

RESEARCH REVIEW

A DIGEST OF NEW SCIENTIFIC RESEARCH CONCERNING RELIGION, BRAIN & BEHAVIOR NOVEMBER, 2014

INTRODUCTION

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

Articles for this issue were located by searching the following databases: H. W. Wilson Applied Science and Technology, ATLA Religion Database, H. W. Wilson General Science, PubMed, EBSCO Psychology and Behavioral Sciences Collection, PsycARTICLES, PsycINFO, ScienceDirect, and Web of Science. The search terms were altruism, god, goddess, meditat*, prayer, relig*, ritual, spiritu*, and yoga, tailored to the database being searched. Books were located on Amazon.com. Articles not directly relevant to the scientific study of religion were excluded, as were correspondence and reviews. From a universe of 726 articles, 97 articles have been retained from 70 journals. There are 46 pre-publication citations from 26 journals.

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PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

1.1 Scientific Study of Religion: Cognitive Neuroscience

Kalamangalam, Giridhar P. & Timothy M. Ellmore. 2014. Focal cortical thickness correlates of exceptional memory training in Vedic priests. *Frontiers in Human Neuroscience* 8. 833. doi:10.3389/fnhum.2014.00833.

The capacity for semantic memory, which is the ability to acquire and store knowledge of the world. is highly developed in the human brain. In particular, semantic memory assimilated through an auditory route may be a uniquely human capacity. One method of obtaining neurobiological insight into memory mechanisms is through the study of experts. In this article, the authors study a group of Hindu Vedic priests, whose religious training requires the memorization of vast tracts of scriptural texts through an oral tradition, recalled spontaneously during a lifetime of subsequent spiritual practice. The researchers demonstrate focal increases of cortical thickness in regions of the left prefrontal lobe and right temporal lobe in Vedic priests, in comparison to a group of matched controls. The findings are relevant to current hypotheses regarding cognitive processes underlying storage and recall of long-term declarative memory.

Kirk, Ulrich, Xiaosi Gu, Ann H. Harvey, Peter Fonagyd & P. Read Montague. 2014. Mindfulness training modulates value signals in ventromedial prefrontal cortex through input from insular cortex. *Neuroimage* 100. 254–262.

doi:10.1016/j.neuroimage.2014.06.035.

Neuroimaging research has demonstrated that ventromedial prefrontal cortex (vmPFC) encodes value signals that can be modulated by top-down cognitive input such as semantic knowledge, price incentives, and monetary favors suggesting that such biases may have an identified biological basis. It has been hypothesized that mindfulness training (MT) provides one path for gaining control over such top-down influences; however, there have been no

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Calendar year memberships US\$45 Discounts for retirees and students direct tests of this hypothesis. Here, researchers probe the behavioral and neural effects of MT on value signals in vmPFC in a randomized longitudinal design of 8 weeks of MT on an initially naive subject cohort. The impact of this within-subject training was assessed using two paradigms: one that employed primary rewards (fruit juice) in a simple conditioning task and another that used a well-validated art-viewing paradigm to test bias of monetary favors on preference. Results show that MT behaviorally censors the top-down bias of monetary favors through a measurable influence on value signals in vmPFC. MT also modulates value signals in vmPFC to primary reward delivery. Using a separate cohort of subjects it is also shown that 8 weeks of active control training (ACT) generates the same behavioral impact, also through an effect on signals in the vmPFC. Importantly, functional connectivity analyses show that value signals in vmPFC are coupled with bilateral posterior insula in the MT groups in both paradigms, but not in the ACT groups. These results suggest that MT integrates interoceptive input from insular cortex in the context of value computations of both primary and secondary rewards.

Marzetti, Laura, Claudia Di Lanzo, Filippo Zappasodi, Federico Chella, Antonino Raffone & Vittorio Pizzella. 2014. Magnetoencephalographic alpha band connectivity reveals differential default mode network interactions during focused attention and open monitoring meditation. *Frontiers in Human Neuroscience* 8. 832. doi:10.3389/tnhum.2014.00832.

According to several conceptualizations of meditation, the interplay between brain systems associated to self-related processing, attention and executive control is crucial for meditative states and related traits. Researchers used magnetoencephalography (MEG) to investigate such interplay in a highly selected group of "virtuoso" meditators (Theravada Buddhist monks), with long-term training in the two main meditation styles: focused attention (FA) and open monitoring (OM) meditation. Specifically, the authors investigated the differences between FA meditation, OM meditation and resting state in the coupling between the posterior cingulate cortex, core node of the Default Mode Network (DMN) implicated in mind wandering and self-related processing, and the whole brain, with a recently developed phase coherence approach. Findings showed a state dependent coupling of posterior cingulate cortex (PCC) to nodes of the DMN and of the executive control brain network in the alpha frequency band (8-12 Hz), related to different attentional and cognitive control processes in FA and OM meditation, consistently with the putative role of alpha band synchronization in the functional mechanisms for attention and consciousness. The coupling of PCC with left medial prefrontal cortex (ImPFC) and superior frontal gyrus characterized the contrast between the two meditation styles in a way that correlated with meditation expertise. These correlations may be related to a higher mindful observing ability and a reduced identification with ongoing mental activity in more expert meditators. Notably, different styles of meditation and different meditation expertise appeared to modulate the dynamic balance between fronto-parietal (FP) and DMN networks. These results support the idea that the interplay between the DMN and the FP network in the alpha band is crucial for the transition from resting state to different meditative states.

Pike, Chris, David Vernon & Lea A. Hald. 2014. Asymmetric Activation of the Anterior Cerebral Cortex in Recipients of IRECA: Preliminary Evidence for the Energetic Effects of an Intention-Based Biofield Treatment Modality on Human Neurophysiology. *Journal of Alternative and Complementary Medicine* 20(10). 780–786. doi:10.1089/acm.2014.0074.

Neurophysiologic studies of mindfulness link the health benefits of meditation to activation of the left-anterior cerebral cortex. The similarity and functional importance of intention and attentional stance in meditative and biofield therapeutic practices suggest that modulation of recipient anterior asymmetric activation may mediate the energetic effects of intention-based biofield treatments as well. The aim of the current study was to test this hypothesis by using a treatment modality known as IRECA (Istituto di Ricerca sull'Energia Cosmica Applicata). For this study, participants' (n=21) electroencephalograms (EEG) were recorded over a 5-minute recovery period (subdivided into three 100-second intervals) while participants received genuine IRECA, placebo

treatment, or no treatment, after completion of a cognitively demanding task. In line with predictions, recipients of IRECA showed enhanced left-anterior activation of the cerebral cortex relative to placebo and no-treatment controls (as indicated by significantly higher and significantly positive Alpha Asymmetry Index scores) during the first 100 seconds of treatment, and they reported greater overall reduction in state anxiety relative to baseline measures. The current study provides preliminary supporting evidence for an intention-based biofield therapeutic modality offsetting the negative effects of stress via sympathetic activation of recipients' left-anterior cerebral cortex.

Reva, N. V., S. V. Pavlov, K. V. Loktev, V. V. Korenyok & L. I. Aftanas. 2014. Influence of Long-Term Sahaja Yoga Meditation Practice on Emotional Processing in the Brain: An ERP Study. *Neuroscience* 281. 195–201.

doi:10.1016/j.neuroscience.2014.09.053.

Despite growing interest in meditation as a tool for alternative therapy of stress-related and psychosomatic diseases, brain mechanisms of beneficial influences of meditation practice on health and quality of life are still unclear. The authors of the present article propose that the key point is a persistent change in emotional functioning, specifically the modulation of the early appraisal of motivational significance of events. The main aim of this research was to study the effects of long-term meditation practice on event-related brain potentials (ERPs) during affective picture viewing. ERPs were recorded in 20 long-term Sahaja Yoga meditators and 20 control subjects without prior experience in meditation. The meditators' mid-latency (140-400 ms) ERPs were attenuated for both positive and negative pictures (i.e. there were no arousal-related increases in ERP positivity) and this effect was more prominent over the right hemisphere. However, no differences were found in the long latency (400-800 ms) responses to emotional images, associated with meditation practice. In addition researchers also found stronger ERP negativity in the time window 200-300 ms for meditators compared to the controls, regardless of picture valence. The authors conclude that long-term meditation practice enhances frontal top-down control over fast automatic salience detection, based on amygdala functions.

Villemure, Chantal, Marta Ceko, Valerie A. Cotton & M. Catherine Bushnell. 2014. Insular Cortex Mediates Increased Pain Tolerance in Yoga Practitioners. *Cerebral Cortex* 24(10). 2732–2740. doi:10.1093/cercor/bht124.

Yoga, an increasingly popular discipline among Westerners, is frequently used to improve painful conditions. The present group of researchers investigated possible neuroanatomical underpinnings of the beneficial effects of yoga using sensory testing and magnetic resonance imaging techniques. North American yogis tolerated pain more than twice as long as individually matched controls and had more gray matter (GM) in multiple brain regions. Across subjects, insular GM uniquely correlated with pain tolerance. Insular GM volume in yogis positively correlated with yoga experience, suggesting a causal relationship between yoga and insular size. Yogis also had increased left intrainsular white matter integrity, consistent with a strengthened insular integration of nociceptive input and parasympathetic autonomic regulation. Yogis, as opposed to controls, used cognitive strategies involving parasympathetic activation and interoceptive awareness to tolerate pain, which could have led to use-dependent hypertrophy of insular cortex. Together, these findings suggest that regular and long-term yoga practice improves pain tolerance in typical North Americans by teaching different ways to deal with sensory inputs and the potential emotional reactions attached to those inputs leading to a change in insular brain anatomy and connectivity.

1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Bastian, Brock, Jolanda Jetten & Laura J. Ferris. 2014. Pain as social glue: Shared pain increases cooperation. *Psychological Science* 25(11). 2079–2085. doi:10.1177/0956797614545886.

Even though painful experiences are employed within social rituals across the world, little is known about the social effects of pain. For this study, researchers examined the possibility that painful experiences can promote

cooperation within social groups. In Experiments 1 and 2, the researchers induced pain by asking some participants to insert their hands in ice water and to perform leg squats. In Experiment 3, they induced pain by asking some participants to eat a hot chili pepper. Participants performed these tasks in small groups. Evidence for a causal link was found: Sharing painful experiences with other people, compared with a no-pain control treatment, promoted trusting interpersonal relationships by increasing perceived bonding among strangers (Experiment 1) and increased cooperation in an economic game (Experiments 2 and 3). These findings shed light on the social effects of pain, demonstrating that shared pain may be an important trigger for group formation.

Botero, Carlos A., Beth Gardner, Kathryn R. Kirby, Joseph Bulbulia, Michael C. Gavin & Russell D. Gray. 2014. The ecology of religious beliefs. *Proceedings of the National Academy of Sciences of the United States of America* 111(47). 16784–16789. doi:10.1073/pnas.1408701111.

Although ecological forces are known to shape the expression of sociality across a broad range of biological taxa, their role in shaping human behavior is currently disputed. Both comparative and experimental evidence indicate that beliefs in moralizing high gods promote cooperation among humans, a behavioral attribute known to correlate with environmental harshness in nonhuman animals. Here researchers combine fine-grained bioclimatic data with the latest statistical tools from ecology and the social sciences to evaluate the potential effects of environmental forces, language history, and culture on the global distribution of belief in moralizing high gods (n=583 societies). After simultaneously accounting for potential nonindependence among societies because of shared ancestry and cultural diffusion, they find that these beliefs are more prevalent among societies that inhabit poorer environments and are more prone to ecological duress. In addition, it is found that these beliefs are more likely in politically complex societies that recognize rights to movable property. Overall, the multimodel inference approach predicts the global distribution of beliefs in moralizing high gods with an accuracy of 91%, and estimates the relative importance of different potential mechanisms by which this spatial pattern may have arisen. The emerging picture is neither one of pure cultural transmission nor of simple ecological determinism, but rather a complex mixture of social, cultural, and environmental influences. These methods and findings provide a blueprint for how the increasing wealth of ecological, linguistic, and historical data can be leveraged to understand the forces that have shaped the behavior of the human species.

Ferrero, Mario. 2014. From Jesus to Christianity: The economics of sacrifice. Rationality and Society 26(4). 397–424. doi:10.1177/1043463114546314.

This article models the birth of a new religion from the ashes of apocalyptic prophecy. Christianity started around the imminent expectation of God's Kingdom. Followers forsook worldly opportunities to prepare for the event. As the Kingdom's arrival tarried, they found themselves "trapped" because those sacrifices—like transaction-specific investments—were wasted if they dropped out. This provided incentives to stay and transform the faith. Such effort, enhanced by reaction to the cognitive dissonance caused by prophecy failure, turned an apocalyptic movement into an established church. A survey of other apocalyptic groups confirms that dropout costs are critical to explaining outcomes.

Huang, Siyuan & Shihui Han. 2014. Shared beliefs enhance shared feelings: Religious/irreligious identifications modulate empathic neural responses. *Social Neuroscience* 9(6). 639–649.

