

## RESEARCH REVIEW

A DIGEST OF NEW SCIENTIFIC RESEARCH CONCERNING RELIGION, BRAIN & BEHAVIOR MARCH, 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 the biocultural aspects of religion. IRR briefly annotates and furnishes online information about scientific research articles related to brain, behavior, culture, and religion published in English in leading journals. It also lists relevant books. Articles in press are listed without annotation. Annotations for articles aim to supply a preliminary understanding of the methods and results of a research study, or the argument of a paper. Annotations typically furnish more detail for articles in the scientific study of religion related to religion, brain, and behavior, than for articles in the area of spirituality and health, in accordance with IBCSR research priorities.

Articles for this issue were located by searching the following databases: Applied Science and Technology, ATLA Religion Database, General Science, PubMed, EBSCO Psychology and Behavioral Sciences Collection, PsycARTICLES, PsycINFO, ScienceDirect, and Web of Science. The search terms were altruism, god, goddess, meditat\*, prayer, relig\*, ritual, spiritu\*, and yoga, tailored to the database being searched. Books were located on Amazon.com. Articles not directly relevant to the scientific study of religion were excluded, as were correspondence and reviews. From a universe of 793 articles, 111 articles have been retained from 74 journals. There are 43 pre-publication citations from 29 journals.

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

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

Kumar, Uttam, Anupam Guleria, Sadguru Sri Kunal Kishan & C. L. Khetrapal. 2014. Effect of SOHAM Meditation on Human Brain: A Voxel-Based Morphometry Study. *Journal of Neuroimaging* 24(2). 187–190. doi:10.1111/jon.12040.

In this study, researchers investigated the anatomical correlates of long-term meditators involved in practice of SOHAM meditation using voxel-based morphometry (VBM). Meditators (n=28) were compared with non-meditating age-matched controls (n=14). The VBM analysis indicates significantly higher gray matter density in brain stem, ventral pallidum, and supplementary motor area in the meditators as compared with the nonmeditators. Higher GM density in VP may suggest the influence of rewards and positive motivation associated with mental well-being (meditation) and it could lead to GM change in meditators. This finding also indicates that regular practice of "SOHAM" meditation in long term may help in psychiatric disorder such as mood disorder and a motivational syndrome. The observed changes in brain structure are compared with other forms of meditation. Unlike some other studies, these researchers did not find any effect in the right hippocampus, right orbito-frontal, and left inferior temporal regions.

Pulcu, Erdem, Roland Zahn, Jorge Moll, Paula D. Trotter, Emma J. Thomas, Gabriella Juhasz, J. F. William Deakin, Ian M. Anderson, Barbara J. Sahakian & Rebecca Elliott. 2014. Enhanced subgenual cingulate response to altruistic decisions in remitted major depressive disorder. *NeuroImage: Clinical* 4. 701–710. doi:10.1016/j.nicl.2014.04.010.

Using a charitable donations experiment with fMRI, researchers compared 14 medication-free participants with

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Calendar year memberships US\$45 Discounts for retirees and students fully remitted major depressive disorder (MDD) and 15 demographically-matched control participants without MDD. Compared with the control group, the remitted MDD group exhibited enhanced BOLD response in a septal/subgenual cingulate cortex (sgACC) region for charitable donation relative to receiving simple rewards and higher striatum activation for both charitable donation and simple reward relative to a low level baseline. The groups did not differ in demographics, frequency of donations or response times, demonstrating only a difference in neural architecture. The authors demonstrate that altruistic decisions probe residual sgACC hypersensitivity in MDD even after symptoms are fully remitted. The sgACC has previously been shown to be associated with guilt which promotes altruistic decisions. In contrast, the striatum showed common activation to both simple and altruistic rewards and could be involved in the so-called "warm glow" of donation. Enhanced neural response in the depression group, in areas previously linked to altruistic decisions, supports the hypothesis of a possible association between hyper-altruism and depression vulnerability, as shown by recent epidemiological studies.

Reeves, Roy R., Samet Kose & Abuhuziefa Abubakr. 2014. Temporal lobe discharges and glossolalia. *Neurocase* 20(2). 236–240. doi:10.1080/13554794.2013.770874.

Glossolalia (speaking in tongues) is a religious phenomenon of which there has been only limited scientific investigation. Described here is the case of a 44-year-old woman who had clonic jerking of the left forearm while speaking in tongues. Waking EEG while she was thinking of nothing in particular was normal. After several minutes of silently praying in tongues she manifested right temporal sharp wave discharges and may have been in a state resembling light sleep. Possible relationships between glossolalia, ecstatic religious phenomena, and temporal lobe electrical discharges are discussed.

Watanabe, Takamitsu, Masanori Takezawa, Yo Nakawake, Akira Kunimatsu, Hidenori Yamasue, Mitsuhiro Nakamura, Yasushi Miyashita & Naoki Masuda. 2014. Two distinct neural mechanisms underlying indirect reciprocity. *Proceedings of the National Academy of Sciences of the United States of America* 111(11). 3990–3995. doi:10.1073/pnas.1318570111.

Humans often cooperate with strangers even if they will not meet each other again. This so-called indirect reciprocity enables large-scale cooperation among nonkin and can occur based on a reputation mechanism or as a succession of pay-it-forward behavior. Here, researchers provide the functional and anatomical neural evidence for two distinct mechanisms governing the two types of indirect reciprocity. Cooperation occurring as reputation-based reciprocity specifically recruited the precuneus, a region associated with self-centered cognition. During such cooperative behavior, the precuneus was functionally connected with the caudate, a region linking rewards to behavior. Furthermore, the precuneus of a cooperative subject had a strong resting-state functional connectivity (rsFC) with the caudate and a large gray matter volume. In contrast, pay-it-forward reciprocity recruited the anterior insula (AI), a brain region associated with affective empathy. The AI was functionally connected with the caudate during cooperation occurring as pay-it-forward reciprocity, and its gray matter volume and rsFC with the caudate predicted the tendency of such cooperation. The revealed difference is consistent with the existing results of evolutionary game theory: although reputation-based indirect reciprocity robustly evolves as a self-interested behavior in theory, pay-it-forward indirect reciprocity does not on its own. The present study provides neural mechanisms underlying indirect reciprocity and suggests that pay-it-forward reciprocity may not occur as myopic profit maximization but elicit emotional rewards.

Xue, Shao-Wei, Yi-Yuan Tang, Rongxiang Tang & Michael I. Posner. 2014. Short-term meditation induces changes in brain resting EEG theta networks. *Brain and Cognition* 87C. 1–6. doi:10.1016/j.bandc.2014.02.008.

Many studies have reported meditation training has beneficial effects on brain structure and function. However, very little is known about meditation-induced changes in brain complex networks. In this study, researchers used

network analysis of electroencephalography theta activity data at rest before and after 1-week of integrative bodymind training (IBMT) and relaxation training. The results demonstrated that the IBMT group (but not the relaxation group) exhibited significantly smaller average path length and larger clustering coefficient of the entire network and two midline electrode nodes (Fz and Pz) after training, indicating enhanced capacity of local specialization and global information integration in the brain. The findings provide the evidence for meditationinduced network plasticity and suggest that IBMT might be helpful for alterations in brain networks.

