's changed my life. I mean all the different aspects. I mean physically, emotionally, mentally, it's given me you know my life back...". The authors conclude that yoga, delivered in a one-to-one setting, appears to be feasible and beneficial to people with chronic TBI.

- Sisk, Angela & Marsha Fonteyn. 2016. Evidence-Based Yoga Interventions for Patients With Cancer. *Clinical Journal of Oncology Nursing* 20(2). 181–186.

doi:10.1188/16.CJON.181-186.

Introducing patients with cancer to the practice of yoga can be beneficial for coping with the side effects of treatment and the psychological aspects of cancer that are often difficult and distressing for patients. Oncology nurses can learn to use simple yoga techniques for themselves and as interventions with their patients. This article provides details about the development and implementation of a yoga class for patients with cancer and provides details about other ways nurses can integrate yoga into oncology nursing and cancer care. Current research literature was reviewed and synthesized to provide support for the use of yoga as an evidence based nursing intervention. A detailed approach for implementing yoga into professional practice was delineated. Yoga techniques can be easily integrated into nursing practice and have been shown to be beneficial for patients and nurses.

Sohl, Stephanie J., Suzanne C. Danhauer, Gurjeet S. Birdee, Barbara J. Nicklas, George Yacoub, Mebea Aklilu & Nancy E. Avis. 2016. A brief yoga intervention implemented during chemotherapy: A randomized controlled pilot study. *Complementary Therapies in Medicine* 25. 139–142.
doi:10.1016/j.ctim.2016.02.003.

Fatigue and other treatment-related symptoms (e.g., sleep disturbance) are critical targets for improving quality of life in patients undergoing chemotherapy. Yoga may reduce the burden of such symptoms. This study investigated the feasibility of conducting a randomized controlled study of a brief yoga intervention during chemotherapy for colorectal cancer. Researchers randomized adults with colorectal cancer to a brief Yoga Skills Training (YST) or an attention control (AC; empathic attention and recorded education). The interventions and assessments were implemented individually in the clinic while patients were in the chair receiving chemotherapy. Both interventions consisted of three sessions and recommended home practice. The primary outcome was feasibility (accrual, retention, adherence, data collection). Self-reported outcomes (i.e., fatigue, sleep disturbance, quality of life) and inflammatory biomarkers were also described to inform future studies. Of 52 patients initially identified, 28 were approached, and 15 enrolled. Reasons for declining participation were: not interested (n=6), did not perceive a need (n=2), and other (n=5). Two participants were lost to follow-up in each group due to treatment changes. Thus, 75% of participants were retained in the YST and 71% in the AC arm. Participants retained in the study adhered to 97% of the in-person intervention sessions and completed all questionnaires. The authors conclude that this study demonstrated the feasibility of conducting a larger randomized controlled trial to assess YST among patients receiving chemotherapy for colorectal cancer.

Steel, A., J. Frawley, D. Sibbritt, A. Broom & J. Adams. 2016. The characteristics of women who use hypnotherapy for intrapartum pain management: Preliminary insights from a nationally-representative sample of Australian women. *Complementary Therapies in Medicine* 25. 67–70.
doi:10.1016/j.ctim.2016.01.006.

This manuscript presents a preliminary examination of the characteristics of women who choose intrapartum hypnosis for pain management. Study design was cross-sectional analysis of 2445 women (31-36 years) from a sub-study of the Australian Longitudinal Study on Women's Health (ALSWH), employing Fisher exact tests. Main outcome measures were use of intrapartum hypnosis, or hypnobirthing, for pain management during labor and birth. Researchers found that women using hypnobirthing were more likely to have consulted with an acupuncturist or naturopath, or attended yoga/meditation classes during pregnancy. Use of CM products such as herbal medicines, aromatherapy oils, homoeopathy, herbal teas or flower essences was also more common amongst these women. Women choosing hypnotherapy for intrapartum pain management less commonly identified as feeling safer knowing that an obstetrician is providing their care, and were more likely to labor in a birth center or in a community center (i.e. at home).

Van Gordon, William, Edo Shonin & Mark D. Griffiths. 2016. Meditation awareness training for individuals with fibromyalgia syndrome: An interpretative phenomenological analysis of participants' experiences. *Mindfulness* 7(2). 409–419.

doi:10.1007/s12671-015-0458-8.

Fibromyalgia syndrome (FMS) is a complex and poorly understood psychosomatic pain disorder. The illness has been the subject of controversy, both in terms of the alleged lack of interest and capability of the medical community to understand and support patients with FMS, and the burden that such individuals place upon economic and healthcare resources. Due to the lack of convincing data for the effectiveness of extant pharmacological and non-pharmacological FMS treatments, a recent direction in FMS research has been the empirical investigation of mindfulness and other meditation-based approaches. The present qualitative study explored whether following participation in a mindfulness-based intervention, patients with FMS report experiencing changes in (i) how they experience and relate to their illness and (ii) their attitudes towards societal participation, work and unemployment. Ten individuals with FMS were randomly selected from the intervention arm of a randomized controlled trial (RCT) evaluating the effectiveness of a mindfulness-based intervention known as Meditation Awareness Training (MAT) for the treatment of FMS. Transcripts of semi-structured interviews were analyzed using Interpretative Phenomenological Analysis, a robust and rigorous qualitative methodology for analyzing subjective experiences. Five super-ordinate themes emerged from the dataset: (i) reservations about participating, (ii) improvements in psychosomatic well-being, (iii) spiritual growth, (iv) awareness of impermanence and (v) increased sense of citizenship. MAT was experienced as both an acceptable and accessible intervention by individuals with FMS, and participants reported experiencing improvements in psychosocial functioning as well as an increased sense of societal responsibility. MAT appears to have utility for treating FMS and for changing the attitudes of some individuals with FMS towards community engagement and societal contribution.

Vera, Francisca M., Juan M. Manzanque, Francisco M. Rodríguez, Rebecca Bendayan, Nieves Fernández & Antonio Alonso. 2016. Acute Effects on the Counts of Innate and Adaptive Immune Response Cells After 1 Month of Taoist Qigong Practice. *International Journal of Behavioral Medicine* 23(2). 198–203.

doi:10.1007/s12529-015-9509-8.

Qigong is an ancient form of health maintenance, dating back thousands of years, which is part of Traditional Chinese Medicine. Numerous physical as well as mental benefits have been classically ascribed to this traditional mind-body method which integrates slow body movements, breathing, and meditation. Albeit researchers have already reported an immunomodulatory action of qigong in other investigations, measures were then assessed 1 day after the qigong program ended. The aim of the present study was to assess the acute effects of Taoist qigong practice on immune cell counts in healthy subjects 1 h after training. Forty-three healthy subjects participated in the study of whom 25 were randomly allocated to the experimental group and 18 to the control group. The experimental subjects underwent daily qigong training for 1 month. Blood samples for the quantification of immune parameters (number and percentage of monocytes, neutrophils, eosinophils, total lymphocytes, B lymphocytes, and natural killer (NK) cells) were taken the day before the experiment commenced and 1 h after the last session of the training program ended. As statistical analysis, analysis of covariance (ANCOVA) was performed. Following intervention, statistically significant differences were found between the experimental and control groups, with the experimental group showing higher values in the number and the percentage of B lymphocytes, as well as lower values in the percentage of NK cells, as compared to control.

Vitorino, Luciano Magalhães, Giancarlo Lucchetti, Ana Eliza Oliveira Santos, Alessandra L. G. Lucchetti, Eric Batista Ferreira, Nilce Piva Adami & Lucila Amaral Carneiro Vianna. 2016. Spiritual Religious Coping is Associated with Quality of Life in Institutionalized Older Adults. *Journal of Religion and Health* 55(2). 549–559.

doi:10.1007/s10943-015-0148-9.

The purpose of this study was to investigate the relationship between spiritual/religious coping (SRCOPE) strategies and quality of life (QoL) in institutionalized older adults. This is a cross-sectional, correlational study, with a

sample of 77 older adults in Brazil. The present study found long-term care patients use religious and spiritual coping strategies to deal with their chronic health conditions. Positive SRCOPE and Total SRCOPE have positive correlations with most QoL domains from the WHOQOL-OLD and WHOQOL-BREF. On the other hand, negative SRCOPE strategies correlated negatively with the facets of “death and dying” from the WHOQOL-OLD. These results suggest the need for an integrative approach for long-term care patients, considering the positive and negative aspects of coping.