Recent neuroimaging research has revealed stronger empathic neural responses to same-race compared to other-race individuals. Is the in-group favoritism in empathic neural responses specific to race identification or a more general effect of social identification, including those based on religious/irreligious beliefs? The present study investigated whether and how intergroup relationships based on religious/irreligious identifications modulate empathic neural responses to others' pain expressions. Researchers recorded event-related brain potentials from Chinese Christian and atheist participants while they perceived pain or neutral expressions of Chinese faces that were marked as

being Christians or atheists. It was found that both Christian and atheist participants showed stronger neural activity to pain (versus neutral) expressions at 132–168 ms and 200–320 ms over the frontal region to those with the same (versus different) religious/irreligious beliefs. The in-group favoritism in empathic neural responses was also evident in a later time window (412–612 ms) over the central/parietal regions in Christian but not in atheist participants. These results indicate that the intergroup relationship based on shared beliefs, either religious or irreligious, can lead to in-group favoritism in empathy for others' suffering.

Kim, Sunae & Paul L. Harris. 2014. Children prefer to learn from mind-readers. *British Journal of Developmental Psychology* 32(4). 375–387. doi:10.1111/bjdp.12044.

It has previously been shown that children selectively learned from an informant who produced apparently magical outcomes as compared to another informant who produced only ordinary outcomes in the domain of everyday physics. In the present study, researchers tested children's ability to differentiate between and selectively learn from informants who displayed either an extraordinary or an ordinary ability in the domain of everyday psychology. Prior studies have shown that children come to appreciate what is ordinarily involved in knowing the private mental states of other people. Drawing on this research, the current study asked whether 3- to 4-, and 5- to 6-year-old children preferentially learned from an informant who knew another person's mind via either an ordinary or an extraordinary form of communication. As compared to younger children, older children were more likely to learn from the extraordinary informant. Moreover, children's ability to differentiate between the two informants was a better predictor of their learning from the extraordinary informant than age. The authors discuss the findings in the light of prior work on selective learning, children's ideas about prayer and their understanding of impossibility.

Martin, Luther & Donald Wiebe. 2014. Pro- and Assortative-sociality in the Formation and Maintenance of Religious Groups. *Journal for the Cognitive Science of Religion* 2(1). 1–57.

Studies of evolved mechanisms and strategies supporting religious prosociality dominate the experimental agendas of cognitive scientists of religion while neglecting religion's antisocial, assortative consequences. The authors question, first of all, the assumed correlation between religion and prosociality; second, the hypothesis that religious prosociality plays a role in the formation of large-scale societies, as advanced by some; third, the neglect of the historical record in experimental design and in the assessment of experimental results. Finally, they suggest that funding sources more friendly to a positive view of religions explains the research bias supporting religious prosociality.

Svensson, Jonas. 2014. God's Rage: Muslim Representations of HIV/AIDS as a Divine Punishment from the Perspective of the Cognitive Science of Religion. *Numen* 61(5-6). 569–593. doi:10.1163/15685276-12341343.

Research from a number of disciplines indicates that the interpretation of HIV/AIDS as a divine punishment for illicit sexual practices dominates both a contemporary intra-Muslim public religious discourse and perceptions of the disease among Muslims. This dominance persists despite the existence of alternative theological interpretations, and despite seemingly contradictory empirical evidence. The present article develops a hypothesis on why this is the case and poses it against existing attempts at explanations. The theoretical basis for this hypothesis is elaborated with the help of findings from within the cognitive science of religion, and particularly the notion of an "epidemiology of representations." According to the hypothesis, a combination of general psychological and cognitive factors and specific contextual factors provide the notion of HIV/AIDS as a divine punishment, with a selective advantage in certain social contexts over both theological alternatives and non-religious understandings of the disease. The article finally puts forward some predictions that may be tested empirically in further research.

Yu, Ping & Li Zeng. 2014. Rationalizing beliefs. Rationality and Society 26(4). 425–445.

doi:10.1177/1043463114546827.

This paper studies belief formation for two kinds of religion. The main conclusion is that they follow different mechanisms. Specifically, for religions relying on supernatural powers, people formulate beliefs based on their prior beliefs and experiences, and they may claim their beliefs for some realistic considerations. For religions based on self-sufficiency, mainly Buddhism, beliefs are formed by an awareness of suffering and dependence.

1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND CULTURE

Abdel-Khalek, Ahmed M. 2014. Religiosity, health and happiness: Significant relations in adolescents from Qatar. *The International Journal of Social Psychiatry* 60(7). 656–661. doi:10.1177/0020764013511792.

The objective of this study was to estimate the relations between religiosity, health and happiness among a sample (n=372) of Qatari adolescents. The students responded to five self-rating scales to assess religiosity, mental health, physical health, happiness and satisfaction with life. Male participants obtained a higher mean score on mental health than did their female counterparts. All the correlations between the rating scales were significant and positive. Principal component analysis disclosed one component and labeled 'Religiosity, health and happiness' in both sexes. The multiple stepwise regression indicated that the predictors of religiosity were the self-ratings of satisfaction with life and happiness in boys, whereas the predictors among girls were satisfaction with life and physical health. On the basis of the responses of the present sample, it was concluded that those who consider themselves as religious were more happy, satisfied with their life and healthy.

Canepa, Alessandra & Abdullah Ibnrubbian. 2014. Does faith move stock markets? Evidence from Saudi Arabia. *The Quarterly Review of Economics and Finance* 54(4). 538–550. doi:10.1016/j.gref.2014.04.002.

This paper investigates the effects of religious beliefs on stock prices. Findings support the viewpoint that religious tenets have important bearing on the portfolio choices of investors. It is found that Shariah-compliant stocks have higher return and volatility than their non-Shariah-compliant counterparts.

Crescentini, Cristiano, Cosimo Urgesi, Fabio Campanella, Roberto Eleopra & Franco Fabbro. 2014. Effects of an 8-week meditation program on the implicit and explicit attitudes toward religious/spiritual self-representations. *Consciousness and Cognition* 30. 266–280. doi:10.1016/j.concog.2014.09.013.

Explicit self-representations often conflict with implicit and intuitive self-representations, with such discrepancies being seen as a source of psychological tension. Most previous research on the psychological effects of mindfulness-meditation has assessed people's self-attitudes at an explicit level, leaving unknown whether mindfulness-meditation promotes changes on implicit self-representations. Here, researchers assessed the changes in implicit and explicit self-related religious/spiritual (RS) representations in healthy participants following an 8-week mindfulness-oriented meditation (MOM) program. Before and after meditation, participants were administered implicit (implicit association test) and explicit (self-reported questionnaires) RS measures. Relative to control condition, MOM led to increases of implicit RS in individuals whit low pre-existing implicit RS and to more widespread increases in explicit RS. On the assumption that MOM practice may enhance the clarity of one's transcendental thoughts and feelings, the authors argued that MOM allows people to transform their intuitive feelings of implicit RS as well as their explicit RS attitudes.

Francis, Leslie J. & Mandy Robbins. 2014. The religious and social significance of self-assigned religious affiliation in England and Wales: Comparing Christian, Muslim and religiously-unaffiliated adolescent males. *Research in Education* 92. 32–48. doi:10.7227/RIE.0003.

This study examines the religious and social significance of self-assigned religious affiliation among young people in England and Wales by investigating religious beliefs and the connection between religion and matters of public concern among a sample of 547 adolescent males between 16 and 18 years of age, distinguishing between three religious groups: Christian, Muslim, and non-affiliated. First, the analysis identified eight themes concerning religious beliefs: the Bible, the Qur'an, Jesus, Muhammad, Jesus and justice, Muhammed and justice, experiencing God, and the theology of religions. Second, the analysis identified six themes concerning the connection between religion and matters of public concern: religion and personal life, religion and public life, religion and the state, social rights, the rights of women and children, and sex and morality. The data highlighted some areas of commonality and some areas of strong divergence between the three groups, demonstrating how the religious and social significance of self-assigned religious affiliation hold salience in some areas rather than others.

Ghorbani, Nima, P. J. Watson, Naser Aghababaei & Zhuo Chen. 2014. Transliminality and mystical experience: Common thread hypothesis, religious commitment, and psychological adjustment in Iran. *Psychology of Religion and Spirituality* 6(4). 268–275. doi:10.1037/a0037432.

Research in the West identifies transliminality as a largely problematic form of consciousness that is a common thread running through mystical and religious experience. In a non-Western cultural context, Iranian university and Islamic seminary students responded to measures of transliminality, mystical experience, religious commitment, and psychological adjustment. Transliminality correlated positively with introvertive, extrovertive, and interpretation dimensions of mysticism, and partially mediated the positive relationships that appeared among these 3 measures. Transliminality did not predict Iranian religiousness, and suppressed rather than mediated mysticism relationships with religiosity and psychological adjustment. Islamic seminarians scored higher than general university students in their religious commitment but not in their transliminality or mystical experience. In Iran, therefore, transliminality was in fact a common thread that ran through mystical experience. That thread, nevertheless, did not run through Iranian religiosity and seemed instead to interfere with the integration of mystical experience with religious and psychological adjustment.

Godina, Lidija. 2014. Religion and parenting: Ignored relationship? *Child & Family Social Work* 19(4). 381–390.

doi:10.1111/cfs.12054.

Even though the social work profession has been increasingly sensitized to the spiritual needs of those that they are working with, recent history has demonstrated that professionals lack the knowledge and skills needed for understanding those who are subscribing to strong religious beliefs. The research reported in this paper draws on a qualitative study that examined the perceived caregiving practice of parents from the Seventh-day Adventist faith community associated with the conservative Protestant sub-culture. Twenty-five participants aged 20–50 were invited to recall their experiences of being reared by practicing Adventist parents in the UK. An integrative phenomenological analysis yielded a number of themes that shed light on the relationship between religion and parenting. This paper will focus on the three key ideas that emerged: parenting was influenced by beliefs that parents held; a combination of warm and strict parenting was found with some evidence of stricter upbringing amongst Black respondents; responses to parenting reported varied between acceptance and discomfort.

Hardy, Sam A., Zhiyong Zhang, Jonathan E. Skalski, Brent S. Melling & Chauncy T. Brinton. 2014. Daily religious involvement, spirituality, and moral emotions. *Psychology of Religion and Spirituality* 6(4). 338–348. doi:10.1037/a0037293.

This study examined relations among intra-individual variability in daily religious activities, daily spiritual experiences, and daily moral emotions (empathy, gratitude, and forgiveness). Researchers hypothesized that spiritual experiences would mediate relations between religious activities and moral emotions, the quality of

religious activities would moderate links to spiritual experiences, and the quality of spiritual experiences would moderate links to moral emotions. The sample included 139 individuals ages 18–69 who completed daily online surveys for up to 50 days. Participants completed multiple daily items reporting their religious activities, spiritual experiences, and moral emotions. Multilevel regression analyses found that daily religious activities were linked to daily moral emotions by way of daily spiritual experiences. Furthermore, the quality of the daily religious activities and spiritual experiences moderated links in the mediation model. Thus, the authors found evidence of mediating and moderating processes in associations between religious activities, spiritual experiences, and moral emotions on a daily basis.

Inman, Mary L. 2014. The effects of religious-body affirmations and religious commitment on men's body esteem. *Psychology of Religion and Spirituality* 6(4). 330–337. doi:10.1037/a0036795.

Using a self-affirmation framework, this study tested whether religion buffered harmful media threats to men's body esteem. It tested whether reading religious body-affirming statements or having a strong religious commitment protected men's body esteem from media threats. It also tested whether religious commitment moderated the harmful media effects in the most threatened group (overweight men). Fifty-six men at a religious-affiliated college completed the religious commitment scale, demographic information, and body-esteem measures. Weeks later, they were randomly assigned to read either religious body-affirming statements, positive body-affirming statements, or control statements, after which they indicated their feelings, viewed lean muscular models, and answered body-esteem measures again. Results showed reading religious body-affirmations had no effect on changes in men's body esteem. Religious commitment was positively related body esteem at Time 1 but not at Time 2, when media threats were present. In addition, as predicted, viewing muscular models was most threatening to heavy men, but religious commitment buffered this threat. Religiously committed overweight men were happier with their weight than less religiously committed overweight men, due in part to the former's positive emotions. Results are discussed in relation to processing religious messages and self-affirmation processes.

Katzarska-Miller, Iva, Carole A. Barnsley & Stephen Reysen. 2014. Global Citizenship Identification and Religiosity. *Archive for the Psychology of Religion* 36(3). 344–367. doi:10.1163/15736121-12341291.

In four studies researchers examine the associations between religiosity, global citizenship identification, and various kinds of values (e.g., exclusionary, prosocial). Across the studies, general trends emerged showing that religiosity is unrelated to global citizenship identification, and positively related to exclusionary values (e.g., sexual prejudice, ethnocentrism, restricting outgroups). However, examination of the varied motivations to be religious (i.e., intrinsic, extrinsic, quest) showed that quest religious motivation is positively related to global citizenship identification, as well as inclusionary and prosocial values. Furthermore, quest religious motivation was found to positively influence the antecedents and outcomes of global citizenship identification.

Khanna, Surbhi & Bruce Greyson. 2014. Daily spiritual experiences before and after near-death experiences. *Psychology of Religion and Spirituality* 6(4). 302–309. doi:10.1037/a0037258.