#### 1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Alcorta, Candace S. 2014. Modes of knowing: How kataphatic practice impacts our brains and behaviors. *Religion, Brain & Behavior* 4(1). 49–56. doi:10.1080/2153599X.2013.768537.

A response to the book When God Talks Back by Luhrmann (2012). The author of this article commends Luhrmann's insight into the social context of religious practice. In addition, she finds illuminating the discussions of the evolved psychological processes that permit and predispose human beings to believe in supernatural beings, and the identification of specific religious practices that foster and validate such belief. An article in a book symposium.

Cohen, Emma, Roger Mundry & Sebastian Kirschner. 2014. Religion, synchrony, and cooperation. Religion, Brain & Behavior 4(1). 20–30. doi:10.1080/2153599X.2012.741075.

Shared beliefs about supernatural agents and joint engagement in ritual activities are often proposed to engender cohesion and cooperation within religious communities. In this article, researchers report the results of an experiment that investigated the effects of religious-concept priming and synchronous activity among Brazilian drummers. Participants were divided into two between-subjects narrative priming conditions: religious and secular. Within each priming condition, researchers applied a within-subjects design to investigate effects of solo, group synchronous, and group non-synchronous drumming on endorphin release and cooperation. An effect of priming conditions was found, such that there was a trend toward higher cooperation in the religiously primed group compared to the secularly primed group. Neither a main effect of the drumming condition nor a drumming-priming interaction effect was found. Results suggest that behavioral synchrony alone is insufficient to increase cooperation. In light of previous findings, the authors propose that high levels of physical exertion or social-cognitive mechanisms, such as overlapping task-representation or intentional coordination, are also required for cooperation.

Dunham, Yarrow, Mahesh Srinivasan, Ron Dotsch & David Barner. 2014. Religion insulates ingroup evaluations: The development of intergroup attitudes in India. *Developmental Science* 17(2). 311–319.

doi:10.1111/desc.12105.

Research on the development of implicit intergroup attitudes has placed heavy emphasis on race, leaving open how social categories that are prominent in other cultures might operate. Researchers investigate two of India's primary means of social distinction, caste and religion, and explore the development of implicit and explicit attitudes towards these groups in minority-status Muslim children and majority-status Hindu children, the latter drawn from various positions in the Hindu caste system. Results from two tests of implicit attitudes find that caste attitudes parallel previous findings for race: higher-caste children as well as lower-caste children have robust high-caste preferences. However, results for religion were strikingly different: both lower-status Muslim children and higher-status Hindu children show strong implicit ingroup preferences. The authors conclude by suggesting that religion may play a protective role in insulating children from the internalization of stigma.

Fontanari, José F. & Maurizio Serva. 2014. Nonlinear group survival in Kimura's model for the evolution of altruism. *Mathematical Biosciences* 249. 18–26. doi:10.1016/j.mbs.2014.01.003.

Establishing the conditions that guarantee the spreading or the sustenance of altruistic traits in a population is the main goal of intergroup selection models. Of particular interest is the balance of the parameters associated to group size, migration and group survival against the selective advantage of the non-altruistic individuals. Here, researchers use Kimura's diffusion model of intergroup selection to determine those conditions in the case the group survival rate is a nonlinear non-decreasing function of the proportion of altruists in a group. In the case this function is linear, there are two possible steady states which correspond to the non-altruistic and the altruistic phases. At the discontinuous transition line separating these phases there is a non-ergodic coexistence phase. For a continuous concave survival function, the authors find an ergodic coexistence phase that occupies a finite region of the parameter space in between the altruistic and the non-altruistic phases, and is separated from these phases by continuous transition lines. For a convex survival function, the coexistence phase disappears altogether but a bistable phase appears for which the choice of the initial condition determines whether the evolutionary dynamics leads to the altruistic or the non-altruistic steady state.

Jeong, Hoi Ok. 2014. Religious involvement and group identification: The case of Hispanics in the United States. *Social Science Journal* 51(1). 21–29. doi:10.1016/j.soscij.2013.07.017.

This study examines the link between religious involvement and racial group identification among Hispanics in the United States. Relying on the multifaceted nature of religious involvement, this study focuses on five dimensions of religious involvement: church attendance, prayer, the importance one places on religion, one's belief in God's love, and religious affiliation. Using the data from the Panel Study of American Religion and Ethnicity (first wave, 2006), this study employs regression analysis. The results show that, among the five dimensions of religious involvement, only church attendance has a significant effect on racial group identification; Hispanics who frequently attend church are more likely to identify with Hispanics. This study suggests that church attendance increases Hispanics' group identification for two reasons: first, because of the formation of Hispanic-oriented churches; and second, because of the intense interaction among Hispanics within their church communities.

Jong, Jonathan. 2013. On Faith and the Fear of Fatality: A review of recent research on deities and death. *Journal for the Cognitive Science of Religion* 1(2). 193–214.

Although speculations about the role of fear—and fear of death in particular—in the evolutionary and psychological origins of religion have been around for millennia, it is only in the last decade or so that systematic empirical investigations on the matter have been undertaken. In this paper, researchers review this recent body of correlational and experimental research to assess theoretical developments in the evolutionary and cognitive psychology of religion, and in Terror Management Theory. While these existing theories about the anxiety ameliorating functions of religious belief are still significantly under-determined by data, the systematic and scientific study of religion has benefited greatly from insights about the multidimensionality of religiosity, the importance of implicit levels of cognition and affect, and the dangers of biased sampling.

Lane, Jonathan D & Paul L Harris. 2014. Confronting, Representing, and Believing Counterintuitive Concepts: Navigating the Natural and the Supernatural. *Perspectives on Psychological Science* 9(2). 144–160.

doi:10.1177/1745691613518078.

Recent research shows that even preschoolers are skeptical; they frequently reject claims from other people when the claims conflict with their own perceptions and concepts. Yet, despite their skepticism, both children and adults come to believe in a variety of phenomena that defy their first-hand perceptions and intuitive conceptions of the

world. In this review, researchers explore how children and adults acquire such concepts. The authors describe how a similar developmental process underlies mental representation of both the natural and the supernatural world, and they detail this process for two prominent supernatural counterintuitive ideas: God and the afterlife. In doing so, the researchers highlight the fact that conceptual development does not always move in the direction of greater empirical truth, as described within naturalistic domains. Other factors are considered that likely help overcome skepticism, and in doing so promote belief in counterintuitive phenomena. These factors include qualities of the learners, aspects of the context, qualities of the informants, and qualities of the information.

Lane, Justin. 2013. Method, Theory, and Multi-Agent Artificial Intelligence: Creating computer models of complex social interaction. *Journal for the Cognitive Science of Religion* 1(2). 161–180.