Watkins, Tommie L., Cathy Simpson, Stacey S. Cofield, Susan Davies, Connie Kohler & Stuart Usdan. 2016. The Relationship Between HIV Risk, High-Risk Behavior, Religiosity, and Spirituality Among Black Men Who Have Sex with Men (MSM): An Exploratory Study. *Journal of Religion and Health* 55(2). 535–548.
doi:10.1007/s10943-015-0142-2.

Blacks in the USA, including black men who have sex with men (MSM), tend to have stronger religious and spiritual affiliations compared with other racial/ethnic populations. HIV and STD incidence rates continue to rise among Black MSM. Using data from the CDC Brothers y Hermanos (ByHS) project, this study examined correlations between high-risk behavior, e.g., substance use and high-risk sexual behavior (e.g., condom use history, unprotected sexual intercourse, HIV infection status, and STD infection status) religiosity, spirituality, age, among Black MSM (n=1141). This exploratory study examined whether religiosity and spirituality were associated with high-risk behavior and high-risk sexual behavior among Black MSM. Religiosity and spirituality indices were compiled from the ByHS data. The religiosity index was significantly associated with HIV infection and use of cocaine, crack, and poppers as well as marginally associated with ecstasy use. Spirituality was significantly associated with HIV infection status, STD infection status, alcohol use, and crack use. Given these relationships, current and future HIV prevention models targeting Black MSM should consider the potential importance of the roles of religiosity and spirituality in the lives of Black MSM to increase the efficacy of risk reduction interventions.

Witkiewitz, Katie, Elizabeth McCallion & Megan Kirouac. 2016. Religious Affiliation and Spiritual Practices: An Examination of the Role of Spirituality in Alcohol Use and Alcohol Use Disorder. *Alcohol Research: Current Reviews* 38(1). 55–58.

Religious affiliation, spirituality, and spiritual practices often have been studied as protective factors in the prevention and treatment of hazardous alcohol consumption (defined as drinking at a level that causes significant problems in functioning or that increases potential harms) and alcohol use disorder (AUD). Specifically, researchers have been interested in whether spirituality and spiritual practices, commonly associated with personal transformation, may also help in personal transformation of substance use behaviors. Personal transformation may involve elements-such as mindfulness and acceptance of a problem-that form the bases of behavioral treatments for substance use disorders, including AUD. Therefore, researchers are interested in whether spirituality can have a positive influence on AUD recovery.

2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Aflakseir, Abdulaziz & Mansoureh Mahdiyar. 2016. The Role of Religious Coping Strategies in Predicting Depression among a Sample of Women with Fertility Problems in Shiraz. *Journal of Reproduction & Infertility* 17(2). 117–122.

One of the most common mental health problems among women with infertility problems is depression. Research has shown that religious beliefs and practices can help people to cope with difficult situations. The purpose of this study was to explore the role of different religious coping strategies in predicting depression in a group of infertile women in Shiraz. A total of 72 women with fertility problems were recruited from several private infertility clinics in Shiraz using convenience sampling. The participants completed the research questionnaires including Beck Depression Inventory and Religious Coping Scale. The Religious Coping Scale consists of five dimensions including practice,

active, passive, benevolent reappraisal and negative religious coping. The present study showed that about 30% of women with fertility problems experienced the symptoms of depression. The findings also indicated that the most commonly used religious coping strategy was practice religious coping, while the least commonly used religious coping strategies were passive and negative religious coping. The findings also showed that active religious coping, practice religious coping and benevolent reappraisal coping predicted depression reduction.

Bravo, Adrian J., Laura G. Boothe & Matthew R. Pearson. 2016. Getting personal with mindfulness: A latent profile analysis of mindfulness and psychological outcomes. *Mindfulness* 7(2). 420–432. doi:10.1007/s12671-015-0459-7.

Variable-centered analyses demonstrate that most facets of mindfulness are associated with improved psychological well-being. Person-centered analyses provide the ability to identify distinct subpopulations defined by individuals' full response profiles on mindfulness facets. Previous research has used latent profile analysis (LPA) to distinguish four subgroups of college students based on five facets of mindfulness: high mindfulness group, low mindfulness group, judgmentally observing group, and non-judgmentally aware group. On emotional outcomes, they found the judgmentally observing group had the most maladaptive emotional outcomes followed by the low mindfulness group. However, they did not examine experience with mindfulness meditation, other mindfulness-related constructs, or psychological well-being. In a sample of 688 college students (481 non-meditators, 200 meditators), researchers used LPA to identify distinct subgroups defined by their scores on the Five Facet Mindfulness Questionnaire (FFMQ). Using the Lo-Mendell-Rubin Likelihood Ratio Test, the researchers found that a 4-class solution fits optimally for the entire sample as well as subsamples of meditation-naïve and meditation-experienced participants. Previous findings were substantially replicated in all samples with regard to emotional outcomes. Further, the high mindfulness group demonstrated the highest levels of psychological well-being, decentering, self-regulation, and psychological flexibility. Overall, these results demonstrate the utility of person-centered analyses to examine mindfulness in unique ways.

Caqueo-Urizar, Alejandra, Alfonso Urzúa, Laurent Boyer & David R. Williams. 2016. Religion involvement and quality of life in patients with schizophrenia in Latin America. *Social Psychiatry and Psychiatric Epidemiology* 51(4). 521–528. doi:10.1007/s00127-015-1156-5.

The aim of the study was to explore the relationship between religion involvement (RI) and quality of life (QoL) in patients with schizophrenia from three countries in Latin America, while considering key confounding factors such as socio-demographic and clinical characteristics. This cross-sectional study was conducted in the public mental health services in La Paz, Bolivia; Arica, Chile; and Tacna, Peru. The data collected included RI, socio-demographic information, clinical characteristics, type of treatment and QoL using the S-QoL 18 questionnaire. A multivariate analysis using multiple linear regressions was performed to determine variables associated with QoL levels. Two hundred and fifty-three patients with schizophrenia were enrolled in this study. Significant positive associations were found between RI and QoL. Other socio-cultural and economic factors were also associated with low QoL level: being a woman, older patient, low education level and being Aymara. Severity of the psychotic symptoms was associated to a lower QoL for all the dimension except for the resilience.

Carmassi, Claudia, P. Stratta, E. Calderani, C. A. Bertelloni, M. Menichini, E. Massimetti, A. Rossi & L. Dell'Osso. 2016. Impact of Mood Spectrum Spirituality and Mysticism Symptoms on Suicidality in Earthquake Survivors with PTSD. *Journal of Religion and Health* 55(2). 641–649. doi:10.1007/s10943-015-0072-z.

The aim of the present study was to explore the correlations between Spirituality-Mysticism-Psychoticism symptoms, and suicidality, in young adult survivors of the L'Aquila earthquake. The sample included 475 subjects recruited among high school seniors who had experienced the April 6, 2009, earthquake. Assessments included Trauma and Loss Spectrum-Self Report and Mood Spectrum-Self Report (MOODS-SR). Mysticism/Spirituality dimension

and suicidality were evaluated by means of some specific items of the MOOD-SR. The Spirituality-Mysticism-Psychoticism MOODS-SR factor score was significantly higher among subjects with PTSD diagnosis with respect to those without. Similarly, subjects with suicidal ideation, as well as those who committed a suicide attempt, reported significantly higher scores than those without.

- Currier, Joseph M., Kent D. Drescher, Jason M. Holland, Ross Lisman & David W. Foy. 2016. Spirituality, Forgiveness, and Quality of Life: Testing a Mediational Model with Military Veterans with PTSD. *International Journal for the Psychology of Religion* 26(2). 167–179. doi:10.1080/10508619.2015.1019793.

Combat-related posttraumatic stress disorder (PTSD) can be a debilitating condition that has been linked with problems with forgiveness and impaired quality of life (QOL) in physical, psychological, social, and environmental domains. However, an amassing base of research studies also suggests that spirituality can be a vital resource for veterans exposed to severe traumas. Drawing on multidimensional assessments of spirituality and QOL, this study therefore tested direct/indirect associations between spirituality, forgiveness, and QOL among 678 military veterans with PTSD. When controlling for demographic risk factors, combat exposure, and PTSD symptom severity, structural equation modeling results revealed (a) an overall positive effect for spirituality on QOL and (b) that forgiveness fully mediated this link. These findings align with contemporary models of military trauma and suggest that forgiveness could be a critical pathway for promoting QOL as veterans attempt to recover from their posttraumatic symptomatology in treatment settings.

- Eremsoy, C. Ekin & Mujgan Inozu. 2016. The role of magical thinking, religiosity and thought-control strategies in obsessive-compulsive symptoms in a Turkish adult sample. *Behaviour Change* 33(1). 1–14. doi:10.1017/bec.2015.16.