People who have near-death experiences (NDEs) often report a subsequently increased sense of spirituality and a connection with their inner self and the world around them. In this study, researchers examined daily spiritual experiences, using Underwood and Teresi's (2002) Daily Spiritual Experience Scale, among 229 persons who had come close to death. Frequency of daily spiritual experiences before the close brush with death did not differentiate participants who had NDEs (n=204) from those who did not (n=25). However, participants who described having had NDEs reported more daily spiritual experiences after their brush with death than those who did not, and frequency of daily spiritual experiences after the brush with death was positively correlated with depth

of NDE. The authors discussed the implications of these findings in light of other reported aftereffects of NDEs and of daily spiritual experiences among other populations.

Longo, Gregory S. & Jungmeen Kim-Spoon. 2014. What drives apostates and converters? The social and familial antecedents of religious change among adolescents. *Psychology of Religion and Spirituality* 6(4). 284–291. doi:10.1037/a0037651.

While research on the psychology of religion and spirituality has examined religious conversion, little research has examined social and familial variables that might play a role in conversion in adolescence. Longitudinal work examining concurrent conversion experiences—as opposed to retrospective reports—is particularly rare. In an examination of 209 parent—adolescent dyads, findings suggested that those who became religious at Time 2 had higher social competence at Time 1 than did apostates, whereas adolescents who were religious at both times had higher social competence, parent communication, and parent trust than apostates. Additionally, those who converted to their parent's religion at Time 2 were higher than apostates in Time 1 social competence and parent communication. Results point to the importance of considering social and familial factors in religious conversion.

Muñoz-García, Antonio. 2014. Religion and Environmental Concern in Europe. *Archive for the Psychology of Religion* 36(3). 323–343. doi:10.1163/15736121-12341289.

Empirical research on the effect of religion on attitudes toward the environment remains divided into two opposing points of view, which claim a positive or negative effect on pro-environmental attitudes. This study analyses these relationships in a Spanish sample from a multidimensional perspective. The results of this study show, this time in a European context, the negative relationship between religious literalism and concern for the environment previously found in studies based on American samples. They also show the negative influence of specific aspects of expressions of Judeo-Christian religiosity, especially the rigidity characteristic of some non-traditional dimensions of religiosity, which arguably can be present without the co-presence of biblical literalism, and also the positive effect of quest-oriented religiosity and approaches focusing on existential well-being. The unique contributions of these variables in explaining concern for the environment are mapped to specific variances in the outcome variables.

Nelson, Kevin R. 2014. Near-death experience: Arising from the borderlands of consciousness in crisis. *Annals of the New York Academy of Sciences* 1330(1). 111–119. doi:10.1111/nyas.12576.

Brain activity explains the essential features of near-death experience, including the perceptions of envelopment by light, out-of-body, and meeting deceased loved ones or spiritual beings. To achieve their fullest expression, such near-death experiences require a confluence of events and draw upon more than a single physiological or biochemical system, or one anatomical structure. During impaired cerebral blood flow from syncope or cardiac arrest that commonly precedes near-death, the boundary between consciousness and unconsciousness is often indistinct and a person may enter a borderland and be far more aware than is appreciated by others. Consciousness can also come and go if blood flow rises and falls across a crucial threshold. During crisis the brain's prime biologic purpose to keep itself alive lies at the heart of many spiritual experiences and inextricably binds them to the primal brain. Brain ischemia can disrupt the physiological balance between conscious states by leading the brainstem to blend rapid eye movement (REM) and waking into another borderland of consciousness during near-death. Evidence converges from many points to support this notion, including the observation that the majority of people with a near-death experience possess brains predisposed to fusing REM and waking consciousness into an unfamiliar reality, and are as likely to have out-of-body experience while blending REM and waking consciousness as they are to have out-of-body experience during near-death.

Pirutinsky, Steven. 2014. Does religiousness increase self-control and reduce criminal behavior?: A longitudinal analysis of adolescent offenders. *Criminal Justice and Behavior* 41(11). 1290–1307. doi:10.1177/0093854814531962.

Previous research suggests that religiousness correlates with less criminal behavior and that this relationship is partially mediated by higher self-control. Because most studies are cross-sectional, causality remains uncertain as stable between-subject factors may influence self-control, religiousness, and offending, confounding their relationships. Moreover, directionality may be reversed with higher self-control leading to both higher religiousness and less offending. The current research aimed to directly exclude these possibilities using longitudinal data from 1,354 adolescents participating in the Pathways to Desistance Study. Results indicated that short-term, within-subject increased religiousness predicted decreased future criminal behavior and that this effect was partially mediated by increased self-control. A reversed model in which past self-control predicted future religiousness was not significant. These findings suggest that religiousness may be causally related to offending, and self-control is likely one of multiple mediating processes. Additional research in this area appears warranted and may yield effective strategies for reducing criminal behavior and improving self-control.

Riggio, Heidi R., Joshua Uhalt & Brigitte K. Matthies. 2014. Unanswered Prayers: Religiosity and the God-Serving Bias. *The Journal of Social Psychology* 154(6). 491–514. doi:10.1080/00224545.2014.953024.

Two self-report experiments examined how religiosity affects attributions made for a target person's death. Online adults (Study 1, n=427) and undergraduate students (Study 2, n=326) read about Chris who had a heart attack, used religious or health behaviors, and lived or died. Participants made attributions to Chris and God (both studies), and reported their emotions (Study 2). Participants made more attributions to Chris when he lived than when he died, but only when he used health behaviors. The highly religious made more attributions to God, but not when Chris used religious behaviors and died (the God-serving bias); they reported the most positive emotions when Chris lived after using religious behaviors (the Hallelujah effect).

Rubin, Ofir D. & Aviad Rubin. 2014. Intergenerational religious transmission mechanisms among second-generation migrants: The case of Jewish immigrants in the United States. *International Journal of Intercultural Relations* 43, Part B. 265–277. doi:10.1016/j.ijintrel.2014.09.003.

Do religious transmission mechanisms work differently for immigrant groups that experience different modes of acculturation in the host society? Recent studies about religious transmission among Muslim migrants in Europe found that religious practices at home during childhood are the strongest predictors of the preservation of religious practices among young people, whereas external socialization platforms (friends, schooling) have less of an impact. These studies also found that Muslims encounter barriers to integration into Western societies. Such hostility might push them to adopt a separatist mode of acculturation that includes preserving their religious identity. To determine whether these findings can be generalized to other groups that have an integrative mode of acculturation, researchers investigate intergenerational religious transmission mechanisms and attitudes toward endogamy and religious transmission to one's children among second-generation Jewish migrants in America. Utilizing a sample of 1480 second-generation Jewish migrants from Israel and the Former Soviet Union (FSU) from the large scale Taglit-Birthright database, the authors found that practices at home have the strongest explanatory power for preserving religious practices among young people currently. In contrast, Jewish socialization activities have little or no impact on the continuity of religious observances. Interestingly, despite reported differences in the literature between Jewish immigrants from Israel and the FSU, place of origin was not a statistically significant factor in explaining intergenerational religious transmission mechanisms. These findings largely accord with the results reported in the studies about second-generation Muslim migrants in European countries, suggesting that religious transmission mechanisms work similarly despite different modes of acculturation.

Troyer, Jason Michael. 2014. Older widowers and postdeath encounters: a qualitative investigation. *Death Studies* 38(10). 637–647. doi:10.1080/07481187.2014.924829.

This study examined older widowers' descriptions and interpretations of their postdeath encounters, including sense of presence experiences and sensory experiences (e.g., saw the deceased, heard the deceased's voice). Six older widowers who had reported at least one postdeath encounter were interviewed. Their responses were interpreted within a constructivist perspective. Each widower's explanation of the encounters generally matched his individual religious/spiritual worldview. The participants used both internal (e.g., "My mind was tricking me") and external (e.g., a sign from heaven) sources to explain their postdeath encounters.

Vasilenko, Sara A. & Eva S. Lefkowitz. 2014. Changes in religiosity after first intercourse in the transition to adulthood. *Psychology of Religion and Spirituality* 6(4). 310–315. doi:10.1037/a0037472.

Religiosity delays initiation of sexual behavior, but the association may be bidirectional, and individuals may become less religious after first intercourse. This study uses longitudinal data from college students to examine whether 2 aspects of religiosity change before and after first intercourse using multiphase growth curve models. Students' religiosity did not change in the 6 months preceding first intercourse, but on average they attended services less often and felt religion was less important in the 12 months after first intercourse. These findings suggest that sexual behavior can influence religious development in emerging adulthood, and underscore the importance of studying the impact of sexuality beyond the health outcomes typically studied, and of examining how life events influence religious development in adolescence and emerging adulthood.

1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Ai, Amy L., Andreas Kastenmüller, Terrence N. Tice, Paul Wink, Michele Dillon & Dieter Frey. 2014. The Connection of Soul (COS) scale: An assessment tool for afterlife perspectives in different worldviews. *Psychology of Religion and Spirituality* 6(4). 316–329. doi:10.1037/a0037455.

Despite the evidence that belief in afterlife has positive implications for psychosocial functioning, there is a paucity of empirical research and measures reflecting diverse worldviews regarding literal immortality. Researchers reported findings on a newly developed Connection of Soul (COS) scale reflecting 3 dominant worldviews conceptualizing a soul's life after death, involving 2 perspectives of literal immortality and 1 secular perspective. Study 1 supported the scale's tri-partite structure consisting of secular, God-centered, and cosmic-spiritual dimensions, using factor analysis. Study 2 assessed the scale's construct validity with measures of death perspectives and religious orientation and tested the differential effects of mortality salience on the COS subscales. Study 3 replicated the structure and properties of the COS scale and extended previous studies involving measures of personality functioning, everyday life tasks, New Age beliefs, and self-transcendence. The implications of the findings for the conceptualization of beliefs in an afterlife are discussed.

Schaap-Jonker, Hanneke & Jozef M. T. Corveleyn. 2014. Mentalizing and Religion. *Archive for the Psychology of Religion* 36(3). 303–322. doi:10.1163/15736121-12341292.

Mentalizing is an important actual topic, both in psychodynamic theory and in clinical practice. Remarkably, mentalizing has been explicitly related to religion or psychology of religion only to a limited extent. This article explores the relevance of the concept of mentalizing for psychology of religion by first describing mentalizing, its development, and neuropsychological underpinnings. Second, to illustrate how the concept gives more insight into the psychology of religious phenomena, mentalizing is related to an almost universal religious practice, namely

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religious prayer. Empirical studies from different psychological subdisciplines are interpreted from the perspective of mentalizing. Finally, its relevance for the discipline of psychology of religion is discussed. In this way, the potential of the concept as both an explaining psychological mechanism and a bridging notion that overcomes differences between psychological subdisciplines is demonstrated.

Skrzypińska, Katarzyna. 2014. The Threefold Nature of Spirituality (TNS) in a Psychological Cognitive Framework. *Archive for the Psychology of Religion* 36(3). 277–302. doi:10.1163/15736121-12341293.

This article describes a new theoretical, psychological model characterizing the concept, structure and functioning of spirituality in relation to the phenomenon of religiousness. The structural and processual approaches are indispensable when examining the spiritual sphere. The theory suggests that the psychological nature of spirituality can be considered from a threefold perspective: (1) as a cognitive scheme (the most constricted understanding), (2) as a dimension of personality (the broader understanding), (3) as an attitude towards life (the most extensive perspective). The Threefold Nature of Spirituality (TNS) model binds these perspectives together and describes the phenomena and processes inherent in spiritual functioning: looking for the sacred or a-sacred, for the meaning of life, and for personal fulfillment. Theoretical and empirical examples are presented here in support of the TNS, although further exploration is necessary.

This article reviews mainstream scientific publications on near-death experiences (NDEs). Researchers searched near-death experience in titles, key words, and abstracts at the Web of Knowledge database published between 1945 and 2013. They identified 266 relevant documents, the oldest from 1977. There was a strong predominance of opinion articles (book reviews, commentaries, and editorials), review articles, phenomenological description articles, and articles that originated in the United States. Since 2000, the number of longitudinal and cross-sectional studies has increased; there has been a diversification in the countries that have published on the subject and more articles that discuss the implications of NDEs for the mind-brain relationship. The results indicate that most scholarly publications on NDEs are recent, usually have no original empirical data, and are concentrated in North America and Western Europe.

PART 2: ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

2.1 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Bakken, Nicholas W., Whitney DeCamp & Christy A. Visher. 2014. Spirituality and desistance from substance use among reentering offenders. *International Journal of Offender Therapy and Comparative Criminology* 58(11). 1321–1339.

doi:10.1177/0306624X13494076.

Prior research has indicated an inverse relationship between religion and criminal behavior; however, few studies have specifically examined the effect of spirituality on the desistance process among a contemporary and diverse sample of reentering drug-involved offenders. A comprehensive understanding of how spirituality is related to desistance from substance use can lead to more effective and evidence-based preventive and rehabilitative interventions. Using data from a longitudinal study of 920 diverse offenders returning to the community after a period of incarceration, the current study examines three distinct forms of substance use (alcohol, marijuana, and cocaine) to gauge the effect that spirituality plays in the desistance process. The findings suggest a relatively high importance of spirituality in terms of preventing substance use during reentry, particularly concerning the use of both alcohol and cocaine.

Corey, Sarah M., Elissa Epel, Michael Schembri, Sarah B. Pawlowsky, Roger J. Cole, Maria Rosario G. Araneta, Elizabeth Barrett-Connor & Alka M. Kanaya. 2014. Effect of restorative yoga vs. stretching on diurnal cortisol dynamics and psychosocial outcomes in individuals with the metabolic syndrome: The PRYSMS randomized controlled trial. *Psychoneuroendocrinology* 49. 260–271.

doi:10.1016/j.psyneuen.2014.07.012.