The construction of computer models is becoming an increasingly useful and popular way of testing theories in the cognitive sciences. This paper will present a brief overview of the methods available for constructing and testing computer models of social phenomena such as religious beliefs and behaviors. It will focus on the importance of theoretical continuity and data replication in computer modelling while negotiating the relationship between specificity and ecological validity when models are extended into novel contexts. This paper will argue that computer modeling is an important supplement to the methodological toolbox of cognitive scientists interested in human social phenomena. However, this is only the case if developers pay close attention to research methods and theories and if the method of a model's development is appropriate for the target phenomenon. It concludes that multi-agent AI models are the most appropriate computational tool for the study of complex social phenomena.

Lozada, Mariana, Paola D'Adamo & Natalia Carro. 2014. Plasticity of altruistic behavior in children. *Journal of Moral Education* 43(1). 75–88. doi:10.1080/03057240.2013.878244.

The present study investigates the plasticity of altruistic behavior in children, analyzing the effect of a short intervention on 6- to 7-year-olds. After a 10-session intervention performed in a school context, altruism significantly increased. The intervention, which included relaxation practices, cooperative activities and emotional security priming, positively modulated altruistic behavior in children, beyond reciprocation and reputation. The experiences of collaborating, feeling emotional security and attaining moments of relaxation increased participants' awareness of themselves and of others, favoring the emergence of intrinsic altruism. These results are in line with the hypothesis that altruism is an embodied human resource, highly susceptible to experience within social contexts.

Luhrmann, T.M. 2014. Knowing God, attentional learning, and the local theory of mind. *Religion, Brain & Behavior* 4(1). 78–90. doi:10.1080/2153599X.2013.768289.

The author presents a response to the symposium focused on her book When God Talks Back.

Malley, Brian. 2014. Intuitive and sensible, but often vague. *Religion, Brain & Behavior* 4(1). 56–59. doi:10.1080/2153599X.2013.768538.

The author critiques Luhrmann's book scientifically, and finds weaknesses in its vagueness and lack of connection with earlier research. In addition, underlying philosophical assumptions regarding the nature of faith and belief were left unexplored. An article in a book symposium.

Nichols, Ryan & Jennifer Wright. 2014. The Social Cost of Atheism: How Perceived Religiosity Influences Moral Appraisal. *Journal of Cognition and Culture* 14(1-2). 93–115. doi:10.1163/15685373-12342112.

This project endeavored to further scientific understanding of atheism as a social stereotype. Specifically, the researchers tested whether people with non-religious commitments were stereotypically viewed as less moral than people with religious commitments. Researchers found that participants' (both Christian and atheist) moral

appraisals of atheists were more negative than those of Christians who performed the same moral and immoral actions. They also reported immoral behavior as more (internally and externally) consistent for atheists, and moral behavior more consistent for Christians. The results contribute to research at the intersection of moral theory, moral psychology, and psychology of religion.

Porubanova-Norquist, Michaela, Daniel Joel Shaw & Dimitris Xygalatas. 2013. Minimal-Counterintuitiveness Revisited: Effects of cultural and ontological violations on concept memorability. *Journal for the Cognitive Science of Religion* 1(2). 181–192.

Many religious ideas have attributes that violate expectations about the state of the natural world. It has been argued that minimal counter-intuitiveness (MCI), defined as a mild violation of innate (ontological) expectations, makes such ideas memorable and prone to cultural transmission. Empirical studies have examined memory for concepts that violate innate ontological expectations; however memorability of ideas that defy cultural or learned expectations have been (with few exceptions) overlooked. In this study, researchers compared memory for ideas that violate intuitive ontologies, learned expectations, and everyday, intuitive ideas. The authors discuss the mnemonic advantage of minimally counterintuitive ideas in terms of a combination of associative strength and bizarreness.

Rand, David G., Anna Dreber, Omar S. Haque, Rob J. Kane, Martin A. Nowak & Sarah Coakley. 2014. Religious motivations for cooperation: An experimental investigation using explicit primes. *Religion, Brain & Behavior* 4(1). 31–48. doi:10.1080/2153599X.2013.775664.

In this study, researchers investigate the ability of religion to promote cooperation by using explicit theological primes. In the first study, conducted in a church, results show that subjects who report a stronger connection with a Christian passage about charitable giving are subsequently more likely to cooperate in a one-shot prisoner's dilemma game. In the second study, conducted over the Internet, researchers find that Christian subjects are more likely to cooperate after reading a Christian passage than a neutral one. However, in the same study, it was found that Hindu and secular passages have no significant effect on Christians, and that none of the passages (Christian, Hindu, or secular) have an effect on non-Christians. These results show the potential power of explicitly religious exhortations that promote cooperation, and also their selectivity.

Reddish, Paul, Joseph Bulbulia & Ronald Fischer. 2014. Does synchrony promote generalized prosociality? *Religion, Brain & Behavior* 4(1). 3–19. doi:10.1080/2153599X.2013.764545.

Synchrony—the matching of rhythmic behavior in time—is a common feature of many social practices. Although recent studies have demonstrated that synchrony promotes prosociality, it remains unclear whether prosociality extends to targets outside the synchronous group. Studies on the related phenomenon of mimicry (i.e., the nonconscious imitation of another's behavior) show that matching behavior in form amplifies prosociality to those outside the mimicked pair. While these studies suggest that synchrony might also evoke generalized prosociality, the minimal group paradigm predicts that any increase in prosociality will be confined to synchronous performers. Study 1 investigated the cooperative specificity of synchrony by comparing the effects of synchrony on prosociality directed to co-performers and to non-performers. Researchers found that synchrony-induced prosociality was not restricted to fellow synchronous performers. These findings offer initial support for a generalized prosocial model of synchronous performances. Study 2 investigated whether generalized prosociality occurred when the prosocial target was conceived as another group, rather than another individual. Consistent with the first study, researchers found that synchronous movements were associated with greater prosociality towards a non-performance group when compared to the level of prosociality observed from the control group activity. Collectively these findings offer initial support that synchrony may amplify prosociality to non-participants, whether conceived as individuals or as groups.

Rosengren, Karl S., Isabel T. Gutiérrez & Stevie S. Schein. 2014. Children's understanding of death: Toward a contextualized and integrated account: V. Cognitive models of death. *Monographs of the Society for Research in Child Development* 79(1). 83–96. doi:10.1111/mono.12080.

This article examines how religiosity interacts with children's beliefs, beyond the concept of noncorporeal continuity. The article address how religious beliefs may influence children's cognitive understanding of death and examines how religious and other alternative beliefs might coexist with children's biological understanding of death. Most pertinent to the issues of this article, younger children from more highly religious families were significantly more likely to attribute biological and mental properties to both living and nonliving things than children from nonreligious families. Religious beliefs did influence children's thinking about death. These children were also more likely than children from less religious families to provide a religious answer to s question about whether "a special part" remains after death. These results suggest that the religious beliefs of the family do influence children's reasoning about death and point to the importance of not ignoring religion in investigations of children's understanding of death.

Shaver, John H & Richard Sosis. 2014. How does male ritual behavior vary across the lifespan? An examination of Fijian kava ceremonies. *Human Nature* 25(1). 136–160. doi:10.1007/s12110-014-9191-6.