It has been suggested that magical thinking is related to both obsessions and compulsions in obsessive-compulsive disorder (OCD). Recent studies have indicated the significant relationship between level of religiosity and beliefs about the importance and need to control unwanted thoughts in OCD. People also use diverse strategies to control their unwanted thoughts. The present study aimed to examine the interrelationships between magical thinking and worry and punishment as thought-control strategies in mediating the relationship between religiosity and obsessive-compulsive (OC) symptoms in a Turkish sample. The sample of the present study was comprised of 179 non-clinical, community-based participants who completed measures of OC symptoms (measured with the Obsessive Compulsive Inventory—Revised), magical thinking (measured with the Magical Ideation Scale), religiosity, and thought-control strategies (measured with the Thought Control Questionnaire). Both worry and punishment as thought-control strategies and magical thinking mediated the links between religiosity and OC symptoms. Furthermore, the relationship between religiosity and OC symptoms was mediated by magical thinking through punishment and worry.

- Hasanshahi, Maryam & Maryam Amidi Mazaheri. 2016. The Effects of Education on Spirituality through Virtual Social Media on the Spiritual Well-Being of the Public Health Students of Isfahan University of Medical Sciences in 2015. *International Journal of Community Based Nursing and Midwifery* 4(2). 168–175.

A semi-experimental, pre-test, post-test study was conducted on 50 undergraduate public health students (47 women; age range 18-30 years) of Isfahan University of Medical Sciences through convenience and purposive sampling. The educational content of spirituality education was used to promote and improve spiritual well-being, being sent by using one of the mobile phone applications. Using spiritual well-being questionnaire, the level of the individuals' spiritual well-being before and after the educational was evaluated. In total, 50 students including 3 men and 47 women participated in the study. About 68% of the students were single and the remaining were married. The score of the participants' spiritual well-being was 96.5 before the intervention and it increased to 103.3 after the

intervention. The result of the analysis by t-test on the two groups showed that spirituality education can cause a significant increase in peoples' spiritual well-being.

Ho, Rainbow Tin Hung, Caitlin Kar Pui Chan, Phyllis Hau Yan Lo, Ping Ho Wong, Cecilia Lai Wan Chan, Pamela Pui Yu Leung & Eric Yu Hai Chen. 2016. Understandings of spirituality and its role in illness recovery in persons with schizophrenia and mental-health professionals: a qualitative study. *BMC Psychiatry* 16(1). 86.
doi:10.1186/s12888-016-0796-7.

Spirituality has received increased attention in the psychiatric literature; however, it remains underexplored on a global level. Knowledge about spirituality of persons with schizophrenia is often hampered by positive and negative symptoms, which limit their expression of spiritual needs and shift mental-health professionals' focus from spiritual care to symptom control. Differences in the ways that the two parties understand spirituality may create different expectations and further hinder the provision of high-quality holistic care. This study investigated the meaning and roles of spirituality from the perspectives of persons with schizophrenia and mental-health professionals. A qualitative design with semi-structured individual interviews was adopted. The analysis was based on data collected from interviews with 18 clients diagnosed with schizophrenia and 19 mental-health professionals from public hospitals and mental-health community rehabilitation centers in Hong Kong. Data were collected and analyzed based on grounded theory principles. Both clients and professionals regarded spirituality as an inherent part of a person's well-being, clients' rehabilitation, and their lives in general. At the personal level, the clients' descriptions were more factual, concrete, short term, and affective, whereas the professionals' descriptions were more abstract, complex, and cognitive. At the communal level, both parties had a similar understanding of spirituality but different interpretations of its role in recovery from mental illness. The clients regarded spirituality as a source of giving and receiving love and care, whereas the professionals regarded it as a means of receiving support and managing symptoms.

King, Anthony P., Stefanie R. Block, Rebecca K. Sripada, Sheila Rauch, Nicholas Giardino, Todd Favorite, Michael Angstadt, Daniel Kessler, Robert Welsh & Israel Liberzon. 2016. Altered Default Mode Network (DMN) Resting State Functional Connectivity Following a Mindfulness-Based Exposure Therapy for Posttraumatic Stress Disorder (PTSD) in Combat Veterans of Afghanistan and Iraq. *Depression and Anxiety* 33(4). 289–299.
doi:10.1002/da.22481.

Recent studies suggest that mindfulness may be an effective component for posttraumatic stress disorder (PTSD) treatment. Mindfulness involves practice in volitional shifting of attention from "mind wandering" to present-moment attention to sensations, and cultivating acceptance. Researchers examined potential neural correlates of mindfulness training using a novel group therapy (mindfulness-based exposure therapy (MBET)) in combat veterans with PTSD deployed to Afghanistan (OEF) and/or Iraq (OIF). Twenty-three male OEF/OIF combat veterans with PTSD were treated with a mindfulness-based intervention (n=14) or an active control group therapy (present-centered group therapy (PCGT), n=9). Pre-post therapy functional magnetic resonance imaging examined resting-state functional connectivity (rsFC) in default mode network (DMN) using posterior cingulate cortex (PCC) and ventral medial prefrontal cortex (vmPFC) seeds, and salience network (SN) with anatomical amygdala seeds. PTSD symptoms were assessed at pre- and posttherapy with Clinician Administered PTSD Scale (CAPS). Patients treated with MBET had reduced PTSD symptoms but effect was not significantly different from PCGT. Increased DMN rsFC (PCC seed) with dorsolateral prefrontal cortex (DLPFC) regions and dorsal anterior cingulate cortex (ACC) regions associated with executive control was seen following MBET. A group × time interaction found MBET showed increased connectivity with DLPFC and dorsal ACC following therapy; PCC-DLPFC connectivity was correlated with improvement in PTSD avoidant and hyperarousal symptoms. The authors conclude that increased connectivity between DMN and executive control regions following mindfulness training could underlie increased capacity for volitional shifting of attention. The increased PCC-DLPFC rsFC following MBET was

related to PTSD symptom improvement, pointing to a potential therapeutic mechanism of mindfulness-based therapies.

- Kraemer, Kristen M., Christina M. Luberto, Emily M. O'Bryan, Erica Mysinger & Sian Cotton. 2016. Mind-Body Skills Training to Improve Distress Tolerance in Medical Students: A Pilot Study. *Teaching and Learning in Medicine* 28(2). 219–228. doi:10.1080/10401334.2016.1146605.

Medical students face rigorous and stressful work environments, resulting in high rates of psychological distress. However, there has been a dearth of empirical work aimed at modifying risk factors for psychopathology among this at-risk group. Distress tolerance, defined as the ability to withstand emotional distress, is one factor that may be important in promoting psychological well-being in medical students. Thus, the aim of the current mixed-methods study was (a) to describe changes in facets of distress tolerance (i.e., emotional tolerance, absorption, appraisal, regulation) for medical students who completed a mind-body skills training group, and a no-intervention control group of students; (b) to examine the relationship between changes in psychological variables and changes in distress tolerance; and (c) to report students' perceptions of the mind-body group, with an emphasis on how the group may have affected personal and professional functioning due to improvements in distress tolerance. The mind-body program was an 11-week, 2-hour skills training group that focused on introducing, practicing, and processing mind-body skills such as biofeedback, guided imagery, relaxation, several forms of meditation (e.g., mindfulness), breathing exercises, and autogenic training. Participants were 52 first- and second-year medical students who participated in a mind-body group or a no-intervention control group and completed self-report measures before and after the 11-week period. Students in the mind-body group showed a modest improvement in all distress tolerance subscales over time, whereas the control group showed less consistent changes across most subscales. Students in the mind-body group qualitatively reported an improved ability to tolerate affective distress. Overall, improvements in psychological symptoms were associated with improvements in distress tolerance in the mind-body group but not in the control group.

- Nsamenang, Sheri A., Jameson K. Hirsch, Raluca Topciu, Andrew D. Goodman & Paul R. Duberstein. 2016. The interrelations between spiritual well-being, pain interference and depressive symptoms in patients with multiple sclerosis. *Journal of Behavioral Medicine* 39(2). 355–363. doi:10.1007/s10865-016-9712-3.

Depressive symptoms are common in individuals with multiple sclerosis (MS), and are frequently exacerbated by pain; however, spiritual well-being may allow persons with MS to more effectively cope with pain-related deficits in physical and role functioning. Researchers explored the associations between spiritual well-being, pain interference and depressive symptoms, assessing each as a potential mediator, in eighty-one patients being treated for MS, who completed self-report measures: Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale, Pain Effects Scale, and Center for Epidemiologic Studies Depression Scale Revised. At the bivariate level, spiritual well-being and its subscale of meaning and peace were negatively associated with depression and pain interference. In mediation models, depression was not related to pain interference via spiritual well-being, or to spiritual well-being via pain interference. Pain interference was related to depression via spiritual well-being and meaning/peace, and to spiritual well-being and meaning/peace via depressive symptoms. Finally, spiritual well-being and meaning/peace were related to depression via pain interference, and to pain interference via depressive symptoms. For patients with MS, a multi-faceted approach to treatment that includes pain reduction and promotion of spiritual well-being may be beneficial, although amelioration of depression remains a critical task.