Chronic stimulation and dysregulation of the neuroendocrine system by stress may cause metabolic abnormalities. For this study, researchers estimated how much cortisol and psychosocial outcomes improved with a restorative yoga (relaxation) versus a low impact stretching intervention for 171 individuals with the metabolic syndrome. Researchers conducted a 1-year multi-center randomized controlled trial (6-month intervention and 6-month maintenance phase) of restorative yoga vs. stretching. Participants completed surveys to assess depression, social support, positive affect, and stress at baseline, 6 months and 12 months. At 6 months, the stretching group had decreased cortisol at waking and bedtime compared to the restorative yoga group. The pattern of changes in stress mirrored this improvement, with the stretching group showing reductions in chronic stress severity and perseverative thoughts about their stress. Perceived stress decreased by 1.5 points at 6 months, and by 2.0 points at 1 year in the stretching compared to restorative yoga groups. Post hoc analyses suggest that in the stretching group only, perceived increases in social support (particularly feelings of belonging), but not changes in stress were related to improved cortisol dynamics. The authors found significant decreases in salivary cortisol, chronic stress severity, and stress perception in the stretching group compared to the restorative yoga group. Group support during the interactive stretch classes may have contributed to these changes.

Cramer, Holger, Heidemarie Haller, Romy Lauche, Nico Steckhan, Andreas Michalsen & Gustav Dobos. 2014. A Systematic Review and Meta-Analysis of Yoga for Hypertension. *American Journal of Hypertension* 27(9). 1146–1151. doi:10.1093/ajh/hpu078.

The aim of this systematic review and meta-analysis was to evaluate the quality of evidence and the strength of recommendation for yoga as a therapeutic means in the management of prehypertension and hypertension. Seven RCTs with a total of 452 patients met the screening criteria. Compared with usual care, very low-quality evidence was found for effects of yoga on systolic and diastolic blood pressure. Subgroup analyses revealed effects for RCTs

that included hypertensive patients but not for RCTs that included both hypertensive and prehypertensive patients, as well as for RCTs that allowed antihypertensive comedication but not for those that did not. More adverse events occurred during yoga than during usual care. Compared with exercise, no evidence was found for effects of yoga on systolic or diastolic blood pressure.

Erogul, Mert, Gary Singer, Thomas McIntyre & Dimitre G. Stefanov. 2014. Abridged Mindfulness Intervention to Support Wellness in First-Year Medical Students. *Teaching and Learning in Medicine* 26(4). 350–356.

doi:10.1080/10401334.2014.945025.

The purpose of this study was to determine whether an abridged mindfulness based stress reduction (MBSR) intervention can improve measures of wellness in a randomized sample of 1st-year medical students. Fifty-eight participants were randomized to control or 8-week MBSR intervention and then invited to participate in the study. Following intervention, it was found that the abridged MBSR treatment improved perceived stress and self-compassion in 1st-year medical students and may be a valuable curricular tool to enhance wellness and professional development.

Ferraro, Kenneth F. & Seoyoun Kim. 2014. Health benefits of religion among Black and White older adults? Race, religiosity, and C-reactive protein. *Social Science & Medicine* 120. 92–99. doi:10.1016/j.socscimed.2014.08.030.

The study investigates potential health benefits of religiosity to protect against chronic inflammation associated with the risk of cardiovascular diseases. The study uses longitudinal data from a representative survey of adults 57-85 years old at the beginning of the National Social Life, Health, and Aging Project. Linear regression models were used to analyze the association between religiosity, as measured by affiliation, attendance, and having a clergy confidant, and logged values of C-reactive protein (CRP) concentration (mg/L). Although religious attendance was not related to CRP among the White respondents, attendance was associated with lower CRP-and change in CRP over time-among the Black respondents. There was no evidence that religious affiliation alone had any health benefit. The study provides evidence of the salutary effects of religious engagement on chronic inflammation among older adults, especially for Black Americans, which may be useful in reducing the prevalence of hypertension and cardiovascular disease.

Finocchiaro, Darlene N., Patricia A. Roth & Cynthia D. Connelly. 2014. Spiritual Well-Being as Predictor of Quality of Life for Adults with Paraplegia. *Rehabilitation Nursing* 39(6). 285–293. doi:10.1002/rnj.161.

The purpose of this study was to examine relationships between spiritual well-being (SWB), depression, and QOL for adults with paraplegia (n=75). Researchers found that quality of life was significantly associated with SWB and depression. 43% of the variance in QOL was explained by age, gender, length of stay, SWB, and depression. The authors conclude that participants with a strong sense of purpose or meaning in life were more likely to experience a higher QOL.

Gothe, Neha P., Arthur F. Kramer & Edward McAuley. 2014. The Effects of an 8-Week Hatha Yoga Intervention on Executive Function in Older Adults. *Journals of Gerontology Series a-Biological Sciences and Medical Sciences* 69(9). 1109–1116. doi:10.1093/gerona/glu095.

Background. Few scientific studies have examined movement-based embodied contemplative practices such as yoga and their effects on cognition. The purpose of this randomized controlled trial was to examine the effects of an 8-week Hatha yoga intervention on executive function measures of task switching and working memory capacity. Participants were 118 older adults who were randomized to one of two groups: a Hatha yoga intervention or a stretching-strengthening control. Both groups participated in hour-long exercise classes 3x/ week over the 8-week

study period. All participants completed established tests of executive function. Following intervention, participants in the yoga intervention group showed significantly improved performance on the executive function measures of working memory capacity and efficiency of mental set shifting and flexibility compared with their stretching-strengthening counterparts. Although the underlying mechanisms need to be investigated, these results demand larger systematic trials to thoroughly examine effects of yoga on executive function as well as across other domains of cognition, and its potential to maintain or improve cognitive functioning in the aging process.

Grow, Joel C., Susan E. Collins, Erin N. Harrop & G. Alan Marlatt. 2015. Enactment of home practice following mindfulness-based relapse prevention and its association with substance-use outcomes. *Addictive Behaviors* 40. 16–20. doi:10.1016/j.addbeh.2014.07.030.

Mindfulness-based treatments have received increasing interest and empirical support in the clinical psychology literature. There are, however, no studies to date that have systematically examined treatment enactment, which is the amount and type of home practice participants incorporate into their daily lives. Because treatment enactment has been cited as a key aspect of treatment fidelity, this study examined the relationships between treatment enactment (i.e., home mindfulness practice) and alcohol and other drug (AOD) use and craving in the context of a larger study of mindfulness-based relapse prevention (MBRP). Participants (n=93) in this secondary analysis had been randomized in the parent study to receive MBRP. MBRP participants significantly increased the amount of time spent in home mindfulness practice over the course of the study. Further, greater time spent in home practice was associated with less AOD use and craving at the 2- and 4-month follow-ups. Of note, the significant treatment gains in home practice faded somewhat at the 2- and 4-month follow-ups as participants returned to standard aftercare, which did not involve mindfulness-based practice.

Hansen, N. V., P. Braendgaard, C. Hjornholm & S. la Cour. 2014. Qualitative research building real-life interventions: user-involving development of a mindfulness-based lifestyle change support program for overweight citizens. *European Journal of Clinical Nutrition* 68(10). 1129–1133. doi:10.1038/ejcn.2014.106.

This study is an experiment in putting social sciences to work in developing a support intervention for healthy lifestyle changes that would be attractive and manageable in real-life settings. Starting with a hypothesis that a class of intervention methods based on an unconventional 'low-tension' strategy may offer an effective support of stable, long-term changes well integrated in everyday life, difficult to maintain with conventional dieting and self-control approaches, this study focuses on designing and optimizing an intervention model combining several low-tension methods: mindfulness, small steps and group support. In three consecutive "action research" cycles, the intervention was run in practice with groups of 20 overweight or obese citizens. Qualitative data, mainly in the form of recorded group sessions and individual interviews with group participants and group leaders, were systematically collected and analyzed, using a framework of social psychological theory to focus on difficulties, resources and meanings connected with habits and everyday life. This information was recycled into the design process for the next version of the intervention. The authors describe the user-involving development processes toward a more attractive and manageable intervention model. The model now exists as a well-articulated package whose effectiveness is being tested in a randomized controlled trial study.

Höcker, A., A. Krüll, U. Koch & A. Mehnert. 2014. Exploring spiritual needs and their associated factors in an urban sample of early and advanced cancer patients. *European Journal of Cancer Care* 23(6). 786–794. doi:10.1111/ecc.12200.

Although it is widely recognized that people turn to spirituality in times of crisis, the interest in exploring the spiritual needs of cancer patients is just beginning to grow. The purpose of this study was to conduct a spiritual needs assessment with cancer patients living in a Northern European metropolitan region in order to (a) examine

the relevance and nature of spiritual needs; (b) to clarify the role of demographic and clinical characteristics in spiritual needs; and (c) to identify their associations with dimensions of psychological distress. Participants were 285 outpatients with mixed cancer sites and of all tumour stages. Survey data revealed that almost all patients (94%) reported at least one spiritual need. The needs for Inner Peace and Actively Giving emerged to be of greatest importance. Significant, but weak differences were found for age, gender and being in a partnership. No associations for medical characteristics were observed. Regression analyses revealed anxiety as the strongest predictor for the subscales Existential Needs, Inner Peace and Actively Giving. The results emphasize the relevance of spiritual needs in cancer patients.

Homan, Kristin J. & Valerie A. Lemmon. 2014. Attachment to God and eating disorder tendencies: The mediating role of social comparison. *Psychology of Religion and Spirituality* 6(4). 349–357. doi:10.1037/a0036776.

Previous research has shown that secure, nonanxious attachment to God is associated with reduced levels of disordered eating and attitudes. The present study explored whether social comparison mediated this relationship. Participants (186 female undergraduates) completed measures of attachment to God, social comparison on 3 body-related dimensions (body, eating, and exercise), and 3 standard eating disorder variables (drive for thinness, bulimia, and body dissatisfaction). A series of multiple mediation analyses were performed using the MEDIATE macro for SPSS. Anxious attachment to God was associated with increased tendencies to engage in social comparison, and social comparison tendencies were associated with increases in eating disorder symptoms. The mediating role of social comparison was confirmed. Results are discussed in the context of attachment theory and its more recent theoretical extensions.

Lauche, Romy, Jost Langhorst, Anna Paul, Gustav Dobos & Holger Cramer. 2014. Self-reported health and satisfaction of patients with chronic diseases who meditate: A case-control study. *Quality of Life Research* 23(9). 2639–2644. doi:10.1007/s11136-014-0714-8.

While many clinical trials suggest that meditation is effective in reducing disease-related symptoms and increasing quality of life in diseased samples, subjective health benefits associated with the use of meditation under naturalistic conditions have not yet been investigated. The aim of this study was to investigate the differences in quality of life, mental health, and satisfaction in patients with chronic diseases who regularly use meditation versus those who do not. The study applied a case-control design. Patients with chronic diseases who regularly used meditation were selected from a larger observational trial and compared to matched control patients who did not meditate regularly. They were compared in terms of their reported quality of life (SF-36 questionnaire), mental health (Hospital Anxiety and Depression Scale), life and health satisfaction (Questionnaire for Life Satisfaction), and medication usage as well as health locus of control (German version of the Multidimensional Health Locus of Control Scale). A total of 115 meditators and 115 controls were compared. Cases showed higher quality of life on the bodily pain subscale, higher internal and less external health locus of control, and higher life satisfaction than controls. No group differences were found for general health perception, most other aspects of quality of life, anxiety, depression, and medication use and health satisfaction. Regular practice of meditation was not clearly associated with better health perception in chronically diseased patients. However, those who regularly used meditation reported better pain-related quality of life and are more satisfied with their life.

Lengacher, Cecile A., Richard R. Reich, Kevin E. Kip, Michelle Barta, Sophia Ramesar, Carly L. Paterson, Manolete S. Moscoso, et al. 2014. Influence of Mindfulness-Based Stress Reduction (MBSR) on Telomerase Activity in Women With Breast Cancer (BC). Biological Research for Nursing 16(4). 438–447. doi:10.1177/1099800413519495.

Mindfulness-based stress reduction (MBSR) reduces symptoms of depression, anxiety, and fear of recurrence among breast cancer (BC) survivors. However, the effects of MBSR (BC) on telomere length (TL) and telomerase activity (TA), known markers of cellular aging, psychological stress, and disease risk, are not known. This randomized, wait-listed, controlled study, nested within a larger trial, investigated the effects of MBSR (BC) on TL and TA. BC patients (142) with Stages 0-III cancer who had completed adjuvant treatment with radiation and/or chemotherapy at least 2 weeks prior to enrollment and within 2 years of completion of treatment with lumpectomy and/or mastectomy were randomly assigned to either a 6-week MBSR for BC program or a usual care. Assessments of TA and TL were obtained along with psychological measurements at baseline, 6 weeks, and 12 weeks after completing the MBSR(BC) program. The mean age of 142 participants was 55.3 years; 72% were non-Hispanic White; 78% had Stage I or II cancer; and 36% received both chemotherapy and radiation. In analyses adjusted for baseline TA and psychological status, TA increased steadily over 12 weeks in the MBSR(BC) group (approximately 17%) compared to essentially no increase in the control group (approximately 3%). In contrast, no between-group difference was observed for TL (p=.92). These results provide preliminary evidence that MBSR(BC) increases TA in peripheral blood mononuclear cells from BC patients and have implications for understanding how MBSR(BC) may extend cell longevity at the cellular level.