Ritual behaviors of some form exist in every society known to anthropologists. Despite this universality, there is little understanding of how ritual behavior varies within populations or across the lifespan, nor the determinants of this variation. Here, researchers test hypotheses derived from life history theory by using behavioral observations and oral interview data concerning participant variation in Fijian kava-drinking ceremonies. The researchers predicted that substantial variation in the frequency and duration of participation would result from (1) trade-offs with reproduction and (2) the intrinsic status differences between ritual participants. Results demonstrate that when controlling for household composition, men with young offspring participated less frequently and exhibited greater variance in their time spent at ceremonies than men without young children. However, men with a larger number of total dependents in their household participated more frequently than those with fewer. Moreover, it was found that men's ascribed rank, level of education, and reliance on wage labor all significantly predict their frequency of attendance. It was also found that the number of dependents a man has in his household is positively correlated with total food production, and the amount of kava he cultivates. In general, these results suggest that ritual participation is part of an important strategy employed by Fijian men for both achieving status and developing social alliances. Variation in participation in kava ceremonies by Fijian men therefore reflects the constraints of their current life history condition and their inherited rank.

Stavrova, Olga & Pascal Siegers. 2014. Religious prosociality and morality across cultures: How social enforcement of religion shapes the effects of personal religiosity on prosocial and moral attitudes and behaviors. *Personality and Social Psychology Bulletin* 40(3). 315–333. doi:10.1177/0146167213510951.

The question of whether religiosity is linked to prosocial behavior is currently hotly debated in psychology. This research contributes to this debate by showing that the nature of individuals' religious orientations and their relationships to prosociality depend on their country's social enforcement of religiosity. Analyses of data from more than 70 countries indicate that in countries with no social pressure to follow a religion, religious individuals are more likely to endorse an intrinsic religious orientation (Study 1), engage in charity work (Study 2), disapprove of lying in their own interests (Study 3), and are less likely to engage in fraudulent behaviors (Study 4), compared with non-religious individuals. Ironically, in secular contexts, religious individuals are also more likely to condemn certain moral choices than non-religious individuals (Study 2). These effects of religiosity substantially weaken (and ultimately disappear) with increasing national levels of social enforcement of religiosity.

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

Bean, Lydia. 2014. Compassionate Conservatives? Evangelicals, Economic Conservatism, and National Identity. *Journal for the Scientific Study of Religion* 53(1). 164–186. doi:10.1111/jssr.12087.

In the United States, white evangelicals are more economically conservative than other Americans. It is commonly assumed that white evangelicals oppose redistributive social policies because of their individualistic theology. Yet Canadian evangelicals are just as supportive of redistributive social policy as other Canadians, even though they share the same tools of conservative Protestant theology. To solve this puzzle, the author used multi-sited ethnography to compare how two evangelical congregations in the United States and Canada talked about poverty and the role of government. In both countries, evangelicals made sense of their religious responsibilities to 'the poor' by reference to national identity. Evangelicals used their theological tools differently in the United States and Canada because different visions of national solidarity served as cultural anchors for religious discourse about poverty. The author concludes that, to understand the political and civic effects of religion, scholars need to consider the varied ways that religious groups imagine national community within religious practice.

Chan, Margaret. 2014. Tangki War Magic: The Virtuality of Spirit Warfare and the Actuality of Peace. *Social Analysis* 58(1). 25–46. doi:10.3167/sa.2014.580102.

Tangki spirit-medium worship is practiced in the Hokkien communities of Southeast Asia and Taiwan. Tangkis are exorcists who perform war magic using the ritual theater of self-mortification. A tangki pierces his body with rods and swords in order to be supercharged with the spirit-power of the weapons for the battle with evil. Self-mortification can also enact a bodhisattva sacrifice of the body on behalf of devotees. The virtuality of the ritual theater convinces believers of the actuality of exorcism, which will ensure peace and safety in the reality of the everyday.

Ding, Xiaoqian, Yi-Yuan Tang, Rongxiang Tang & Michael I. Posner. 2014. Improving creativity performance by short-term meditation. *Behavioral and Brain Functions* 10. 9. doi:10.1186/1744-9081-10-9.

For this study, 40 Chinese undergraduates were randomly assigned to a short-term integrative body-mind training (IBMT) group or a relaxation training (RT) control group. Mood and creativity performance were assessed by the Positive and Negative Affect Schedule and Torrance Tests of Creative Thinking questionnaire, respectively. Following intervention, as predicted, the results indicated that short-term (30 minutes per day for 7 days) IBMT improved creativity performance on the divergent thinking task, and yielded better emotional regulation than RT. In addition, cross-lagged analysis indicated that both positive and negative affect may influence creativity in IBMT group (not RT group). These results suggested that emotion-related creativity-promoting mechanism may be attributed to short-term meditation.

Evans, Michael S. 2014. Religion and Political Decision Making. *Journal for the Scientific Study of Religion* 53(1). 145–163. doi:10.1111/jssr.12088.

Influential political theorists suggest that religious differences in political life may be overcome through shared commitment to political processes. In this article, the author subjects the underlying assumptions of this proposition to empirical inquiry. When faced with substantive conflict over policy outcomes, do religious persons defer to a political process for resolution? And if so, to which political process do they defer? Through a novel interview exercise with 61 respondents from a variety of religious backgrounds, the author finds a general willingness to defer to a legitimate political process, even if it results in an undesirable outcome that violates religious (or other)

political preferences. However, he also finds that a political process need not be democratic to be seen as legitimate, and that process preferences do not map onto religious differences.

Farrer, D. S. & James D. Sellmann. 2014. Chants of Re-enchantment: Chamorro Spiritual Resistance to Colonial Domination. *Social Analysis* 58(1). 127–148. doi:10.3167/sa.2014.580107.

The Chamorro people inhabit an archipelago known as the Mariana Islands located in the western Pacific Ocean. Seventeenth-century Chamorros took ancestral skulls into warfare against the Spanish in the period of the Spanish conquest. The possession of such skulls manifested profound symbolic power. In the aftermath of the war, the survivors converted to Catholicism, amalgamating their ancient religious practices with that faith. Resistance through the centuries against Spanish, Japanese, and American colonial power has been anchored in Chamorro cultural continuity, albeit in an ostensibly fragmented and augmented form. A site of strategic US military bases, Guam now anticipates further military build-up. War magic and warrior religion are lenses that enable the study of colonial domination where the battle lines fault across military, economic, and political frames toward cultural fronts.

Garroutte, Eva Marie, Janette Beals, Heather Orton Anderson, Jeffrey A. Henderson, Patricia Nez-Henderson, Jacob Thomas, Calvin Croy, Spero M. Manson & The AI-SUPERPFP Team. 2014. Religio-Spiritual Participation in Two American Indian Populations. *Journal for the Scientific Study of Religion* 53(1). 17–37. doi:10.1111/jssr.12084.