- Reddish, Paul, Penny Tok & Radek Kundt. 2016. Religious Cognition and Behaviour in Autism: The Role of Mentalizing. *International Journal for the Psychology of Religion* 26(2). 95–112. doi:10.1080/10508619.2014.1003518.

Mentalizing, or theory of mind, has been argued to be critical for supporting religious beliefs and practices involving supernatural agents. As individuals with autism spectrum conditions have been found to have deficits in mentalizing, this raises the question as to how they may conceive of gods and behave in relation to gods. To examine this, researchers compared high-functioning individuals with autism spectrum conditions (HFA) to typically developing individuals across seven key aspects of religious cognition and behavior: (a) strength of belief, (b) anthropomorphism of god concepts, (c) felt closeness toward the god, (d) prayer habits, (e) attraction to prayer, (f) efficacy of prayer, and (g) a sense of agency while praying. A battery of mentalizing tasks was administered to measure mentalizing ability, along with the Autism-Spectrum Quotient. As expected, typically developing subjects performed better than HFA subjects in the advanced mentalizing task. However, no statistically significant differences were found with first-order and second-order false belief tasks. In contrast to predictions and previous research on the religiosity of HFA, these researchers found very little differences between the groups in their religious cognition and behavior. Moreover, the relationship between mentalizing ability and most of our measures of religious cognition and behavior was weak and negative. The data suggest that HFA's deficits in mentalizing appear to have only minimal impact on the way they interact and think about gods. The authors end the article by reevaluating the role mentalizing may have in religious cognition and behavior.

Saito, Chizuko, Tetsuo Ohmura, Hiroshi Higuchi & Shizuka Sato. 2016. Psychological Practices and Religiosity (Shukyosei) of People in Communities Affected by the Great East Japan Earthquake and Tsunami. *Pastoral Psychology* 65(2). 239–253.
doi:10.1007/s11089-015-0685-x.

This article reflects on certain cultural phenomena in the aftermath of the Great East Japan Earthquake of 2011 and discusses the significant role of Japanese religiosity (shukyosei) in mental health care practices. The authors introduce these cultural phenomena by presenting (1) the results of a survey related to the ritual of giving graduation certificates to children lost in the earthquake and (2) a case illustration reported by a Buddhist priest and clinical psychologist who performed many funeral services at a temporary morgue for the victims and their families. The issues of Japanese cultural contexts and the religiosity (shukyosei) of Japanese people will be also discussed. The authors propose that mental health care workers who engage in relief activities ought to understand the culturally and contextually sensitive religiosity of the people and community they are serving and explore ways to incorporate this religiosity in their clinical practices.

Spadaro, Kathleen C. & Diane F. Huncker. 2016. Exploring The Effects Of An Online Asynchronous Mindfulness Meditation Intervention With Nursing Students On Stress, Mood, And Cognition: A Descriptive Study. *Nurse Education Today* 39. 163–169.
doi:10.1016/j.nedt.2016.02.006.

Nurses returning to school while working, raising families, and maintaining other roles, can experience stress, mood changes and cognition disturbance that negatively impact their academic success. The objective of this study was to explore the effect of an online mindfulness meditation intervention with 26 distance nursing students on stress, mood and cognition. An 8 week online, asynchronous mindfulness intervention was provided through the learning management system with a 16 week follow-up. Outcome measures were the Perceived Stress Scale (PSS), Hospital Anxiety and Depression Scale (HADS), and Attention Network Test (ANT). Following intervention, stress was significantly reduced. A decreasing trend for anxiety was noted with significant difference between time points when practice frequency was weekly to daily.

Van Cappellen, Patty, Maria Toth-Gauthier, Vassilis Saroglou & Barbara L. Fredrickson. 2016. Religion and well-being: The mediating role of positive emotions. *Journal of Happiness Studies* 17(2). 485–505.
doi:10.1007/s10902-014-9605-5.

Research has consistently shown that endorsing a religion or spirituality is to some extent related to one's well-being. Common studied explanations tap into the social and cognitive aspects of religion and spirituality. The present research aims at understanding how religiosity and spirituality exert their impact on well-being and investigates the role of a surprisingly neglected mechanism: positive emotions. Two cross-sectional studies using a quantitative approach are presented. In two different contexts (churchgoers in a European country and US university employees interested in meditation), results showed that the relation between religion (Study 1), spirituality (Study 2) and well-being is mediated by positive emotions. Distinguishing between more and less relevant positive emotions in a religious/spiritual context, it was found that the effect was mediated by self-transcendent positive emotions (awe, gratitude, love, and peace) but not by other positive emotions (amusement and pride).

Wahbeh, Helané, Elena Goodrich, Elizabeth Goy & Barry S. Oken. 2016. Mechanistic Pathways of Mindfulness Meditation in Combat Veterans With Posttraumatic Stress Disorder. *Journal of Clinical Psychology* 72(4). 365–383.
doi:10.1002/jclp.22255.

This study's objective was to evaluate the effect of two common components of meditation (mindfulness and slow breathing) on potential mechanistic pathways. A total of 102 combat veterans with posttraumatic stress disorder (PTSD) were randomized to (a) the body scan mindfulness meditation (MM), (b) slow breathing (SB) with a biofeedback device, (c) mindful awareness of the breath with an intention to slow the breath (MM+SB), or (d) sitting quietly (SQ). Participants had 6 weekly one-on-one sessions with 20 minutes of daily home practice. The mechanistic pathways and measures were as follows: (a) autonomic nervous system (hyperarousal symptoms, heart rate [HR], and heart rate variability [HRV]); (b) frontal cortex activity (attentional network task [ANT] conflict effect and event-related negativity and intrusive thoughts); and (c) hypothalamic-pituitary-adrenal axis (awakening cortisol). PTSD measures were also evaluated. Following intervention, meditation participants had significant but modest within-group improvement in PTSD and related symptoms, although there were no effects between groups. Perceived impression of PTSD symptom improvement was greater in the meditation arms compared with controls. Resting respiration decreased in the meditation arms compared with SQ. For the mechanistic pathways, (a) subjective hyperarousal symptoms improved within-group (but not between groups) for MM, MM+SB, and SQ, while HR and HRV did not; (b) intrusive thoughts decreased in MM compared with MM+SB and SB, while the ANT measures did not change; and (c) MM had lower awakening cortisol within-group (but not between groups).

Wilchek-Aviad, Yael & Michal Malka. 2016. Religiosity, Meaning in Life and Suicidal Tendency Among Jews. *Journal of Religion and Health* 55(2). 480–494.
doi:10.1007/s10943-014-9996-y.

The study examines the impact that meaning in life, or lack thereof, has on suicidal tendencies among youth, as well as the nexus between level of religiosity, meaning in life and suicidal tendencies. Subjects were 450 students from both Jewish religious and Jewish secular schools aged 15-18. A significant and negative correlation was found between a sense of meaning in life and suicidal tendencies, beyond gender or level of religiosity. In addition, no difference was found in level of suicidal tendency between Jewish religious and Jewish secular youth; however, among Jewish religious teens, a lower level of depression was reported in comparison with their secular peers. The study therefore concludes that meaning in life is the dominant variable in minimizing suicidal tendencies among youth. The results of this study may promote the establishment of prevention, intervention and therapy plans, especially in the age range that is crucial for suicide. Such programs should be based upon finding meaning in life.

2.3 SPIRITUALITY & HEALTH: METHOD AND THEORY

Armon, Eitan, Nikola B. Kohls & James Giordano. 2016. On the viability of neurotechnology and mind-body methods in pediatric mental health: Perspectives on integrating new tools to complement old techniques. *European Journal of Integrative Medicine* 8(2). 137–140.

doi:10.1016/j.eujim.2015.12.011.