Levin, Adam B., Emily J. Hadgkiss, Tracey J. Weiland, Claudia H. Marck, Dania M. van der Meer, Naresh G. Pereira & George A. Jelinek. 2014. Can meditation influence quality of life, depression, and disease outcome in multiple sclerosis? Findings from a large international webbased study. *Behavioural Neurology* 2014. 916519. doi:10.1155/2014/916519.

In this article, the authors explore the association between meditation and health related quality of life (HRQOL), depression, fatigue, disability level, relapse rates, and disease activity in a large international sample of people with multiple sclerosis (MS). Participants were invited to take part in an online survey and answer questions relating to HRQOL, depression, fatigue, disability, relapse rates, and their involvement in meditation practices. Statistically and potentially clinically significant differences between those who meditated once a week or more and participants who never meditated were present for mean mental health composite (MHC) scores, cognitive function scale, and health perception scale. The MHC results remained statistically significant on multivariate regression modeling when covariates were accounted for. Physical health composite (PHC) scores were higher in those that meditated; however, the differences were probably not clinically significant. Among those who meditated, fewer screened positive for depression, but there was no relationship with fatigue or relapse rate. Those with worsened disability levels were more likely to meditate.

Leyva, Bryan, Jennifer D. Allen, Laura S. Tom, Hosffman Ospino, Maria Idali Torres & Ana F. Abraido-Lanza. 2014. Religion, fatalism, and cancer control: a qualitative study among Hispanic Catholics. *American Journal of Health Behavior* 38(6). 839–849. doi:10.5993/AJHB.38.6.6.

The authors assessed cancer perceptions among churchgoers and examined the potential influence of fatalism and religious beliefs on the use of cancer screening tests. Eight semi-structured focus groups were conducted among 67 Hispanic Catholics in Massachusetts. In the sample, there were few references to fatalistic beliefs about cancer and nearly universal endorsement of the utility of cancer screening for cancer early detection. Most participants reported that their religious beliefs encouraged them to use health services, including cancer-screening tests. Although participants agreed that God plays an active role in health, they also affirmed the importance of self-agency in determining cancer outcomes.

Ogel, Kultegin, Nuray Sarp, Defne Tamar Gurol & Eda Ermagan. 2014. Investigation of mindfulness and affecting factors of mindfulness among substance users and non users. *Anadolu Psikiyatri Dergisi-Anatolian Journal of Psychiatry* 15(4). 282–288.

doi:10.5455/apd.169583.

The aim of this study is to investigate the factors which affect the mindfulness and trying to determine the role of mindfulness on addiction. In this regard, the aim is to review the use of practicing mindfulness based therapies in the treatment. One hundred ninety one patients who have been taking treatment in Alcohol and Substance Addiction/Abuse Research and Treatment Center were included in the substance users group. A total of 100 people, comprised of 75 teachers and 25 bank clerks, were included in the non-users group. Both groups were administered surveys. Following analysis of the results, it was determined that albeit the significant differences between the levels of factors which are known to affect mindfulness, including metacognition, repression, impulsivity and physical problems, between groups, there was insignificant difference of mindfulness level observed in both the addicted and non-addicted groups, and this observation was deemed a trace of MAAS scale failing to properly measure the Mindfulness level. The significantly different levels of factors which affect the mindfulness observed in the addicted group indicate that the Mindfulness therapy might be beneficial in addiction.

Padela, Aasim I., Monica Peek, Crista E. Johnson-Agbakwu, Zahra Hosseinian & Farr Curlin. 2014. Associations Between Religion-Related Factors and Cervical Cancer Screening Among Muslims in Greater Chicago. *Journal of Lower Genital Tract Disease* 18(4). 326–332.

This study aimed to assess rates of Papanicolaou (Pap) testing and associations between religion-related factors and these rates among a racially and ethnically diverse sample of American Muslim women. A community-based participatory research design was used in partnering with the Council of Islamic Organizations of Greater Chicago to recruit Muslim women attending mosque and community events. These participants self-administered surveys incorporating measures of fatalism, religiosity, perceived discrimination, Islamic modesty, and a marker of Pap test use. A total of 254 survey respondents were collected with nearly equal numbers of Arabs, South Asians, and African American respondents. Of these respondents, 84% had obtained a Pap test in their lifetime, with individuals who interpret disease as a manifestation of God's punishment having a lower odds of having had Pap testing after controlling for sociodemographic factors. In multivariate models, living in the United States for more than 20 years and having a primary care physician were positive predictors of having had a Pap test. Ethnicity, fatalistic beliefs, perceived discrimination, and modesty levels were not significantly associated with Pap testing rates.

Reddy, Shivani, Alexandra M. Dick, Megan R. Gerber & Karen Mitchell. 2014. The Effect of a Yoga Intervention on Alcohol and Drug Abuse Risk in Veteran and Civilian Women with Posttraumatic Stress Disorder. *Journal of Alternative and Complementary Medicine* 20(10). 750–756. doi:10.1089/acm.2014.0014.

The current investigation analyzed data from a pilot randomized controlled trial comparing a 12-session yoga intervention with an assessment control for women age 18 to 65 years with PTSD. The Alcohol Use Disorder Identification Test (AUDIT) and Drug Use Disorder Identification Test (DUDIT) were administered at baseline, after the intervention, and a 1-month follow-up. Following intervention, the mean AUDIT and DUDIT scores decreased in the yoga group; in the control group, mean AUDIT score increased while mean DUDIT score remained stable. In the linear mixed models, the change in AUDIT and DUDIT scores over time did not differ significantly by group. Most yoga group participants reported a reduction in symptoms and improved symptom management. All participants expressed interest in psychotherapy for PTSD, although only two participants, both in the yoga group, initiated therapy. Results from this pilot study suggest that a specialized yoga therapy may play a role in attenuating the symptoms of PTSD, reducing risk of alcohol and drug use, and promoting interest in evidence-based psychotherapy.

Sawynok, Jana & Mary Lynch. 2014. Qigong and fibromyalgia: Randomized controlled trials and beyond. *Evidence-Based Complementary and Alternative Medicine: eCAM* 2014. 379715. doi:10.1155/2014/379715.

This narrative review summarizes randomized controlled trials, as well as additional studies, of qigong published to the end of 2013 and discusses relevant methodological issues. Controlled trials indicate regular qigong practice (daily, 6-8 weeks) produces improvements in core domains for fibromyalgia (pain, sleep, impact, and physical and mental function) that are maintained at 4-6 months compared to wait-list subjects or baselines. Comparisons with active controls show little difference, but compared to baseline there are significant and comparable effects in both groups. Open-label studies provide information that supports benefit but remain exploratory. An extension trial and case studies involving extended practice (daily, 6-12 months) indicate marked benefits but are limited by the number of participants. Benefit appears to be related to amount of practice.

Scott, Linda Olson, Johnathon M. Law, Daniel P. Brodeur, Christopher A. Salerno, Anzette Thomas & Susan C. McMillan. 2014. Relationship With God, Loneliness, Anger, and Symptom Distress in Patients With Cancer Who Are Near the End of Life. *Journal of Hospice & Palliative Nursing* 16(8). 482–488.

doi:10.1097/NJH.0000000000000105.

The study's purpose was to explore relationship with God, symptom distress, and feelings of anger and loneliness in hospice patients with cancer. Three hundred fifty-four hospice patients completed the Memorial Symptom Assessment Scale and Hospice Quality of Life Index. Data were analyzed using descriptive statistics and correlations. Scores on satisfaction with relationship with God were very high (mean, 9.2 on a 0-to 10-point scale). Researchers found weak, significant relationships between relationship with God and anger, loneliness, and symptom distress. If patients felt that they did not have a good relationship with God, they were more likely to feel anger. Patients who had a better relationship with God felt less lonely, which might suggest that religion was more than a set of beliefs but was a source of comfort, care, and support. Patients who perceived a satisfactory relationship with God reported less symptom distress. Patients appeared to be able to maintain their relationships with God. However, they still had other problems such as anger, loneliness, and symptom distress that are associated with their God relationship and that deserve attention.

Shepperd, James A., Wendi A. Miller, Colin Tucker Smith & James Algina. 2014. Does religion offer worldviews that dissuade adolescent substance use? *Psychology of Religion and Spirituality* 6(4). 292–301.

doi:10.1037/a0037052.

Worldviews provide answers to questions such as who am I, why am I here, and how should I behave. The authors examined whether being religious corresponds with having a stronger worldview and whether the worldview accounts for the commonly observed relationship between religiousness and substance use. Adolescents (n=1,253) completed measures of religiousness, worldview, and alcohol, marijuana, and cigarette use. Regarding the dichotomous distinction between using and not using a substance, a stronger worldview corresponded with not using substances and partially mediated the relationship between religiousness and substance use. Among users, however, one's worldview did not mediate the amount of substance use. These findings suggest that the benefits of a worldview are limited to the decision to use substances, but once an adolescent becomes a user, a strong worldview no longer deters substance use.

Smith, Lisa L., Linda Larkey, Melisa C. Celaya & Robin P. Blackstone. 2014. Feasibility of implementing a meditative movement intervention with bariatric patients. *Applied Nursing Research* 27(4). 231–236.

doi:10.1016/j.apnr.2014.02.009.

This study is designed to determine if meditative movement (MM) would be a feasible physical activity (PA) modality to initiate weight loss in bariatric surgery patients who have re-gained weight. A feasibility study was recently completed in 39 bariatric patients at Scottsdale Bariatric Center (SBC) during regularly scheduled bariatric support groups. A short demonstration of MM was presented after which a short focus group was

conducted to gauge interest level, acceptability and the potential demand for MM programs in this population. Attitudes and intentions surrounding MM were also collected. Approximately 75% of participants indicated they would consider practicing MM as part of their post-surgical PA routine.

Subedi, Sunita. 2014. Exploring Different Types of Hatha Yoga for Patients With Cancer. *Clinical Journal of Oncology Nursing* 18(5). 586–590. doi:10.1188/14.CJON.586-590.

This article explores the impact of different types of Hatha yoga on various cancer-related symptoms in patients with cancer. The article also provides guidelines for healthcare personnel-particularly nurses-to help choose the right kind of Hatha yoga that suits their patients' needs and interests. Additional information is provided on measures and instructions that are essential for healthcare providers to know before recommending any yoga type to their patients. Evidence of the feasibility and potential efficacy of yoga for patients with cancer is provided.

Tang, Siew T., Li N. Liu, Kuan-Chia Lin, Jui-Hung Chung, Chia-Hsun Hsieh, Wen-Chi Chou & Po-Jung Su. 2014. Trajectories of the Multidimensional Dying Experience for Terminally Ill Cancer Patients. *Journal of Pain and Symptom Management* 48(5). 863–874. doi:10.1016/j.jpainsymman.2014.01.011.

This prospective, longitudinal investigation was designed to characterize trajectories of the multidimensional dying experience for cancer patients in their last year of life. Trajectories of physical-psychological-social-spiritual/existential dimensions and overall quality of life (QOL) were identified among 313 cancer patients using mixed-effects models to test for linear, quadratic, or cubic changes. Changes in each variable were evaluated for clinical significance using minimal important difference. When patients transitioned to their end of life, symptom distress, functional dependence, anxiety, and depressive symptoms slightly increased, followed by a stable status for approximately four to six months, and accelerated dramatically to the first clinically significant changes at three to four months before death. Perceived social support and post-traumatic growth declined gradually to clinically significant changes at one and four months before death, respectively. Perceived sense of burden to others increased steadily in the last year of life, with no clinically significant changes identified. Overall QOL deteriorated gradually in the last year but did not reach a clinically significant change until 2.5 months before death.

Tenfelde, Sandi & Linda Witek Janusek. 2014. Yoga: A Biobehavioral Approach to Reduce Symptom Distress in Women with Urge Urinary Incontinence. *Journal of Alternative and Complementary Medicine* 20(10). 737–742. doi:10.1089/acm.2013.0308.

Urge urinary incontinence is a debilitating chronic condition that poses challenges for affected women and the clinicians who care for them. Multicomponent behavioral therapies have shown promise in allowing women to manage their symptoms. New evidence suggests an underlying pathophysiologic inflammatory process for urge urinary incontinence, and complementary therapies that address the psychoneuroimmunology component may improve the health and quality of life for the millions of women with this condition. Yoga, a mind-body therapy, has been shown to reduce inflammation and may help improve symptoms of urge urinary incontinence.