Following a previous investigation of religio-spiritual beliefs in American Indians, this article examined prevalence and correlates of religio-spiritual participation in two tribes in the Southwest and Northern Plains (n=3,084). Analysis suggested a 'religious profile' characterized by strong participation across three traditions: aboriginal, Christian, and Native American Church. However, sociodemographic variables that have reliably predicted participation in the general American population, notably gender and age, frequently failed to achieve significance in multivariate analyses for each tradition. Religio-spiritual participation was strongly and significantly related to belief salience for all traditions. Findings suggest that correlates of religious participation may be unique among American Indians, consistent with their distinctive religious profile. Results promise to inform researchers' efforts to understand and theorize about religio-spiritual behavior. They also provide tribal communities with practical information that might assist them in harnessing social networks to confront collective challenges through community-based participatory research collaborations.

Grave, Jean-Marc de. 2014. Javanese Kanuragan Ritual initiation: A Means to Socialize by Acquiring Invulnerability, Authority, and Spiritual Improvement. *Social Analysis* 58(1). 47–66. doi:10.3167/sa.2014.580103.

Kanuragan is a secret ritual initiation tied to local cosmological practices and cults used by the Javanese as a source of self-help on issues related to health, welfare, and protection. At basic levels, the practitioners of kanuragan use special entities called "aji" to gain strength and invulnerability. At the next level, the teaching of the master involves a specific mystical knowledge tied to the acquisition of spiritual authority. This article describes the process of transmission, the persons involved, and the role that kanuragan plays in Javanese society for security purposes and in warfare. The analysis shows how kanuragan competes with new secular and religious systems of value as well as with sorcery and new embodied practices such as sports competitions, to provide comparative insights on the formation of social categories.

Greyson, Bruce & Surbhi Khanna. 2014. Spiritual transformation after near-death experiences. *Spirituality in Clinical Practice* 1(1). 43–55. doi:10.1037/scp0000010.

The objective of this study was to explore whether posttraumatic spiritual transformation results not just from the traumatic event, but from spiritual experience during the crisis. The hypothesis tested was that survivors of a brush with death who had spiritual "near-death experiences" have greater spiritual growth and lesser spiritual decline than survivors without near-death experiences. Two hundred thirty self-selected participants who had come close to death completed questionnaires that included the NDE Scale, the Spiritual Transformation Scale, and relevant demographic questions. Near-death experiencers reported greater spiritual growth than comparison survivors, and spiritual growth was correlated with depth of near-death experience. Spiritual decline was comparable in the two groups, and was not associated with depth of near-death experience. Near-death experiences thus are associated with greater posttraumatic spiritual growth but do not influence posttraumatic spiritual decline. The relevance of spiritual transformation to individuals' lives and well-being suggest that further research is warranted, and that strategies to promote spiritual growth be incorporated into therapeutic practice.

Hawkes, Teresa D, Wayne Manselle & Marjorie H Woollacott. 2014. Cross-sectional comparison of executive attention function in normally aging long-term T'ai chi, meditation, and aerobic fitness practitioners versus sedentary adults. *Journal of Alternative and Complementary Medicine* 20(3). 178–184.

doi:10.1089/acm.2013.0266.

This cross-sectional field study documented the effect of long-term t'ai chi, meditation, or aerobic exercise training versus a sedentary lifestyle on executive function. It was predicted that long-term training in t'ai chi and meditation plus exercise would produce greater benefits to executive function than aerobic exercise. T'ai chi and meditation plus exercise include mental and physical training. Fifty-four volunteers were tested: t'ai chi (n=10); meditation and exercise (n=16); aerobic exercisers (n=16); and sedentary controls (n=12). A one-factor (group), one-covariate (age) multivariate analysis of covariance was performed. Significant main effects of group and age were found. T'ai chi and meditation practitioners but not aerobic exercisers outperformed sedentary controls on percent switch costs, suggesting that there may be differential effects of training type on executive function.

Hedlund-de Witt, Annick, Joop de Boer & Jan J. Boersema. 2014. Exploring inner and outer worlds: A quantitative study of worldviews, environmental attitudes, and sustainable lifestyles. *Journal of Environmental Psychology* 37. 40–54. doi:10.1016/j.jenvp.2013.11.005.

This study generates insight into how environmental attitudes and sustainable lifestyles relate to worldviews. First, environmental attitudes are contextualized cultural-historically (using Charles Taylor's work) and psychologically (using self-determination theory, SDT). Then, a questionnaire exploring worldviews, environmental attitudes, and sustainable lifestyles was conducted (n=1,043) in the Netherlands. Component analyses resulted in five worldview-factors (Inner growth, Contemporary spirituality, Traditional God, Focus on money, Secular materialism) and three environmental attitudes (Connectedness with nature, Willingness to change, Instrumentalism). The results show that Inner growth and Contemporary spirituality relate to Connectedness with nature and Willingness to change (and more sustainable lifestyles), while Focus on money and Secular materialism relate to Instrumentalism (and less sustainable lifestyles). In line with SDT, the results suggest that intrinsically oriented worldviews correlate positively with pro-environmental attitudes and lifestyles, while extrinsically oriented worldviews correlate negatively. In line with Taylor, the results indicate the presence of a more traditional, modern, and postmodern worldview in the Netherlands.

Inman, Mary, Erica Iceberg & Laura McKeel. 2014. Do Religious Affirmations, Religious Commitments, or General Commitments Mitigate the Negative Effects of Exposure to Thin Ideals? *Journal for the Scientific Study of Religion* 53(1). 38–55. doi:10.1111/jssr.12089.

Western pressures for thinness tell women that having a thin body makes a person worthy. Two factors that may provide alternative means of self-worth are religion and general commitment to a meaningful goal. This study experimentally tested whether religious-affirming statements buffered against exposure to thin models for everyone, or only for women with strong religious commitment. It also examined the relationships among religious commitment, general commitment, and body satisfaction. One hundred eleven women at a religious-affiliated college completed the commitment scales and baseline body measures. They were later randomly assigned to read one set of affirming statements, after which they then completed body measures again. Results showed that religious commitment buffered against exposure to ultrathin models. Women who were strongly religiously committed and who read religious statements that affirmed the body showed higher body esteem. Correlation results showed that general commitment was positively related to body esteem, body satisfaction, and healthy dieting. Religious commitment was positively related to body esteem and body satisfaction. Results are discussed in relation to schemas and depth of processing.

Jenkins, J. Jacob. 2014. A "community" of discipline: The paradox of diversity within an intercultural church. *Western Journal of Communication* 78(2). 134–154. doi:10.1080/10570314.2013.845793.

In recent years, a sense of community has declined throughout the United States. Central Community Church has responded to this trend by promoting the organizational metaphor of "community." Building upon 4 years of ethnographic fieldwork, the present study explored potential limitations and consequences of this metaphor among Central Community's racially/ethnically diverse leaders and members. Results revealed a one-sided insight that values a White normative view of "community" over alternative understandings, thus, silencing current minority members within the organization. The author begins the exploration, first, with a brief review of relevant literature. Next, he outlines this study's intercultural context and research methodologies, and then discusses two unintended consequences of the community metaphor: (a) one-sided insight, and (b) self-disciplined members. The article concludes by introducing the diversity paradox: an emphasis placed upon one potential expression of diversity which, in turn, deemphasizes alternative expressions of difference for certain minority members.