The techniques and tools of neurosciences have developed with ever increasing pace and sophistication. Calls for increased clinical translation of the European Union's Human Brain Project, ongoing activities of the United States' Brain Research through Advancing Innovative Neurotechnologies' (BRAIN) initiative, and a number of other international efforts in brain science orient the use of neurotechnology toward assessing and treating neuro-psychiatric conditions. This reflects, and may be important to support, recent World Health Organization and UNESCO directives to improve mental health, particularly in children and adolescents. In light of this, the authors of this article argue that it will be vital to encompass a broader scope of research, so as to examine both "high tech" and "low tech" approaches to mind-body therapeutics for neuropsychiatric disorders that may be of particular benefit in pediatric and adolescent patients. In this essay, the writers propose a four-fold paradigm that (1) engages use of new neurotechnologies (e.g.-functional neuroimaging; neurogenomics; neurofeedback; transcranial magnetic and/or electrical stimulation) to assess and affect neuropsychiatric state(s); (2) develops a more mechanistically-based integrative approach to treatment of neuropsychiatric disorders in pediatric and adolescent patients using both new, "high tech" (i.e., neurotechnology) and older "low tech" mindbody methods (e.g., meditation or mindfulness); (3) employs these methods in a bio-psychosocial framework; and (4) acknowledges and addresses technical and neuroethical problems arising in and from this approach.

Arousell, Jonna & Aje Carlbom. 2016. Culture and religious beliefs in relation to reproductive health. *Best Practice & Research. Clinical Obstetrics & Gynaecology* 32. (Migration – Impact on Reproductive Health). 77–87.

doi:10.1016/j.bpobgyn.2015.08.011.

An increasing number of contemporary research publications acknowledge the influence of religion and culture on sexual and reproductive behavior and health-care utilization. It is currently hypothesized that religious influences can partly explain disparities in sexual and reproductive health outcomes. In this paper, researchers will pay particular attention to Muslims in sexual and reproductive health care. This review reveals that knowledge about devout Muslims' own experience of sexual and reproductive health-care matters is limited, thus providing weak evidence for modeling of efficient practical guidelines for sexual and reproductive health care directed at Muslim patients. Successful outcomes in sexual and reproductive health of Muslims require both researchers and practitioners to acknowledge religious heterogeneity and variability, and individuals' possibilities to negotiate Islamic edicts. Failure to do so could lead to inadequate health-care provision and, in the worst case, to suboptimal encounters between migrants with Muslim background and the health-care providers in the receiving country.

Bayley-Veloso, René & Paul G. Salmon. 2016. Yoga in clinical practice. *Mindfulness* 7(2). 308–319.

doi:10.1007/s12671-015-0449-9.

As the popularity of yoga has increased in mainstream society, its role as a form of complementary healthcare in clinical settings continues to grow as well. However, until recently, the popularity of yoga as a cultural phenomenon has not been matched by a commensurate increase in the rigor of research methods designed to assess its effectiveness in healthcare settings. Because of yoga's growing popularity, it is important for clinicians to have an empirically based working knowledge of its potential benefits and limitations. This paper reviews 52 clinical research studies of yoga published since 2011, limiting attention exclusively to randomized controlled trials in the interest of both rigor and economy of space. Promising trends and persistent limitations in the literature are explored in depth. The majority of the studies reported positive outcomes in the yoga intervention groups, but further research is needed to validate yoga as an effective intervention for various populations.

Bergamo, David & Dawn White. 2016. Frequency of Faith and Spirituality Discussion in Health Care. *Journal of Religion and Health* 55(2). 618–630.

doi:10.1007/s10943-015-0065-y.

Faith and spirituality are important in the lives of many individuals, and therefore, many patients. This study was performed to determine whether faith and spirituality are active part of the healthcare field and patients' receipt of these sometimes delicate topics. The nuances of the concepts of faith, spirituality, and religion and their implications in the healthcare setting are discussed. Benefits and detriments of faith and spirituality are reviewed in terms of how they relate to the health of the patient and to the healthcare field. With the focus of healthcare shifting to holistic care, this conversation may be more necessary than ever in practice, yet it seems many providers are not discussing these matters with patients. The study analyzes whether healthcare providers are discussing these topics with patients and how the discussion is received or would be received by patients. Findings demonstrate the infrequency of the discussion regardless of the fact that the majority of patients consider themselves faithful or spiritual.

Best, Megan, Phyllis Butow & Ian Olver. 2016. Doctors discussing religion and spirituality: A systematic literature review. *Palliative Medicine* 30(4). 327–337.
doi:10.1177/0269216315600912.

Discussion of religion and/or spirituality in the medical consultation is desired by patients and known to be beneficial. However, it is infrequent. The present writers aimed to identify why this is so by answering the following research questions: Do doctors report that they ask their patients about religion and/or spirituality and how do they do it? According to doctors, how often do patients raise the issue of religion and/or spirituality in consultation and how do doctors respond when they do? What are the known facilitators and barriers to doctors asking their patients about religion and/or spirituality? A mixed qualitative/quantitative review was conducted to identify studies exploring the physician's perspective on discussion of religion and/or spirituality in the medical consultation. Overall, 61 eligible papers were identified, comprising over 20,044 physician reports. Religion and spirituality are discussed infrequently by physicians although frequency increases with terminal illness. Many physicians prefer chaplain referral to discussing religion and/or spirituality with patients themselves. Such discussions are facilitated by prior training and increased physician religiosity and spirituality. Insufficient time and training were the most frequently reported barriers.

Chaiviboontham, Suchira, Noppawan Phinitkhajorndech, Somchit Hanucharurnkul & Thaniya Noipieng. 2016. Psychometric properties of the Thai Spiritual Well-Being Scale. *Palliative & Supportive Care* 14(2). 109–117.
doi:10.1017/S1478951515000024.

The purpose of this study was to investigate the psychometric properties of the modified Thai Spiritual Well-Being Scale in patients with advanced cancer. This cross-sectional study was employed to investigate psychometric properties. Some 196 participants from three tertiary hospitals in Bangkok and suburban Thailand were asked to complete a Personal Information Questionnaire (PIQ), the Memorial Symptom Assessment Scale (MSAS), and the Spiritual Well-Being Scale (SWBS). Validity was determined by known-group, concurrent, and constructs validity. Three factors were extracted: so-called existential well-being, religious well-being, and peacefulness accounted for 71.44% of total variance. These findings indicate that the Thai SWBS is a valid and reliable instrument, and it presented one more factor than the original version.

Cullen, John G. 2016. Nursing management, religion and spirituality: a bibliometric review, a research agenda and implications for practice. *Journal of Nursing Management* 24(3). 291–299.
doi:10.1111/jonm.12340.

This article aims to contribute to the growing field of spirituality and nursing management by analyzing bibliographic data on peer-reviewed research in the field. Articles on spirituality and nursing management often claim that these fields have grown over the past two decades. This article gathers empirical evidence to test these claims. Bibliometric data on peer-reviewed research articles on nursing, nursing management, spirituality and religion in the Social Sciences Citation Index were analyzed to ascertain general trends in publication and citation. The data support

claims that research activity and interest in both spirituality and religion in the field of nursing have grown steeply over recent years, and continue to accelerate.

- Derose, Kathryn Pitkin, David E. Kanouse, Laura M. Bogart, Beth Ann Griffin, Ann Haas, Brian D. Stucky, Malcolm V. Williams & Karen R. Flórez. 2016. Predictors of HIV-related stigmas among African American and Latino religious congregants. *Cultural Diversity & Ethnic Minority Psychology* 22(2). 185–195.
doi:10.1037/cdp0000062.

The objective of this study was to inform church-based stigma interventions by exploring dimensions of HIV stigma among African American and Latino religious congregants and determining how these are related to drug addiction and homosexuality stigmas and knowing someone HIV-positive. Researchers arranged for in-person, self-administered surveys of congregants 18+ years old across 2 African American and 3 Latino churches (n=1,235, response rate 73%) in a western U.S. city with high HIV prevalence. Measures included 12 items that captured dimensions of HIV stigma, a 5-item scale that assessed attitudes toward people who are addicted to drugs, a 7-item scale assessing attitudes toward homosexuality, and questions regarding sociodemographic information and previous communication about HIV. Of the survey participants, 63.8% were women, mean age was 40.2 years, and 34.4% were African American, 16.8% were U.S.-born Latinos, 16.0% were foreign-born, English-speaking Latinos, and 32.9% were foreign-born, Spanish-speaking Latinos. Exploratory and confirmatory factor analyses identified 4 dimensions of HIV stigma: discomfort interacting with people with HIV (4 items, $\alpha=.86$), feelings of shame “if you had HIV” (3 items, $\alpha=.78$), fears of rejection “if you had HIV” (3 items, $\alpha=.71$), and feelings of blame toward people with HIV (2 items, $\alpha=.65$). Across all dimensions, after controlling for sociodemographic characteristics and previous communication about HIV, knowing someone with HIV was associated with lower HIV stigma, and greater stigma concerning drug addiction and homosexuality were associated with higher HIV stigma.