Lymphedema, pain, and range of motion restrictions after breast cancer remain underexplored, and few interventions have been developed for these women. Together with a yoga instructor, an interdisciplinary research team developed a yoga program for women with lymphedema after breast cancer (n=13). Qualitative interviews and participants' journals show that there were a number of benefits to the yoga program. Themes outlining these

- are (1) understanding arm morbidity; (2) becoming aware of posture; and (3) countering fatigue. More surprisingly, perhaps, the participants also described the ways in which yoga furthered their understandings of loss associated with disability, the fourth theme, and showed that yoga enhanced their experiences of embodiment, the final theme. Finally, the authors assert that the research demonstrates the potential for qualitative research connected to the evaluation of interventions and that it demonstrates the blurring of traditional boundaries between interventions and data collection.
- Tolbaños Roche, Laura & Blanca Mas Hesse. 2014. Application of an integrative yoga therapy programme in cases of essential arterial hypertension in public healthcare. *Complementary Therapies in Clinical Practice* 20(4). 285–290. doi:10.1016/j.ctcp.2014.10.004.
 - An integrative yoga program was conducted during three months in 26 sessions with a group of ten essential arterial hypertension patients at a public health center. The same number of patients acted as the control group without treatment. The patients were randomly selected and assigned to the groups. A statistically significant reduction of systolic and diastolic blood pressure, negative affect, symptoms of anxiety and degree of stress could be observed in the study group. These positive and promising results confirm the effectiveness of these techniques in the treatment of essential arterial hypertension and suggest possible further investigations.
- Tyagi, Anupama, Marc Cohen, John Reece & Shirley Telles. 2014. An explorative study of metabolic responses to mental stress and yoga practices in yoga practitioners, non-yoga practitioners and individuals with metabolic syndrome. *BMC Complementary and Alternative Medicine* 14. 445. doi:10.1186/1472-6882-14-445.
 - Stress places a metabolic burden on homeostasis and is linked to heightened sympathetic activity, increased energy expenditure and pathology. The yogic state is a hypometabolic state that corresponds with mind-body coherence and reduced stress. This study aimed to investigate metabolic responses to stress and different yoga practices in regular yoga practitioners (YP), non-yoga practitioners (NY) and metabolic syndrome patients (MS). YP (n=16), NY (n=15) and MS (n=15) subjects underwent an experimental protocol that comprised of different 5-minute interventions including mental arithmetic stress test (MAST), alternate nostril breathing (ANB), Kapabhati breathing (KB) and meditation (Med) interspersed with 5 minutes of quiet resting (neutral condition (NC)). The results demonstrated that the regular YP group had significantly less OC and greater variability in their OC across all phases compared to the MS group and NY group. All groups significantly raised their OC during the mental arithmetic stress, however the MS group had a significantly blunted post-stress recovery whereas the YP group rapidly recovered back to baseline levels with post stress recovery being greater than either the NY group or MS group.
- Ward, Lesley, Simon Stebbings, Daniel Cherkin & G. David Baxter. 2014. Components and reporting of yoga interventions for musculoskeletal conditions: A systematic review of randomised controlled trials. *Complementary Therapies in Medicine* 22(5). 909–919. doi:10.1016/j.ctim.2014.08.007.

Researchers sought to identify the content and reporting details of randomized controlled trials of yoga for musculoskeletal conditions through a systematic review of the literature. Twenty electronic databases were searched and 17 articles met inclusion criteria, representing five musculoskeletal conditions: low back pain, osteoarthritis, rheumatoid arthritis, kyphosis, and fibromyalgia. 15 studies were non-residential, and two were residential. Study duration ranged from 1 to 24 weeks; weekly dosage of yoga ranged from 1 to 56 h. Five styles of posture-based Hatha yoga were specified. Intervention content included seven yoga practices: postures, breathing, relaxation, meditation, philosophy, chanting, and cleansing practices. Ten studies either encouraged or requested home practice. Reporting details included class plans, posture lists, and diagrams. Due to insufficient detail regarding delivery of the yoga intervention only eight of the 17 interventions were considered replicable as reported. Evaluation of study

characteristics and yoga components indicated several areas of homogeneity across studies, suggesting an existing degree of standardization. However, heterogeneity related to intervention content and reporting impeded determination of intervention content and delivery. Standardization of content, nomenclature, and reporting details is recommended to enhance protocol transparency, replication, and comparison of intervention effectiveness.

Yadav, Raj Kumar, Dipti Magan, Rashmi Yadav, Kumar Sarvottam & Ritesh Netam. 2014. High-density lipoprotein cholesterol increases following a short-term yoga-based lifestyle intervention: a non-pharmacological modulation. *Acta Cardiologica* 69(5). 543–549. doi:10.2143/AC.69.5.3044881.

The objective of this study was to assess the effect of a brief but comprehensive yoga-based lifestyle intervention on high-density lipoprotein cholesterol (HDL-c). This prospective interventional study was performed at the Integral Health Clinic (IHC), an outpatient facility at All India Institute of Medical Sciences, New Delhi, a tertiary health care center, conducting yoga-based lifestyle intervention programs for prevention and management of chronic diseases, The study included apparently healthy normal weight, overweight and obese subjects who underwent a pretested 10-day yoga-based program including asanas (postures), pranayama (breathing exercises), meditation, group discussions, lectures and individualized advice on stress management and healthy diet. The primary outcome measure was change in serum HDL-c at day 10 versus day 0. There were 238 participants. There was a significant increase in HDL-c levels from baseline to day 10. Notably, HDL-c was significantly improved in those for whom the baseline HDL-c levels were lower than the recommended values. Also, there was a reduction in blood pressure, fasting blood glucose, and improvement in other lipid profile variables.

Youngwanichsetha, Sununta, Sasitorn Phumdoung & Thitiporn Ingkathawornwong. 2014. The effects of mindfulness eating and yoga exercise on blood sugar levels of pregnant women with gestational diabetes mellitus. *Applied Nursing Research* 27(4). 227–230. doi:10.1016/j.apnr.2014.02.002.

This randomized controlled trial was carried out to investigate the effect of mindfulness eating and yoga exercise on blood sugar levels among pregnant Thai women with GDM. A randomized controlled trial was carried out. Main outcome measures were capillary fasting plasma glucose, 2-h postprandial blood glucose, and hemoglobin A1c. The intervention group showed significantly reduced fasting plasma glucose, 2-h postprandial blood glucose, and glycosylated hemoglobin (HbA1c) in the intervention group. Conclusions: Mindfulness eating and yoga exercise had health benefits on glycemic control in pregnant women with GDM. It should be recommended in clinical and community health services.

2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Alosaimi, Fahad D., Youssef Alshehri, Ibrahim Alfraih, Ayedh Alghamdi, Saleh Aldahash, Haifa Alkhuzayem & Haneen Albeeeshi. 2014. Prevalence of psychiatric disorders among visitors to faith healers in Saudi Arabia. *Pakistan Journal of Medical Sciences* 30(5). 1077–1082.

Researchers investigated the prevalence of psychiatric disorders among 321 visitors to Faith Healers (FHs) in Riyadh, Saudi Arabia. Most of the participants were young adults and males with intermediate and secondary levels of education who had not sought medical help prior to their visits. A high proportion of the FH visitors have diagnosable mental illnesses. Depressive and anxiety disorders were the most prevalent among the study participants; few visitors were affected by psychotic or bipolar disorders. The present study provides insight for understanding the type of patients with psychiatric disorders who visit Faith Healers. (FHs). The study highlights the tendency of psychiatric patients in Saudi Arabia to visit FHs, which could reflect the importance of further studies to clarify the impact of FHs on the management of those patients.

Asl, Navidreza Hosseinzadeh & Usha Barahmand. 2014. Effectiveness of Mindfulness-Based Cognitive Therapy for Co-Morbid Depression in Drug-Dependent Males. *Archives of Psychiatric Nursing* 28(5). 314–318. doi:10.1016/j.apnu.2014.05.003.

The present study aimed at examining the effect of Mindfulness-Based Cognitive Therapy (MBCT) in decreasing depression symptoms in dually diagnosed males (drug dependent males with co-morbid depression). An experimental research design with pre- and post-tests and a control group was used. The sample of the study comprised 33 drug-dependent men who also endorsed depression symptoms on the Beck Depression Inventory II (BDI-II). All the selected individuals were assigned randomly to either the intervention group or control group (16 to the intervention and 17 to the control group). The intervention group experienced eight 2-h sessions of training in MBCT. At the end of the training, the subjects were once again evaluated using the BDI-II. Analysis of covariance was used to analyze the data. The results suggested that MBCT did contribute to a significant decrease in the depression symptoms of the dually diagnosed individuals.

Bhatia, Triptish, Sati Mazumdar, Nagendra Narayan Mishra, Raquel E. Gur, Ruben C. Gur, Vishwajit Laxmikant Nimgaonkar & Smita Neelkanth Deshpande. 2014. Protocol to evaluate the impact of yoga supplementation on cognitive function in schizophrenia: A randomised controlled trial. *Acta Neuropsychiatrica* 26(5). 280–290. doi:10.1017/neu.2014.9.

This article describes the protocol for an ongoing randomized controlled trial designed to test whether the reported beneficial effects of Yoga Training (YT) on cognitive function among schizophrenia (SZ) patients can be replicated. Secondarily, the effects of YT on daily functioning living skills are evaluated. Consenting patients with SZ receive routine clinical treatment and are randomized to adjunctive YT, adjunctive physical exercise (PE) or treatment as usual (proposed n=234 total, n=78 in each group). The trial involves YT or PE 5 days a week and lasts 3 weeks. Participants are evaluated three times over 6 months. A total of 309 participants have been randomized as of 31 August 2013, which exceeded beyond 294 proposed after attrition. Once participants begin YT or PE they generally complete the protocol. No injuries have been reported.

Braam, Arjan W., Hanneke Schaap-Jonker, Marleen H. L. van der Horst, Bas Steunenberg, Aartjan T. F. Beekman, Willem van Tilburg & Dorly J. H. Deeg. 2014. Twelve-Year History of Late-Life Depression and Subsequent Feelings to God. *American Journal of Geriatric Psychiatry* 22(11). 1272–1281.

doi:10.1016/j.jagp.2013.04.016.

The aim of the current study was to examine the association between the course of late-life depression and feelings about God and religious coping. Participants were a subsample of 343 respondents, including all respondents with high levels of depressive symptoms at any measurement cycle between 1992 and 2003 and a random sample of nondepressed respondents who completed a postal questionnaire in 2005. Persistent and emergent depression are significantly associated with fear of God, feeling wronged by God, and negative religious coping. In terms of negative religious coping, significant associations were observed after adjustment for concurrent depression with a history of repeated minor depression and previous major depression. The authors conclude that late-life depression seems to maintain a pervasive relationship over time with affective aspects of religiousness. Religious feelings may parallel the symptoms of anhedonia or a dysphoric mood and could represent the experience of an existential void.

Gattis, Maurice N., Michael R. Woodford & Yoonsun Han. 2014. Discrimination and depressive symptoms among sexual minority youth: Is gay-affirming religious affiliation a protective factor? *Archives of Sexual Behavior* 43(8). 1589–1599. doi:10.1007/s10508-014-0342-y.

Researchers have examined perceived discrimination as a risk factor for depression among sexual minorities; however, the role of religion as a protective factor is under-investigated, especially among sexual minority youth. Drawing on a cross-sectional study investigating campus climate at a large public university in the U.S. Midwest, the authors examined the role of affiliation with a gay-affirming denomination (i.e., endorsing same-sex marriage) as a moderating factor in the discrimination-depression relationship among self-identified sexual minority (n=393) and heterosexual youth (n=1,727). Using multivariate linear regression analysis, religious affiliation was found to moderate the discrimination-depression relationship among sexual minorities. Specifically, the results indicated that the harmful effects of discrimination among sexual minority youth affiliated with denominations that endorsed same-sex marriage were significantly less than those among peers who affiliated with denominations opposing same-sex marriage or who identified as secular. In contrast, religious affiliation with gay-affirming denominations did not moderate the discrimination-depression relationship among heterosexual participants.

Hirsch, Jameson K., Sheri A. Nsamenang, Edward C. Chang & Nadine J. Kaslow. 2014. Spiritual well-being and depressive symptoms in female African American suicide attempters: Mediating effects of optimism and pessimism. *Psychology of Religion and Spirituality* 6(4). 276–283. doi:10.1037/a0036723.

Researchers examined the influence of spirituality, including religious and existential well-being, on depressive symptoms, and the potential mediating effect of optimism and pessimism, in a sample of 66 African American female suicide attempters. Participants were recruited from a large, urban hospital and completed the Spiritual Well-Being Scale, Life Orientation Test-Revised, and the Beck Depression Inventory-II. The association between spiritual well-being and depressive symptoms was mediated indirectly through both optimism and pessimism; greater religious and existential well-being was related to more optimism, and less pessimism and, in turn, to fewer depressive symptoms. Historically, spiritual well-being has been important to the African American community, and its beneficial effects on mental health might be explained, in part, by their effect on cognitive-emotional functioning.

Ikai, Saeko, Takefumi Suzuki, Hiroyuki Uchida, Juri Saruta, Keiichi Tsukinoki, Yasuo Fujii & Masaru Mimura. 2014. Effects of Weekly One-Hour Hatha Yoga Therapy on Resilience and Stress Levels in Patients with Schizophrenia-Spectrum Disorders: An Eight-Week Randomized Controlled Trial. *Journal of Alternative and Complementary Medicine* 20(11). 823–830. doi:10.1089/acm.2014.0205.