King, Pamela Ebstyne, Casey E. Clardy & Jenel Sánchez Ramos. 2014. Adolescent spiritual exemplars: Exploring spirituality in the lives of diverse youth. *Journal of Adolescent Research* 29(2). 186–212.

doi:10.1177/0743558413502534.

This qualitative study aimed to develop theory about psychological constructs relevant to spiritual development in diverse adolescents. Exemplar and Consensual Qualitative Research methods were used to explore 30 interviews of adolescents aged 12 to 21 years representing eight religions and six countries from around the world. Participants were nominated for living with profound spirituality within their own culture and completed semi-structured interviews in their country of origin. After several iterations of analysis, participants' discussions of spirituality in their lives were explored in terms of three dimensions of spirituality present in their lives: transcendence, fidelity, and behavior. Findings are considered in light of existing developmental theory, and implications for adolescent development are discussed.

Martyn, Helen, Anthony Barrett & Helen D Nicholson. 2014. A belief in the soul may contribute to the stress experienced in the dissecting room. *Journal of Anatomy* 224(3). 345–351. doi:10.1111/joa.12122.

The aim of this research was to explore whether medical students believe in a soul and how this may affect their dissecting experience. Three questionnaires were delivered electronically to the 2011 cohort of second-year medical students over a 2-year period. At the University of Otago, students enter medicine via three categories: Health Sciences First Year (following 1 year of university); postgraduate (following a Bachelors or higher degree); and 'other' category entry (Allied Health Professional or 3 years after a Bachelors degree). The entry category, age,

ethnicity and gender of the students were collected; 51.6% of the students believed in the concept of a soul. On a scale of 1-5, students ranked the importance of religion/spirituality as 2.69. Those who believed in a soul were more likely to have a religious/spiritual component to their life and be males or 'other' category entrants. However, there were many students who believed in the soul who did not have a religious/spiritual association, suggesting that this belief extends beyond religion. Those who believed in a soul had significantly higher anticipatory stress and experienced higher levels of stress during dissection. A higher proportion of students in the 'other' category entrants believed in the concept of the soul and also had significantly higher levels of stress during dissection. These data suggest that a belief in a soul may affect students' experiences in dissecting.

Perry, Samuel L. 2014. Hoping for a Godly (White) Family: How Desire for Religious Heritage Affects Whites' Attitudes Toward Interracial Marriage. *Journal for the Scientific Study of Religion* 53(1). 202–218. doi:10.1111/jssr.12079.

This study examines how a desire to pass on religious heritage shapes whites' attitudes toward interracial marriage for their children. Utilizing national survey data (Baylor Religion Survey 2007), the author estimates ordered logit regression models to examine the extent to which whites' desire to have their children and children's spouses share their religion affects attitudes toward their hypothetical daughters marrying blacks, Latinos, or Asians, net of other factors. Analyses reveal that whites who consider it more important that their children and children's spouses share their religion are less comfortable with their daughters marrying blacks, Latinos, or Asians. These effects are robust to the inclusion of measures for religiosity, political ideology, intimate interracial experiences, and other sociodemographic correlates. These findings suggest that, for whites, religious heritage has a clear ethno-racial component. The greater their desire for descendants to share the same religious views, the more whites would prefer that these descendants themselves be white, indicating that, for many white Americans, religious heritage is equated with whiteness.

Reed, Phil & Natasha Clarke. 2014. Effect of religious context on the content of visual hallucinations in individuals high in religiosity. *Psychiatry Research* 215(3). 594–598. doi:10.1016/j.psychres.2014.01.006.

This study investigated the interaction between the current environment and personality factors associated with religiosity in determining the content of false perceptions (used as a model for hallucinations). A primed word-detection task was used to investigate the effect of a 'religious' context on false perceptions in individuals scoring highly on religiosity. After a subliminal prime, participants viewed letter strings, and stated any words that they saw. The prime and the actual words could have a religious connotation or not. Participants measuring high on religiosity were more likely to report false perceptions of a religious type than participants low on religiosity. It is suggested that context affects the content of false perceptions through the activation of stored beliefs and values, which vary between individuals, offering a mechanism for the effect of context on idiosyncratic content of hallucinations in schizophrenia. The effect of context and individual differences on false-perception content in the current study provides possibilities for future work regarding the underlying nature of hallucinations and their treatment.

Ritter, Ryan S., Jesse Lee Preston & Ivan Hernandez. 2014. Happy tweets: Christians are happier, more socially connected, and less analytical than atheists on twitter. *Social Psychological and Personality Science* 5(2). 243–249. doi:10.1177/1948550613492345.

Researchers analyzed data from nearly 2 million text messages (tweets) across over 16,000 users on Twitter to examine differences between Christians and atheists in natural language. Analyses reveal that Christians use more positive emotion words and less negative emotion words than atheists. Moreover, two independent paths predict differences in expressions of happiness: frequency of words related to an intuitive (vs. analytic) thinking

style and frequency of words related to social relationships. These findings provide the first evidence that the relationship between religion and happiness is partially mediated by thinking style. This research also provides support for previous laboratory studies and self-report data, suggesting that social connection partially mediates the relationship between religiosity and happiness.

Sandage, Steven J. 2014. Attachment theory, relational spirituality, and varieties of evangelicals. *Religion, Brain & Behavior* 4(1). 59–65. doi:10.1080/2153599X.2013.768539.

The author responds to Luhrmann's book, noting surprise that Luhrmann deviates from her careful scholarship when implying an overgeneralization from her research findings to a wider category of evangelicals. The author finds the greatest strength of Luhrmann's book to be her focus on the relational dynamics that are both implicit and explicit in contemporary evangelical spirituality. He suggests that attachment theory and the related field of interpersonal neurobiology would offer a more effective framework for conceptualizing the data in her research. Theologically, the relational ontology posited by attachment theorists is more consistent with the relational world view of evangelicals than is a cognitive learning paradigm of individual subjects changing their mental process through practice. From a social science perspective, attachment researchers have developed a strong body of empirical literature, which differentiates attachment theory from other intriguing, but poorly validated theories in psychoanalytic traditions. An article in a book symposium.

Spröber, Nina, Thekla Schneider, Miriam Rassenhofer, Alexander Seitz, Hubert Liebhardt, Lilith König & Jörg M Fegert. 2014. Child sexual abuse in religiously affiliated and secular institutions: A retrospective descriptive analysis of data provided by victims in a government-sponsored reappraisal program in Germany. *BMC Public Health* 14(1). 282. doi:10.1186/1471-2458-14-282.

Researchers studied data collected in Germany from victims of sexual abuse. Of the 1,050 victims in the sample data, 404 had been in Roman Catholic, 130 in Protestant, and 516 in non-religious institutions. The overall mean age at the time of reporting was 52.2 years. Males (59.8%) outnumbered females. Victims who had been in religiously affiliated institutions were significantly older than those who had been in secular institutions. Almost half the victims had been abused physically as well as sexually, and most victims reported that the abuse had occurred repeatedly and that the assaults had been committed by males. Patterns of abuse (time, type, and extent), and the gender of the offenders did not differ between the three groups. Intercourse was more frequently reported by older victims and by females. Similar percentages of victims in all groups reported current psychiatric diagnoses (depression, anxiety disorders, PTSD). Significantly more victims from Protestant institutions reported having current psychosocial problems. The results suggest that child sexual abuse in institutions is attributable to the nature of institutional structures and to societal assumptions about the rights of children more than to the attitudes towards sexuality of a specific religion.