- Dobratz, Marjorie C. 2016. Building a Middle-Range Theory of Adaptive Spirituality. *Nursing Science Quarterly* 29(2). 146–153.
doi:10.1177/0894318416630090.

The purpose of this article is to describe a Roy adaptation model based research abstraction, the findings of which were synthesized into a middle-range theory (MRT) of adaptive spirituality. The published literature yielded 21 empirical studies that investigated religion/spirituality. Quantitative results supported the influence of spirituality on quality of life, psychosocial adjustment, well-being, adaptive coping, and the self-concept mode. Qualitative findings showed the importance of spiritual expressions, values, and beliefs in adapting to chronic illness, bereavement, death, and other life transitions. These findings were abstracted into six theoretical statements, a conceptual definition of adaptive spirituality, and three hypotheses for future testing.

- Galiatsatos, Panagis, Maiju Lehmijoki-Gardner & W. Daniel Hale. 2016. A Brief Historical Review of Specific Religious Denominations: How History Influences Current Medical-Religious Partnerships. *Journal of Religion and Health* 55(2). 587–592.
doi:10.1007/s10943-015-0123-5.

Improving health care in the twenty-first century will require new and creative approaches, with special attention given to health literacy and patient engagement since these two variables play a significant role in chronic health issues and their management. In order to better improve these key variables, strong partnerships between patients, their communities, and medical institutions must be developed. One way of facilitating these relationships is through medical-religious partnerships. Religious leaders are in regular contact with people who need education about and support with health issues. However, identifying the most effective way to approach specific congregations can pose a challenge to healthcare providers and institutions. In this paper, researchers provide a brief historical review of certain religious traditions and how their history plays a role in current medical-religious partnerships.

Gilgun, Jane F. & Gwendolyn Anderson. 2016. Mothers' Experiences with Pastoral Care in Cases of Child Sexual Abuse. *Journal of Religion and Health* 55(2). 680–694.

doi:10.1007/s10943-015-0092-8.

This article reports on case study research with four mothers who asked for help from their pastors when they learned, or had reason to believe, that their husbands had sexually abused children in their families. In their own words, mothers gave accounts of how the pastors responded. Some were helpful and knowledgeable, some appeared bewildered, and others were hostile and blaming toward the women. This article will sensitize pastors and other pastoral counselors to issues that child sexual abuse raises. In addition, the research responds to previous observations about the scarcity of knowledge on whether religion helps or harms families during times of stress.

Grossoehme, Daniel H., Alexis Teeters, Sue Jelinek, Sophia M. Dimitriou & Lee Ann E. Conard. 2016. Screening for Spiritual Struggle in an Adolescent Transgender Clinic: Feasibility and Acceptability. *Journal of Health Care Chaplaincy* 22(2). 54–66.

doi:10.1080/08854726.2015.1123004.

Spiritual struggles are associated with poorer health outcomes, including depression, which has higher prevalence among transgender individuals than the general population. This study's objective was to improve the quality of care in an outpatient transgender clinic by screening patients and caregivers for spiritual struggle and future intervention. The quality improvement questions addressed were whether screening for spiritual struggle was feasible and acceptable; and whether the sensitivity and specificity of the Rush Protocol were acceptable. Revision of the screening was based on cognitive interviews with the 115 adolescents and caregivers who were screened. Prevalence of spiritual struggle was 38-47%. Compared to the Negative R-COPE, the Rush Protocol screener had sensitivities of 44-80% and specificities of 60-74%. The Rush Protocol was: acceptable to adolescents seen in a transgender clinic, caregivers, and clinic staff; feasible to deliver during outpatient clinic visits; and, offers a straightforward means of identifying transgender persons and caregivers experiencing spiritual struggle.

Hemming, Patrick, Paula J. Teague, Thomas Crowe & Rachel Levine. 2016. Chaplains on the Medical Team: A Qualitative Analysis of an Interprofessional Curriculum for Internal Medicine Residents and Chaplain Interns. *Journal of Religion and Health* 55(2). 560–571.

doi:10.1007/s10943-015-0158-7.

Improved collaboration between physicians and chaplains has the potential to improve patient experiences. To better understand the benefits and challenges of learning together, the authors conducted several focus groups with participants in an interprofessional curriculum that partnered internal medicine residents with chaplain interns in the clinical setting. The authors derived four major qualitative themes from the transcripts: (1) physician learners became aware of effective communication skills for addressing spirituality. (2) Chaplain interns enhanced the delivery of team-based patient-centered care. (3) Chaplains were seen as a source of emotional support to the medical team. (4) The partnership has three keys to success: adequate introductions for team members, clear expectations for participants, and opportunities for feedback. The themes presented indicate several benefits of pairing physicians and chaplains in the setting of direct patient care and suggest that this is an effective approach to incorporating spirituality in medical training.

Hodge, David R., Christopher P. Salas-Wright & Robert J. Wolosin. 2016. Addressing Spiritual Needs and Overall Satisfaction With Service Provision Among Older Hospitalized Inpatients. *Journal of Applied Gerontology* 35(4). 374–400.

doi:10.1177/0733464813515090.

Little research has examined the relationship between addressing older adults' spiritual needs and overall satisfaction with service provision during hospitalization, despite the importance of spirituality and religion to most older adults. This study examined this relationship, in tandem with the effects of eight potential mediators. Toward this end,

structural equation modeling was used with a sample of 4,112 adults age 65 and older who were consecutively discharged over a 12-month period from hospitals in California, Texas, and New England. As hypothesized, addressing spiritual needs was positively associated with overall satisfaction. The relationship between spiritual needs and satisfaction was fully mediated by seven variables: nursing staff, the discharge process, visitors, physicians, the admissions process, room quality, and the administration of tests and treatments. The diverse array of mediating pathways identified highlights the importance of health care practitioners working collaboratively to address older adults' spiritual needs.

- Hull, Christopher E., Elisabeth C. Suarez & David Hartman. 2016. Developing Spiritual Competencies in Counseling: A Guide for Supervisors. *Counseling & Values* 61(1). 111–126. doi:10.1002/cvj.12029.

The recently established competencies for addressing spiritual and religious issues in counseling (Association of Spiritual, Ethical, and Religious Values in Counseling) provide guidelines for counselors to implement in conjunction with evidence-based counseling practices. These spiritual competencies complement the ethics code established by the American Counseling Association in promoting increased cross-cultural sensitivity and proficiency in counseling. Supervisory tools that promote the ethical and spiritual development of counseling trainees are identified and described.

- Johnstone, Brick, Braj Bhushan, Robin Hanks, Dong Pil Yoon & Daniel Cohen. 2016. Factor Structure of the Brief Multidimensional Measure of Religiousness/Spirituality in US and Indian Samples with Traumatic Brain Injury. *Journal of Religion and Health* 55(2). 572–586. doi:10.1007/s10943-015-0170-y.

The aim of this paper was to determine the factor structure of the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS) based on a sample of individuals from diverse cultures (i.e., USA, India), ethnicities (i.e., Caucasian, African-American, South Asian), and religions (i.e., Christian, Muslim, Hindu). A total of 109 individuals with traumatic brain injury (TBI) were included. Participants completed the BMMRS as part of a broader study on spirituality, religion, prosocial behaviors, and neuropsychological function. A principal components factor analysis with varimax rotation and Kaiser normalization identified a six-factor solution accounting for 72 % of the variance in scores. Five of the factors were deemed to be interpretable and were labeled based on face validity as: (1) Positive Spirituality/Religious Practices; (2) Positive Congregational Support; (3) Negative Spirituality/Negative Congregational Support; (4) Organizational Religion; and (5) Forgiveness. The results were generally consistent with previous studies, suggesting the existence of universal religious, spiritual, and congregational support factors across different cultures and faith traditions. For health outcomes research, it is suggested that the BMMRS factors may be best conceptualized as measuring the following general domains: (a) emotional connectedness with a higher power (i.e., spirituality, positive/negative); (b) culturally based behavioral practices (i.e., religion); and (c) social support (i.e., positive/negative). The results indicate that factor relationships may differ among spiritual, religious, and congregational support variables according to culture and/or religious tradition.

- Kopacz, Marek S., Jason A. Nieuwsma, George L. Jackson, Jeffrey E. Rhodes, William C. Cantrell, Mark J. Bates & Keith G. Meador. 2016. Chaplains' Engagement with Suicidality among Their Service Users: Findings from the VA/DoD Integrated Mental Health Strategy. *Suicide & Life-Threatening Behavior* 46(2). 206–212. doi:10.1111/sltb.12184.