Researchers examined the effects of Hatha yoga therapy on resilience, brain-derived neurotrophic factor (BDNF) levels, and salivary alpha amylase (SAA) activity in patients with schizophrenia-spectrum disorders. Outpatients with schizophrenia or related psychotic disorders were randomly assigned to a yoga or a control group. In the yoga group (n=25), patients received weekly 1-hour Hatha yoga sessions, in addition to regular treatment, for 8 weeks. Those in the control group (n=25) underwent regular treatment, which included a daycare rehabilitation program. No significant differences in changes in any variable from baseline to week 8 were found between the two groups. Adjunct yoga therapy showed no positive changes in resilience level or stress markers. Duration and intensity of yoga sessions and the focus on patients with chronic illness may explain the negative observations in light of past positive evidence regarding yoga therapy.

Kinser, Patricia Anne, R. K. Elswick & Susan Kornstein. 2014. Potential Long-Term Effects of a Mind-Body Intervention for Women With Major Depressive Disorder: Sustained Mental Health Improvements With a Pilot Yoga Intervention. *Archives of Psychiatric Nursing* 28(6). 377–383. doi:10.1016/j.apnu.2014.08.014.

The goal of this research study was to evaluate the feasibility, acceptability, and effects of a yoga intervention for women with major depressive disorder (MDD) using standardized outcome measures and a long follow-up period (1 year after the intervention). The key finding is that previous yoga practice has long-term positive effects, as

revealed in both qualitative reports of participants' experiences and in the quantitative data about depression and rumination scores over time. Although generalizability of the study findings is limited because of a very small sample size at the 1-year follow-up assessment, the trends in the data suggest that exposure to yoga may convey a sustained positive effect on depression, ruminations, stress, anxiety, and health-related quality of life. Whether an individual continues with yoga practice, simple exposure to a yoga intervention appears to provide sustained benefits to the individual. This is important because it is rare that any intervention, pharmacologic or non-pharmacologic, for depression conveys such sustained effects for individuals with MDD, particularly after the treatment is discontinued.

Krause, Neal. 2014. Exploring the relationships among humility, negative interaction in the church, and depressed affect. *Aging & Mental Health* 18(8). 970–979. doi:10.1080/13607863.2014.896867.

The purpose of this study is to test three hypotheses involving humility. The first hypothesis specifies that people who are more deeply involved in religion will be more humble than individuals who are not as involved in religion. The second hypothesis predicts that humility will offset the effects of negative interaction in the church on depressed affect scores. The third hypothesis specifies that there will be a positive relationship between age and humility. The data come from the Religion, Aging, and Health Survey, a nationwide survey of middle-aged and older Christians who attend church on a regular basis (n=1154). The findings suggest that people who are more committed to their faith tend to be more humble. The results also reveal that negative interaction in the church is greater for people with lower humility scores than individuals with higher humility scores. In contrast, the data indicate that older adults are not more humble than middle-aged people. The findings are noteworthy because they identify a source of resilience that may help middle-aged and older adults cope more effectively with the effects of stress.

Krause, Neal & R. David Hayward. 2014. Hostility, religious involvement, gratitude, and self-rated health in late life. *Research on Aging* 36(6). 731–752. doi:10.1177/0164027513519113.

This study evaluates a latent variable model that assesses the relationships among hostility, church attendance, helping others, gratitude, and self-rated health. The participants come from the sixth wave of a nationwide survey of older adults (n=1,011). The data suggest that older individuals who go to church less often help others less frequently, older people who help others less grateful, and older adults who are less grateful rate their health in a less favorable manner. In addition, the data indicate that older people with high hostility scores help others less often and are less grateful. The results reveal that the way in which older people view their health may be traced in part to the interplay between personality traits (i.e., hostility) and virtues that are part of most faith traditions (e.g., helping others).

Martin Asuero, Andres, Jenny Moix Queralto, Enriqueta Pujol-Ribera, Anna Berenguera, Teresa Rodriguez-Blanco & Ronald M. Epstein. 2014. Effectiveness of a Mindfulness Education Program in Primary Health Care Professionals: A Pragmatic Controlled Trial. *Journal of Continuing Education in the Health Professions* 34(1). 4–12. doi:10.1002/chp.21211.

This study assessed the effectiveness of a training program for primary health care professionals designed to reduce burnout and mood disturbance, increase empathy, and develop mindfulness. A pragmatic randomized controlled trial with pre- and postintervention measurements of 68 primary health care professionals (43 in the intervention and 25 in the control group) was carried out in Spain. The intervention consisted of presentations of clinically relevant topics, mindfulness-based coping strategies, mindfulness practice, yoga, and group discussions (8 sessions of 2.5 hours per week plus a 1-day session of 8 hours). The intervention group improved in the 4 scales measured. The magnitude of the change was large in total mood disturbance and mindfulness and moderate in the burnout and empathy scales. No significant differences were found in the control group. The study supports the use of

mindfulness-based programs as part of continuing professional education to reduce and prevent burnout, promote positive attitudes among health professionals, strengthen patient-provider relationships, and enhance well-being.

Rutledge, Thomas, Sanford Nidich, Robert H. Schneider, Paul J. Mills, John Salerno, Pia Heppner, Mayra A. Gomez, Carolyn Gaylord-King & Maxwell Rainforth. 2014. Design and rationale of a comparative effectiveness trial evaluating transcendental meditation against established therapies for PTSD. *Contemporary Clinical Trials* 39(1). 50–56. doi:10.1016/j.cct.2014.07.005.

Although meditation therapies such as the Transcendental Meditation (TM) technique are commonly used to assist with stress and stress-related diseases, there remains a lack of rigorous clinical trial research establishing the relative efficacy of these treatments overall and for populations with psychiatric illness. This study uses a comparative effectiveness design to assess the relative benefits of TM to those obtained from a gold-standard cognitive behavioral therapy for posttraumatic stress disorder (PTSD) in a Veteran population. This paper describes the rationale and design of an in progress randomized controlled trial comparing TM to an established cognitive behavioral treatment, Prolonged Exposure (PE), and an active control condition (health education [HE]) for PTSD. This trial will recruit 210 Veterans meeting DSM-IV criteria for PTSD, with testing conducted at 0 and 3 months for PTSD symptoms, depression, mood disturbance, quality of life, behavioral factors, and physiological/biochemical and gene expression mechanisms using validated measures. The study hypothesis is that TM will be noninferior to PE and superior to HE on changes in PTSD symptoms, using the Clinician Administered PTSD Scale (CAPS). The described study represents a methodologically rigorous protocol evaluating the benefits of TM for PTSD. The projected results will help to establish the overall efficacy of TM for PTSD among Veterans, identify bio-behavioral mechanisms through which TM and PE may improve PTSD symptoms, and will permit conclusions regarding the relative value of TM against currently established therapies for PTSD.

Shonin, Edo, William Van Gordon, Thomas J. Dunn, Nirbhay N. Singh & Mark D. Griffiths. 2014. Meditation Awareness Training (MAT) for Work-related Wellbeing and Job Performance: A Randomised Controlled Trial. *International Journal of Mental Health and Addiction* 12(6). 806–823. doi:10.1007/s11469-014-9513-2.

Due to its potential to concurrently improve work-related wellbeing (WRW) and job performance, occupational stakeholders are becoming increasingly interested in the applications of meditation. The present study conducted the first randomized controlled trial to assess the effects of meditation on outcomes relating to both WRW and job performance. Office-based middle-hierarchy managers (n=152) received an eight-week meditation intervention (Meditation Awareness Training; MAT) or an active control intervention. MAT participants demonstrated significant and sustainable improvements (with strong effect sizes) over control-group participants in levels of work-related stress, job satisfaction, psychological distress, and employer-rated job performance. There are a number of novel implications: (i) meditation can effectuate a perceptual shift in how employees experience their work and psychological environment and may thus constitute a cost-effective WRW intervention; (ii) meditation-based (i.e., present-moment-focussed) working styles may be more effective than goal-based (i.e., future-orientated) working styles; and (iii) meditation may reduce the separation made by employees between their own interests and those of the organizations they work for.

Unterrainer, Human-Friedrich & Andrew James Lewis. 2014. The Janus face of schizotypy: Enhanced spiritual connection or existential despair? *Psychiatry Research* 220(1-2). 233–236. doi:10.1016/j.psychres.2014.07.028.

It has been asserted that schizotypy has a negative relationship with subjective well-being. By employing a multidimensional measure of spiritual well being with 400 British College students the present researchers report a more complex relationship. The Multidimensional Inventory for Religious/Spiritual Well-Being and Schizotypal

Personality Questionnaire-Brief Version were used and analysis made use of Canonical Correlational Analysis. Results suggested that two distinct relationships emerged between schizotypy and spirituality. First, a positive association between cognitive/perceptual features of schizotypy and spiritual connectedness emerged. Second a more global negative relationship between feelings of spiritual isolation and despair was found for all aspects of schizotypy. These findings challenge the previous literature based on one-dimensional subjective well being measures which have found only a negative relationship. However, the positive association between connectedness and cognitive-perceptual aspects of schizotypy raises important questions about the possible benefit of certain types of schizotypal experience.

2.3 SPIRITUALITY & HEALTH: METHOD AND THEORY

Attard, Josephine, Donia R. Baldacchino & Liberato Camilleri. 2014. Nurses' and midwives' acquisition of competency in spiritual care: A focus on education. *Nurse Education Today* 34(12). 1460–1466.

doi:10.1016/j.nedt.2014.04.015.

The debate that spirituality is 'caught' in practice rather than 'taught' implies that spiritual awareness comes about through clinical experience and exposure, requiring no formal education and integration within the curricula. This is challenged as it seems that providing students with a 'taught' component equips students with tools to identify and strengthen resources in 'catching' the concept. This study forms part of a modified Delphi study, which aims to identify the predictive effect of pre- and post-registration 'taught' study units in spiritual care competency of qualified nurses/midwives. A purposive sample of 111 nurses and 101 midwives were eligible to participate in the study. Overall, nurses/midwives who had undertaken the study units on spiritual care scored higher in the competency of spiritual care. Although insignificant, nurses scored higher in the overall competency in spiritual care than the midwives.

al-Awamer, Ahmed & James Downar. 2014. Developing a palliative care service model for Muslim Middle Eastern countries. *Supportive Care in Cancer* 22(12). 3253–3262. doi:10.1007/s00520-014-2347-4.

Palliative Care (PC) was first introduced to Muslim Middle Eastern (MME) countries in 1992, but growth of PC has been slow and access to PC is still limited in the region. While most PC models have been developed in Western countries, MME societies have different cultural and religious values that are not incorporated in Western models. For this study, researchers conducted a qualitative study to look at these differences, in order to inform a culturally acceptable model of PC that meets the needs of MME patients and their families. The authors conducted semi-structured interviews of PC physicians and nurses with experience in both Western and MME countries. Participants were identified by snowball sampling. Interviews were transcribed and analyzed using a modified grounded-theory approach. The researchers achieved conceptual saturation after 13 interviews. Participants identified four differences between PC practice in Western and MME countries, including cultural differences, legal and policy differences, stances on PC philosophy, and the availability of resources and support for PC. Participants identified five barriers to advancing PC in the MME: shortage of resources, unclear laws and policies, healthcare system barriers, unfamiliarity with the role and benefits of PC, and cultural barriers. Respondents suggested many facilitators at the institutional, regional, and societal levels.

Combs, Martha A. & Beverly E. Thorn. 2014. Barriers and facilitators to yoga use in a population of individuals with self-reported chronic low back pain: A qualitative approach. *Complementary Therapies in Clinical Practice* 20(4). 268–275. doi:10.1016/j.ctcp.2014.07.006.

Yoga has been found to be efficacious in treating chronic low back pain, yet biomedical treatments are most commonly used for pain. Promoting yoga as part of integrative care would reduce exclusive reliance on high-cost,

higher-risk biomedical treatments. Attitudes toward yoga play a role in consideration of it as a treatment. The current study examined attitudes toward yoga in adults with chronic low back pain and compared these results to those found in a 2009 general population study. Participants completed a semi-structured interview where they responded to items about perceptions of potential barriers and facilitators to trying yoga. Participant responses were analyzed qualitatively and several common themes emerged. Themes identified by participants indicated there is mixed information about yoga in the public domain and that clarification of what yoga is, how it can be beneficial, and what it requires one to do physically may help promote its use.

Cummings, Jeremy P., Cody S. Carson, Srijana Shrestha, Mark E. Kunik, Maria E. Armento, Melinda A. Stanley & Amber B. Amspoker. 2015. Santa Clara Strength of Religious Faith Questionnaire: psychometric analysis in older adults. *Aging & Mental Health* 19(1). 86–97. doi:10.1080/13607863.2014.917606.

To assist researchers and clinicians considering using the Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ) with older-adult samples, the current study analyzed the psychometrics of SCSRFQ scores in two older-adult samples. Adults of age 55 or older who had formerly participated in studies of cognitive-behavioral therapy for anxiety and/or depression were recruited to complete questionnaires. In Study 1 (n=66), the authors assessed the relations between the SCSRFQ and other measures of religiousness/spirituality, mental health, and demographic variables, using bivariate correlations and nonparametric tests. In Study 2 (n=223), the authors also conducted confirmatory and exploratory factor analyses of the SCSRFQ, as well as an item response theory analysis. The SCSRFQ was moderately to highly positively correlated with all measures of religiousness/spirituality. Relations with mental health were weak and differed across samples. Ethnic minorities scored higher than White participants on the SCSRFQ, but only in Study 2. Factor analyses showed that a single-factor model fit the SCSRFQ best. According to item response theory analysis, SCSRFQ items discriminated well between participants with low-to-moderate levels of the construct but provided little information at higher levels.