Strawn, Brad D. & Warren S. Brown. 2014. Living with evangelical paradoxes. *Religion, Brain & Behavior* 4(1). 65–72. doi:10.1080/2153599X.2013.768536.

The authors respond to Luhrmann's book, pointing out that parishioners in the American religious community Luhrmann studies are formed by a deep commitment to, and engagement in, very basic embodied cognitive processes of teaching and learning in the formation of congregants, while at the same time they downplay these processes in favor of a strong emphasis on disembodied forms of spirituality in statements about belief and experience. Thus, evangelicals live within the paradox that their religious experience is understood as individual, internal, and disembodied, but emerges from embodied communal practices. An article in a book symposium.

Todd, Nathan R., Elizabeth A. McConnell & Rachael L. Suffrin. 2014. The role of attitudes toward White privilege and religious beliefs in predicting social justice interest and commitment. *American Journal of Community Psychology* 53(1-2). 109–121. doi:10.1007/s10464-014-9630-x.

The current study examines links among attitudes toward White privilege, religious beliefs, and social justice interest and commitment for White Christian students. Two distinct patterns of results emerged from a path analysis of 500 White Christian students. First, a willingness to confront White privilege was positively associated with the sanctification of social justice (i.e., attributing spiritual significance to working for social justice) and both were positively associated with social justice interest and commitment. Second, awareness of White privilege was negatively associated with religious conservatism, and religious conservatism was negatively associated with social justice interest. These patterns show that White privilege attitudes directly (i.e., willingness to confront White privilege) and indirectly (i.e., awareness of White privilege through religious conservatism) predicted social justice interest and commitment. Moreover, religious beliefs demonstrated opposite patterns of association with social justice interest and commitment whereas religious conservatism negatively predicted social justice interest. Overall, findings demonstrate direct and indirect links between White privilege attitudes, religious beliefs, and social justice interest and commitment.

Wellman, James K. 2014. Religious experience as a different world. Religion, Brain & Behavior 4(1). 72–78.

doi:10.1080/2153599X.2013.768540.

The author responds to Luhrmann's book. He questions whether the book's exclusive focus on the Vineyard church community, a recent phenomenon in American religious history, hinders the conclusions that can be drawn from them; the data Luhrmann found, and the data found by the present author, are not consistent, suggesting that Vineyard churches are not typical of American evangelicals. Further, the author addresses the conception of religious experience among evangelicals as a kind of "magical realism." An article in a book symposium.

Woods, Hannah & Michael Proeve. 2014. Relationships of Mindfulness, Self-Compassion, and Meditation Experience With Shame-Proneness. *Journal of Cognitive Psychotherapy* 28(1). 20–33. doi:10.1891/0889-8391.28.1.20.

The tendency to experience shame or guilt is associated differentially with anxiety, depression, and substance abuse, with shame being associated with greater psychopathology. Recent interventions designed to decrease shame emphasize mindfulness or self-compassion. This study investigated correlational relationships of shame-proneness and guilt-proneness with mindfulness and with self-compassion in undergraduate participants. Shame-proneness was strongly negatively correlated with all facets of mindfulness and with self-compassion, whereas guilt-proneness was weakly positively correlated with self-compassion and some facets of mindfulness. Hierarchical regression analysis showed that shame-proneness was predicted by self-compassion but not by mindfulness. More frequent meditation was associated with greater mindfulness and self-compassion and lower shame-proneness but not guilt-proneness.

Wu, Ying, Yiyin Yang & Chi-yue Chiu. 2014. Responses to religious norm defection: The case of Hui Chinese Muslims not following the halal diet. *International Journal of Intercultural Relations* 39. 1–8.

doi:10.1016/j.ijintrel.2013.08.008.

The present research sought to understand how religious individuals would respond to ingroup members' defections from the sacred norms in their religion. Given the strong connection of the dietary norms in Islam to the religion's sacred values, violations of Islamic dietary norms may evoke strong negative emotions. Therefore, researchers

examined how young Hui Muslims in Beijing reacted when they witnessed a Muslim violate the sacred halal and haram norms of food prohibitions in Islam. The results of an experiment showed that when Hui Muslims perceived a defection from the halal and haram norms by a Muslim, they felt sad, angry and disgusted. These emotions in turn increased the preference for practices and policies that would uphold religious norms. The results also speak to Hui Muslims' tolerance of norm violations by non-Muslims. Although following the halal and haram norms is considered morally obligatory for Muslims, the Hui Muslim participants did not expect non-Muslims to follow these norms and did not report negative emotions when they saw a non-Muslim consuming a non-halal meal.

Zhang, Kaili Chen & Esther Dawen Yu. 2014. Quest for a good life: Spiritual values, life goals, and college students. *Asia-Pacific Psychiatry* 6(1). 91–98. doi:10.1111/j.1758-5872.2012.00183.x.

For this study, 499 structured surveys and 64 follow-up interviews were taken in two government-sponsored universities in Singapore. Researchers focused on the spiritual values and life goals among students. Results indicate that spiritual values were positively correlated with intrinsic goals, which had been shown to strongly relate to subjective well-being (SWB).

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

Bulbulia, Joseph. 2013. The Arts Transform the Cognitive Science of Religion. *Journal for the Cognitive Science of Religion* 1(2). 141–160.

The Cognitive Science of Religion (CSR) is becoming increasingly experimental. Its methods are winning the hearts of next-generation humanities scholars of religion. Yet many present-generation humanities scholars of religion remain unaware of recent advances and have yet to participate. The author hopes to persuade such scholars that it is worth attempting collaborative science. CSR research will benefit from a fuller participation of mature humanities scholars of religion because their training affords a rich knowledge of religious facts. By the same token, humanities scholars of religion should be interested in scientific approaches because cumulative intellectual progress in every empirical discipline relies on hypothesis-driven research. The argument comes in three parts. First, the author clarifies the exciting possibilities for cumulative intellectual progress that hypothesis-driven research uniquely affords. Second, he describes recent advances from humanities/CSR collaborations, hazarding a few predictions about what to expect next. Third, he offers practical advice to humanities scholars about how to pursue productive CSR collaborations.

Cook, Kaye V., Cynthia N. Kimball, Kathleen C. Leonard & Chris J. Boyatzis. 2014. The Complexity of Quest in Emerging Adults' Religiosity, Well-Being, and Identity. *Journal for the Scientific Study of Religion* 53(1). 73–89. doi:10.1111/jssr.12086.