Chaplains play an important role in supporting the mental health of current and former military personnel. In this study, the engagement of Department of Veterans Affairs (VA), Army, Navy, and Air Force chaplains with suicidality among their service users were examined. An online survey was used to collect data from 440 VA and 1,723 Department of Defense (DoD) chaplains as part of the VA/DoD Integrated Mental Health Strategy.

Differences were noted for demographics, work setting characteristics, encountering suicidality, and self-perceived preparation for dealing with suicidality. Compared to DoD chaplains, VA chaplains encounter more at-risk service users, yet feel less prepared for dealing with suicidality.

- Krägeloh, Christian U. 2016. Importance of Morality in Mindfulness Practice. *Counseling & Values* 61(1). 97–110.
doi:10.1002/cvj.12028.

As the result of secularization and adaption of mindfulness practices from Buddhism, elements specific to culture and religion have been removed, now drawing criticism that mindfulness training has lost its original ethical characteristics. This article argues that the lack of formal coverage of morality in mindfulness-based programs does not imply that morality plays no part, and that participants independently contextualize their mindfulness practice by drawing on their own sense of morality. Therefore, awareness of the role of morality in mindfulness practice is important for counselors, who can assist their clients with integrating their mindfulness practice with their own worldviews and ethical frameworks.

- LeBaron, Virginia T., Patrick T. Smith, Rebecca Quiñones, Callie Nibecker, Justin J. Sanders, Richard Timms, Alexandra E. Shields, Tracy A. Balboni & Michael J. Balboni. 2016. How Community Clergy Provide Spiritual Care: Toward a Conceptual Framework for Clergy End-of-Life Education. *Journal of Pain and Symptom Management* 51(4). 673–681.
doi:10.1016/j.jpainsymman.2015.11.016.

Community-based clergy are highly engaged in helping terminally ill patients address spiritual concerns at the end of life (EOL). Despite playing a central role in EOL care, clergy report feeling ill-equipped to spiritually support patients in this context. Significant gaps exist in understanding how clergy beliefs and practices influence EOL care. The objective of this study was to propose a conceptual framework to guide EOL educational programming for community-based clergy. This was a qualitative, descriptive study. Clergy from varying spiritual backgrounds, geographical locations in the U.S., and race/ethnicities were recruited and asked about optimal spiritual care provided to patients at the EOL. Interviews were audio taped, transcribed, and analyzed following principles of grounded theory. A final set of themes and subthemes were identified through an iterative process of constant comparison. Participants also completed a survey regarding experiences ministering to the terminally ill. A total of 35 clergy participated in 14 individual interviews and two focus groups. Primary themes included Patient Struggles at EOL and Clergy Professional Identity in Ministering to the Terminally Ill. Patient Struggles at EOL focused on existential questions, practical concerns, and difficult emotions. Clergy Professional Identity in Ministering to the Terminally Ill was characterized by descriptions of Who Clergy Are (“Being”), What Clergy Do (“Doing”), and What Clergy Believe (“Believing”). “Being” was reflected primarily by manifestations of presence; “Doing” by subthemes of religious activities, spiritual support, meeting practical needs, and mistakes to avoid; “Believing” by subthemes of having a relationship with God, nurturing virtues, and eternal life. Survey results were congruent with interview and focus group findings.

- Li, Michael J., David S. Black & Eric L. Garland. 2016. The Applied Mindfulness Process Scale (AMPS): A process measure for evaluating mindfulness-based interventions. *Personality and Individual Differences* 93. (Individual Differences in Mindfulness). 6–15.
doi:10.1016/j.paid.2015.10.027.

Mindfulness-based interventions (MBIs) include the application of meditation and mind-body practices used to promote mindful awareness in daily life. Operationalizing the construct of mindfulness is important in order to determine mechanisms of therapeutic change elicited by mindfulness practice. In addition to existing state and trait measures of mindfulness, process measures are needed to assess the ways in which individuals apply mindfulness in the context of their practice. This report details three independent studies (qualitative interview, n=8; scale validation, n=134; and replication study, n=180) and the mixed qualitative-quantitative methodology used to

develop and validate the Applied Mindfulness Process Scale (AMPS), a 15-item process measure designed to quantify how mindfulness practitioners actively use mindfulness to remediate psychological suffering in their daily lives. In Study 1, cognitive interviewing yielded a readily comprehensible and accessible scale of 15 items. In Study 2, exploratory factor analysis derived a potential three-factor solution: decentering, positive emotion regulation, and negative emotion regulation. In Study 3, confirmatory factor analysis verified better model fit with the three-factor structure over the one-factor structure.

- Musah, Adam A. & Ronald P. Hudak. 2016. Religious Barriers to Health for Members of the Bronx Ghanaian Immigrant Muslim Community in New York City. *Journal of Religion and Health* 55(2). 671–679.
doi:10.1007/s10943-015-0091-9.

This research investigated the influence of religious beliefs, as well as education, immigration status, and health insurance status, on the perceived access and willingness to use healthcare services by the Bronx Ghanaian Immigrant Muslim Community (BGIMC) in New York City. A survey was administered to 156 male and female BGIMC members. Members with insurance were nine times more likely to report access to health care and almost seven times more likely to use healthcare services in the past 12 months. Immigration status, health insurance status, and education did not predict willingness to use health care for a broken arm nor for a severe fever but did predict willingness to use health care when experiencing dizziness. Understanding the social and religious factors related to the use of healthcare services should lead to tailored health insurance and access initiatives for the BGIMC and serve as a model for other immigrant communities in the USA.

- Otani, Akira. 2016. Hypnosis and Mindfulness: The Twain Finally Meet. *The American Journal of Clinical Hypnosis* 58(4). 383–398.
doi:10.1080/00029157.2015.1085364.

Mindfulness meditation (or simply mindfulness) is an ancient method of attention training. It has been practiced by Buddhists over 2,500 years as part of their spiritual training. The popularity in mindfulness has soared recently following its adaptation as Mindfulness-Based Stress Management by Jon Kabat-Zinn (1995). Mindfulness is often compared to hypnosis but not all assertions are accurate. This article, as a primer, delineates similarities and dissimilarities between mindfulness and hypnosis in terms of 12 specific facets, including putative neuroscientific findings. It also provides a case example that illustrates clinical integration of the two methods.

- Park, Crystal L., Kristen E. Riley & Tosca D. Braun. 2016. Practitioners' perceptions of yoga's positive and negative effects: Results of a National United States survey. *Journal of Bodywork and Movement Therapies* 20(2). 270–279.
doi:10.1016/j.jbmt.2015.11.005.

Yoga is becoming increasingly popular, yet little information is available regarding practitioners' perceptions of effects of their practice. This study aimed to characterize perceptions of both positive and negative changes practitioners reported in physical and psychosocial domains. Participants for this cross-sectional internet-based survey were yoga practitioners (n=542, including 162 teachers) recruited via email and flyers sent to yoga studios across the United States (US). Participants ranged in age from 18 to 85 years (M=44). Participants rated the extent to which they experienced positive or negative change in physical health and psychosocial dimensions and then listed up to three positive and three negative effects of their practice. Both students and teachers reported moderately high levels of positive physical changes and psychosocial changes, although teachers generally reported more positive changes. Few negative changes were reported. In open-ended responses, the most commonly reported positive effects were general health and fitness and relaxation. Most commonly reported negative effects were injuries, soreness, emotional triggers/irritability, and expense.

Pepping, Christopher A., Benjamin Walters, Penelope J. Davis & Analise O'Donovan. 2016. Why do people practice mindfulness? An investigation into reasons for practicing mindfulness meditation. *Mindfulness* 7(2). 542–547.

doi:10.1007/s12671-016-0490-3.

Mindfulness meditation leads to a range of positive outcomes, yet little is known about the motivation behind choosing to practice meditation. This research investigated reasons for commencing and continuing mindfulness meditation. In both qualitative and quantitative analyses, the most frequently cited reason for commencing and continuing meditation practice was to alleviate emotional distress and enhance emotion regulation. A substantial proportion of participants also reported continuing meditation to enhance well-being, though very few commenced or continued meditation practice for spiritual or religious reasons. In brief, the overwhelming majority of participants in the present study reported practicing mindfulness to alleviate emotional distress. Further research is needed to examine reasons for meditation across more diverse samples, and whether reasons for meditation differentially predict outcome.

Pesut, Barbara, Shane Sinclair, George Fitchett, Madeleine Greig & Sarah E. Koss. 2016. Health Care Chaplaincy: A Scoping Review of the Evidence 2009-2014. *Journal of Health Care Chaplaincy* 22(2). 67–84.

doi:10.1080/08854726.2015.1133185.