Duno, Roso, Sira Diaz-Moran, Joan Carles Oliva, Adolf Tobena & Maria Luisa Iglesias-Lepine. 2014. Religiosity and empathy in a hospital emergency department's staff. *Emergencias* 26(5). 363–366.

The authors aimed to assess relationships between religiosity and empathy in physicians, nurses, and assistant nurses in a hospital (ED), using a cross-sectional study including an anonymous, voluntary questionnaire for assessing degree of religiosity and an instrument assessing empathy (interpersonal reactivity index). The 3 staff groups were homogeneous in profile, showing a low degree of religiosity and normative scores on ability to see someone else's point of view and empathize with the feelings and suffering of others. No significant differences between groups were detected. Weak links were found between religiosity and overall empathy and between perspective taking (cognitive empathy) and moral relativism (pragmatic empathy).

Egan, Richard, Rod Macleod, Ramona Tiatia, Sarah Wood, Jane Mountier & Rob Walker. 2014. Spiritual care and kidney disease in NZ: A qualitative study with New Zealand renal specialists. *Nephrology* 19(11). 708–713. doi:10.1111/nep.12323.

People with chronic kidney disease have a shortened life expectancy and carry a high symptom burden. Research suggests that attending to renal patients' spiritual needs may contribute to an improvement in their quality of life. The aim of this qualitative study was to investigate the provision of spiritual care in New Zealand renal units from the perspective of specialists. The study followed a generic qualitative approach and included semi-structured interviews with specialists recruited from New Zealand's ten renal centers. Five specialist doctors and nine specialist nurses were recruited for interviews. Understandings of spirituality were broad, with most participants having an inclusive understanding. Patients' spiritual needs were generally acknowledged and respected though

formal spiritual assessments were not done. Consideration of death was discussed as an often-unexamined need. The dominant position was that the specialists did not provide explicit spiritual care of patients but there was some ad hoc provision offered through pre-dialysis educators, family meetings, Māori liaison staff members and the efforts of individuals. Chaplains were well used in some services. Participants had received no pre and little inservice training or education in spiritual care. Suggestions for improvements included in-service training, better utilization of chaplaincy services and training in advance care planning. Most participants indicated they would attempt to provide some form of spiritual care, either directly or by referring the patient to appropriate services. However, participants generally demonstrated a lack of confidence in addressing a patient's spiritual needs.

Erci, Behice, Neziha Katabulut & Meral Ucuzal. 2014. Psychometric Evaluation of the Adapted Prayer Scale in Muslim Cancer Patients. *Journal of Hospice & Palliative Nursing* 16(8). 495–502. doi:10.1097/NJH.000000000000107.

The diagnosis of cancer can initiate considerable distress for patients. The threat to physical health and life can challenge a person's previously held beliefs concerning life and well-being. Religious beliefs and practices have been demonstrated to have positive effects on illness prevention, recovery from surgery, mental illness, and coping with physical illness. The aim of this study was to determine psychometric characteristics of the adapted prayer scale in Turkish patients with cancer. The sample of this study consisted of patients with any cancer in the outpatient and inpatient medical oncology clinics of this hospital. Factor analysis revealed 4 factors (meditative prayer, prayer activities, prayer experiences, and attitude toward prayer) with an eigenvalue of higher than 1.0. The 4 factors together explained 53.5% of the variance. Internal consistency of the scale had an overall coefficient Cronbach's alpha of.82. The subscales of the instrument had adequate reliabilities with Cronbach's alpha's ranging from .67 to.88. The scale has potential applications for use both in research and as a screening tool in clinical settings. This scale should be further evaluated with a larger sample, in different regions in Turkey, and with diverse populations of the world.

Fegg, Martin, Sibylle L'hoste, Monika Brandstätter & Gian Domenico Borasio. 2014. Does the Working Environment Influence Health Care Professionals' Values, Meaning in Life and Religiousness? Palliative Care Units Compared With Maternity Wards. *Journal of Pain and Symptom Management* 48(5). 915–923. doi:10.1016/j.jpainsymman.2014.01.009.

Increased altruism, self-transcendence, and quests for meaning in life (MiL) have been found in palliative care (PC) patients and their families who experience the finiteness of life. Similar changes were observed in healthy subjects who were experimentally confronted with their mortality. The study investigated how daily experiences of the transitoriness of life influence PC health care professionals' (HCPs) values, MiL, and religiousness. In a cross-sectional study, the Schwartz Value Survey, the Schedule for Meaning in Life Evaluation, and the Idler Index of Religiosity were used to investigate personal values, MiL, and private religiousness. HCPs working in PC (confronted with death) were compared with a control group of HCPs working at maternity wards (MWs). Seventy PC- and 70 MW-HCPs took part in the study (response rate 74.0%). No differences between the groups were found in overall MiL satisfaction scores. PC-HCPs were significantly more religious than MW-HCPs; they listed spirituality and nature experience more often as areas in which they experience MiL. Furthermore, hedonism was more important for PC-HCPs, and they had higher scores in openness-to-change values (stimulation and self-direction). MW-HCPs were more likely to list family as a MiL area. They assigned more importance to health and scored higher in conservation values (conformity and security). Duration of professional experience did not influence these results.

Hodge, David R. & Cynthia A. Lietz. 2014. Using spiritually modified cognitive-behavioral therapy in substance dependence treatment: therapists' and clients' perceptions of the presumed benefits and limitations. *Health & Social Work* 39(4). 200–210.

doi:10.1093/hsw/hlu022.

Cognitive-behavioral therapy (CBT) that has been modified to incorporate clients' spiritual beliefs and practices has been used to treat a variety of problems. This study examines the utility of this modality with the treatment of alcohol dependence and other forms of substance abuse. Toward this end, six focus groups (three therapist groups and three client groups) were conducted to identify the presumed benefits and limitations of using spiritually modified CBT in substance dependence treatment. In terms of benefits, spiritually modified CBT was perceived to enhance outcomes through operationalizing horizontal and vertical sources of social support, divine coping resources, and spiritual motivation. Potential challenges include the risk of therapists inadvertently imposing their own beliefs during the modification process and the possibility of offending clients when conflicts in belief systems emerge, particularly in group setting. The article concludes by providing suggestions for incorporating spiritually modified CBT into treatment and develops a number of illustrative examples of spiritually modified CBT self-statements.

Keall, Robyn, Josephine M. Clayton & Phyllis Butow. 2014. How do Australian palliative care nurses address existential and spiritual concerns? Facilitators, barriers and strategies. *Journal of Clinical Nursing* 23(21-22). 3197–3205. doi:10.1111/jocn.12566.

The authors investigated the facilitators, barriers and strategies that Australian palliative care nurses identify in providing existential and spiritual care for patients with life-limiting illnesses. Data came from a qualitative study through semistructured interviews. Responses were transcribed and subjected to thematic analysis. The nurses' interviews yielded several themes including development of the nurse-patient relationship (14/20 nurses), good communication skills and examples of questions they use to 'create openings' to facilitate care. Barriers were identified as follows: lack of time (11/20 nurses), skills, privacy and fear of what you may uncover, unresolved symptoms and differences in culture or belief. Novel to this study, the nurses offered strategies that included the following: undertaking further education in this area, being self-aware and ensuring the setting is conducive to indepth conversations and interactions and documentation and/or interdisciplinary sharing for continuity of care.

Lawrence, Ryan E., Kenneth A. Rasinski, John D. Yoon & Farr A. Curlin. 2014. Primary care physicians' and psychiatrists' willingness to refer to religious mental health providers. *The International Journal of Social Psychiatry* 60(7). 627–636. doi:10.1177/0020764013511066.

Researchers measured primary care physicians' (PCPs) and psychiatrists' knowledge of religious mental health-care providers, and their willingness to refer there. A national survey of PCPs and psychiatrists was conducted, using vignettes of depressed and anxious patients. Vignettes included Christian or Jewish patients, who regularly or rarely attended services. Researchers asked whether physicians knew of local religious mental health providers, and whether they would refer patients there. In all, 896/1427 PCPs and 312/487 psychiatrists responded. Many physicians would refer patients to religious mental health providers. However, less religious PCPs are less knowledgeable about local religious providers.

Moore, Erin W. 2014. Assessing God Locus of Control as a Factor in College Students' Alcohol Use and Sexual Behavior. *Journal of American College Health* 62(8). 578–587. doi:10.1080/07448481.2014.947994.

This study explored God locus of control beliefs (i.e., God's control over behavior) regarding their influence on alcohol use and sexual behavior as an alternative religiosity measure to religious behaviors, which does not capture perceived influence of religiosity. For this study, college students aged 18–24 (n=324) completed a survey between April 2012 and March 2013. Findings suggest that measures provide reliable, valid data from college students. God locus of control is linked to not consuming alcohol or engaging in sex. There were differences regarding

relationship status and religious denomination. The author concludes that God locus of control beliefs are an appropriate construct for collecting data about college students' religiosity.

Park, Crystal L., Erik Groessl, Meghan Maiya, Andrew Sarkin, Susan V. Eisen, Kristen Riley & A. Rani Elwy. 2014. Comparison groups in yoga research: A systematic review and critical evaluation of the literature. *Complementary Therapies in Medicine* 22(5). 920–929. doi:10.1016/j.ctim.2014.08.008.

Comparison groups are essential for accurate testing and interpretation of yoga intervention trials. However, selecting proper comparison groups is difficult because yoga comprises a very heterogeneous set of practices and its mechanisms of effect have not been conclusively established. For this study, researchers conducted a systematic review of the control and comparison groups used in published randomized controlled trials (RCTs) of yoga. 128 RCTs met inclusion criteria; of these, 65 included only a passive control and 63 included at least one active comparison group. Primary comparison groups were physical exercise (43%), relaxation/meditation (20%), and education (16%). Studies rarely provided a strong rationale for choice of comparison. Considering year of publication, the use of active controls in yoga research appears to be slowly increasing over time.

Stefa-Missagli, S., H. P. Huber, A. Fink, Michela Sarlo & H. F. Unterrainer. 2014. Dimensions of Religious/Spiritual Well-Being, Personality, and Mental Health. *Archive for the Psychology of Religion* 36(3). 368–385. doi:10.1163/15736121-12341290.

The purpose of this study was to adapt the Austrian-German version of the Multidimensional Inventory for Religious/Spiritual Well-Being (MI-RSWB) into the Italian language and culture, and to investigate possible associations between the RSWB dimensions, "Big Five" personality factors and mental illness within an Italian student sample. Hence, the first Italian translation of the mi-RSWB scale was applied on a sample of 412 undergraduate students in three different cities and regions of Italy: Padova (northern Italy), Rome (central Italy), and Palermo (southern Italy). Researchers were able to find convincing psychometric properties for the new Italian version of the scale. By mirroring previous research, the RSWB-dimensions turned out to be substantially associated with personality dimensions, as well as negatively related with a global measure of mental illness. Initial results confirm that these RSWB-dimensions are important facets of personality and mental health.

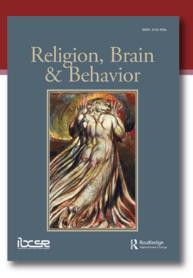
Taylor, Elizabeth Johnston, Carla Gober Park & Jane Bacon Pfeiffer. 2014. Nurse religiosity and spiritual care. *Journal of Advanced Nursing* 70(11). 2612–2621. doi:10.1111/jan.12446.

The authors describe how the religiosity of Christian nurses motivates their practice and manifests during patient care, especially spiritual care. Data were collected during semi-structured interviews in 2009-2011 with 14 Christian nurses in the USA. Data were coded and thematically analyzed after transcription. Informants described how they approached patients with religious conversation or spiritual care interventions that were overtly Christian in nature. With some awareness of the potential for harm in presenting their Christian beliefs and practices, these nurses also observed for patient cues before raising religious discourse and maintained caution so as to respect patient autonomy. Religiosity also was a personal resource for these nurses as they cared for very ill patients. The following themes were described: religious determinants and influences, perceptions of divine promptings and protection, religious approaches to spiritual care, respecting patient spirituality/religiosity and religious preparation for daily work.

Yamada, Ann-Marie, Andrew M. Subica, Min Ah Kim, Kevin Van Nguyen, Caroline S. Lim & Laura L. Mancuso. 2014. State of spirituality-infused mental health services in Los Angeles County wellness and client-run centers. *Administration and Policy in Mental Health* 41(6). 835–844. doi:10.1007/s10488-014-0536-6.

IBCSR RESEARCH REVIEW: NOVEMBER, 2014

Spiritual coping is associated with positive mental health outcomes for individuals with serious mental illness, yet spirituality-infused services are seldom offered in public sector mental health agencies. The Los Angeles County Department of Mental Health introduced a policy addressing spirituality in 2012. This study explored the breadth and degree to which spirituality-infused activities were being offered in 53 Los Angeles wellness and recovery centers after the policy was widely disseminated. More than 98 % of the centers offered options for spirituality-infused activities; one-third offered spirituality-focused groups. Los Angeles's progress may guide implementation of spirituality-infused services in other state or local public mental health systems.



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PART 3: BOOKS

3.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

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