There is a growing body of evidence investigating chaplaincy services. The purpose of this scoping review was to examine the empirical literature specific to the role of chaplaincy within health care published since 2009. Electronic searches of four databases were conducted in August 2015. After screening, 48 studies were retained and reviewed. Four themes emerged: experiences and perceptions of the health care chaplain (n=15), chaplain practice (n=9), emerging areas of health care chaplaincy (n=16), and outcome studies (n=8). Studies were diverse in topics covered, methods, national contexts, and clinical settings. The majority were descriptive in nature. Evidence continues to demonstrate a relationship between chaplains and increased patient satisfaction. Nascent areas of research include chaplain's role with diverse populations, involvement in clinical ethics, and confidence with research and evidence-based practice. Few conclusions can be drawn from the limited evidence on the outcomes of chaplain interventions.

Petersen, Marian & Peter la Cour. 2016. Mindfulness-What Works for Whom? Referral, Feasibility, and User Perspectives Regarding Patients with Mixed Chronic Pain. *Journal of Alternative and Complementary Medicine* 22(4). 298–305.

doi:10.1089/acm.2015.0310.

The purpose of this study was to describe and predict the patients who would benefit from a mindfulness-based stress reduction (MBSR) course and those for whom the conditions or timing are not optimal. The hypothesis was that patients' sociodemographic status would affect the effectiveness of MBSR. Data were collected by using mixed methods. Quantitative data were collected from a group of 58 patients who completed health-related questionnaires and from an evaluation 6 months after completion of a mindfulness course. Qualitative data were collected from three focus group interviews and seven case stories. There were no significant differences in positive or negative outcomes after MBSR regarding any sociodemographic variables, and no clear predictors to identify patients best suited for participating in mindfulness were found. Techniques used by most patients (with or without positive outcome) were meditation and focus on breathing. Patients expressed positive feedback and reported positive changes they felt would last for the rest of their lives. Focusing on the issue of what works, four categories of interest were identified from the transcribed interviews: lessons learned, being oneself, permanence, and continuity as a condition for success.

Razzaque, Russell & Lisa Wood. 2016. Exploration of the effectiveness and acceptability of a professional mindfulness retreat for psychiatrists. *Mindfulness* 7(2). 340–348.

doi:10.1007/s12671-015-0443-2.

Mindfulness has a growing evidence base demonstrating its efficacy for mental health patients; however, less is known about its usefulness for psychiatric staff. This study aimed to evaluate the effectiveness of a newly developed mindfulness retreat designed for psychiatrists. Twenty-two consultant psychiatrists, two middle grade doctors and two trainees attended a mindfulness retreat designed by a consultant psychiatrist with long-term experience in mindfulness meditation, in collaboration with a Zen Master. The retreat lasted 2 days, was part silent and involved a range of mindfulness exercises, including meditation and mindful walking. Teaching was provided around establishing one's own regular practice, as well as how to teach patients to do the same. Questionnaires were distributed to participants before the retreat, immediately after and at 1-week follow-up to evaluate the retreat efficacy. Results illustrated that the retreat significantly increased perceived mindfulness and therapeutic alliance and significantly reduced burnout. This was further supported by a thematic analysis of retreat feedback which identified themes of individual development and retreat experience. The mindfulness retreat appeared to be an effective and acceptable intervention for psychiatrists.

Stewart, Jennifer M. & Keitra Thompson. 2016. Readiness to Implement HIV Testing in African-American Church Settings. *Journal of Religion and Health* 55(2). 631–640.
doi:10.1007/s10943-015-0068-8.

HIV and AIDS continue to impact Black Americans at disproportionately high rates. Promotion of HIV testing and linkage to care is a national health imperative for this population. As a pillar in the Black community, the Black Church could have a significant impact on the promotion of HIV testing within their churches and surrounding communities. Churches, however, have varied levels of involvement in testing. Furthermore, little is known about how to assess a church's readiness to integrate HIV testing strategies into its mission, much less how to promote this practice among churches. This qualitative study used interviews and focus groups with pastors and church leaders from four churches with varying levels of involvement in HIV testing to identify key stages in the progression of toward church-based HIV testing and linkage to care. Findings showed that churches progressed through levels of readiness, from refusal of the possibility of HIV interventions to full integration of HIV testing and linkage to care within the church.

Tartaglia, Alexander, Diane Dodd-McCue, Timothy Ford, Charles Demm & Alma Hassell. 2016. Chaplain Documentation and the Electronic Medical Record: A Survey of ACPE Residency Programs. *Journal of Health Care Chaplaincy* 22(2). 41–53.
doi:10.1080/08854726.2015.1071544.

This study explores the extent to which chaplaincy departments at ACPE-accredited residency programs make use of the electronic medical record (EMR) for documentation and training. Survey data solicited from 219 programs with a 45% response rate and interview findings from 11 centers demonstrate a high level of usage of the EMR as well as an expectation that CPE residents document each patient/family encounter. Centers provided considerable initial training, but less ongoing monitoring of chaplain documentation. Centers used multiple sources to develop documentation tools for the EMR. One center was verified as having created the spiritual assessment component of the documentation tool from a peer reviewed published model. Interviews found intermittent use of the student chart notes for educational purposes. One center verified a structured manner of monitoring chart notes as a performance improvement activity. Findings suggested potential for the development of a standard documentation tool for chaplain charting and training.

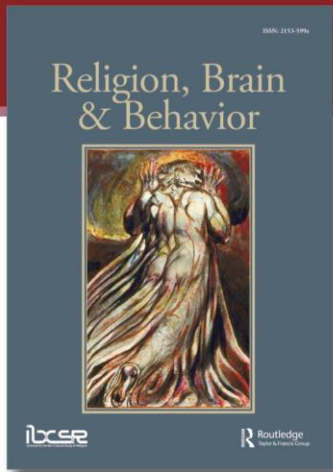
Vermandere, Mieke, Franca Warmenhoven, Evie Van Severen, Jan De Lepeleire & Bert Aertgeerts. 2016. Spiritual history taking in palliative home care: A cluster randomized controlled trial. *Palliative Medicine* 30(4). 338–350.
doi:10.1177/0269216315601953.

Many health-care providers experience barriers to addressing spiritual needs, such as not having the right vocabulary. The ars moriendi model might be a feasible tool for spiritual history taking in palliative care. The aim of this study

was to investigate the effect of a structured spiritual history taking on the spiritual well-being of palliative patients in home care. Experimental design was a cluster randomized controlled trial, conducted between February and October 2013. Registered nurses and general practitioners approached eligible patients with an incurable, life-threatening disease for study participation. Healthcare providers allocated to the intervention arm of the study took a spiritual history on the basis of the ars moriendi model. Health-care providers in the control arm provided care as usual. Patient-reported outcomes on spiritual well-being, quality of life, pain, and patient-provider trust were assessed at two points in time. A total of 245 health-care providers participated in the study (204 nurses and 41 physicians). In all, 49 patient-provider dyads completed the entire study protocol. The median age of the patients was 75 years (range: 41-95 years), and 55% of the patients were female. There were no significant differences at any point in time in the scores on spiritual well-being, quality of life, pain, or patient-provider trust between the intervention and the control group. This cluster randomized controlled trial showed no demonstrable effect of spiritual history taking on patient scores for spiritual well-being, quality of life, health-care relationship trust, or pain. Further research is needed to develop instruments that accurately assess the effectiveness of spiritual interventions in palliative care populations.

Weathers, Elizabeth, Geraldine McCarthy & Alice Coffey. 2016. Concept Analysis of Spirituality: An Evolutionary Approach. *Nursing Forum* 51(2). 79–96.
doi:10.1111/nuf.12128.

The aim of this article is to clarify the concept of spirituality for future nursing research. Previous concept analyses of spirituality have mostly reviewed the conceptual literature with little consideration of the empirical literature. The literature reviewed in prior concept analyses extends from 1972 to 2005, with no analysis conducted in the past 9 years. Rodgers' evolutionary framework was used to review both the theoretical and empirical literature pertaining to spirituality. Evolutionary concept analysis is a formal method of philosophical inquiry, in which papers are analyzed to identify attributes, antecedents, and consequences of the concept. Three defining attributes of spirituality were identified: connectedness, transcendence, and meaning in life. A conceptual definition of spirituality was proposed based on the findings. Also, four antecedents and five primary consequences of spirituality were identified. The authors conclude that spirituality is a complex concept. This concept analysis adds some clarification by proposing a definition of spirituality that is underpinned by both conceptual and empirical research. Furthermore, exemplars of spirituality, based on prior qualitative research, are presented to support the findings. Hence, the findings of this analysis could guide future nursing research on spirituality.



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