The construct of quest as measured by the Quest Scale raises complexities that this study addressed with online surveys measuring religiosity, ego identity, and well-being of graduates from two Christian colleges. Intrinsic questers (those above the scale midpoint in intrinsic and quest scores but below the extrinsic midpoint) made up over half of those high in intrinsic religiosity and did not differ in Christian orthodoxy, religious identity, religious coping, or well-being from the pure intrinsics (those high in intrinsic religiosity). Indiscriminately pro-religious questing individuals (those high in intrinsic and extrinsic religiosity and quest) were less religious and showed poorer coping than intrinsic questers. Quest appears to be a reasonable measure of religious orientation, improving prediction of Christian orthodoxy, religious identity, and religious coping, and was more highly correlated with ego identity exploration than with stress. In association with intrinsic religiosity quest does not appear to indicate weak religiosity or poor well-being. Instead, intrinsic questers may pursue a distinctive developmental trajectory, a

path of existential searching by which emerging adults manage the demands of contemporary culture while maintaining a mature faith.

Karlsen, May Lene, Adrian Coyle & Emma Williams. 2014. "They never listen": Towards a grounded theory of the role played by trusted adults in the spiritual lives of children. *Mental Health, Religion & Culture* 17(3). 297–312. doi:10.1080/13674676.2013.798781.

This qualitative study addresses the lack of research into the role of trusted adults in the spiritual lives of children. Semi-structured interviews were conducted with nine children from a British primary school and the data analyzed using a grounded theory approach. Six categories were identified outlining the reciprocal relationship of unavailability and withholding between children and their trusted adults and how children made sense of spirituality in the absence of explicit guidance. It was found that the children had little opportunity for negotiating a shared understanding or experience of spirituality with adults and, as a result, either preserved an isolated and secret sense of spirituality or accepted what they observed to be their trusted adults' stance. The practical and theoretical implications of the children's responses in the absence of trusted adults are discussed and recommendations are made for practice and future research.

Newberg, Andrew B. 2014. The neuroscientific study of spiritual practices. *Frontiers in Psychology* 5. 215.

doi:10.3389/fpsyg.2014.00215.

The purpose of this paper will be to provide a perspective on the current state of the research evaluating the neurobiological correlates of spiritual practices and review the methodological issues that confront this research field. There are many types of spiritual practices that might be studied including prayer and meditation, as well as unusual practices such as mediumistic trance states, speaking in tongues, and also drug-induced experiences. Current studies have utilized neuroimaging techniques including functional magnetic resonance imaging, single photon emission computed tomography, and positron emission tomography. These studies have helped elucidate the neurobiological mechanisms associated with spiritual practices. Such studies confront unique challenges for scientific methodology including determining the most appropriate objective measures such as neuroimaging studies and physiological parameters, and correlating them with subjective measures that help capture states of spiritual significance. Overall, a neuroscientific study of spiritual practices and experiences has the potential to provide fascinating data to further our understanding of the relationship between the brain and such phenomena.

Sørensen, Jesper & Kristoffer L. Nielbo. 2013. The Experimental Study of Religion: or, There and Back Again. *Journal for the Cognitive Science of Religion* 1(2). 215–232.

Within the last two decades, the cognitive science of religion has gained momentum, and this has led to a call for dedicated experimental studies addressing this level of explanation. However, what does such an experimental turn mean for the study of religion more generally? How does it affect what we study and the methods we use to study it? Does it alter with whom we cooperate, where we publish and what scholarly discussions we take part in? In this article, the authors discuss how the experimental study of religious phenomena changes the theoretical subject matter and how it involves a new relation between theoretical modeling, methodological reduction and generalization. They argue that, similar to all new approaches, an experimental methodology is likely to alter the study of religion in the short run, but in the longer perspective experimental approaches are likely to take their place beside other approaches that constitute the broader field of the academic study of religion.

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

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

Ahmed, Mahiuddin, Shakeel Modak & Sonia Sequeira. 2014. Acute Pain Relief After Mantram Meditation in Children With Neuroblastoma Undergoing Anti-GD2 Monoclonal Antibody Therapy. *Journal of Pediatric Hematology/Oncology* 36(2). 152–155. doi:10.1097/MPH.0000000000000024.

Nonpharmacologic, mind-body interventions are used to reduce anxiety in pediatric patients. Anti-ganglioside GD2 monoclonal antibody (anti-GD2 MoAb 3F8) therapy is the standard of care for high-risk neuroblastoma and pain is its major side effect. Researchers performed a retrospective analysis of children undergoing anti-GD2 MoAb 3F8 treatment who received guided meditation. Meditation involved concentrating on the repetition of rhythmic, melodic sounds purported to slow breathing and induce a relaxation response. A total of 71% patients completed a session at first (n=19) or second attempt (n=5). Patients received fewer analgesic doses to manage anti-GD2 MoAb 3F8-induced pain when participating in meditation (n=17). The authors conclude that mantram meditation is a feasible outpatient intervention associated with reduced analgesic requirements.

Byrne, Jean, Yvonne Hauck, Colleen Fisher, Sara Bayes & Robert Schutze. 2014. Effectiveness of a mindfulness-based childbirth education pilot study on maternal self-efficacy and fear of childbirth. *Journal of Midwifery & Women's Health* 59(2). 192–197. doi:10.1111/jmwh.12075.

This pilot study tested the feasibility and effectiveness of using Mindfulness-Based Childbirth Education (MBCE), a novel integration of mindfulness meditation and skills-based childbirth education, for mental health promotion with pregnant women. A single-arm pilot study of the MBCE intervention using a repeated-measures design was used to analyze data before and after the MBCE intervention to determine change trends with key outcome variables: mindfulness; depression, anxiety, and stress; childbirth self-efficacy; and fear of childbirth. Pregnant women (18-28 weeks' gestation) and their support companions attended weekly MBCE group sessions over 8 weeks in an Australian community setting. Of the 18 women who began and completed the intervention, missing data allowed for complete data from 12 participants to be analyzed. Statistically significant improvements and large effect sizes were observed for childbirth self-efficacy and fear of childbirth. Improvements in depression, mindfulness, and birth outcome expectations were underpowered. At postnatal follow-up significant improvements were found in anxiety, whereas improvements in mindfulness, stress, and fear of birth were significant at a less conservative alpha level.

Cassibba, Rosalinda, Sonia Papagna, Maria T. Calabrese, Elisabetta Costantino, Angelo Paterno & Pehr Granqvist. 2014. The role of attachment to God in secular and religious/spiritual ways of coping with a serious disease. *Mental Health, Religion & Culture* 17(3). 252–261. doi:10.1080/13674676.2013.795138.

This study investigated the role of security in one's attachment to God in relation to both secular and religious/spiritual ways of coping with a serious illness. The main objective was to test whether attachment to God and type of disease were related to secular coping strategies, when controlling for the effects of religious/spiritual coping. Study participants (n=105) had been diagnosed either with cancer (i.e., an acute disease) and were under chemotherapy/awaiting surgery or with renal impairment (i.e., a chronic disease) and were attending dialysis. Results showed that secure attachment to God was uniquely related to fighting spirit, whereas insecure attachment to God was uniquely linked to hopelessness, suggesting that security, unlike insecurity, in one's attachment to God may impact favorably on adjustment to the disease. The only coping strategy related to type of disease was cognitive avoidance, which was linked to chronic disease.

Demarzo, Marcelo M P, Jesús Montero-Marin, Phyllis K Stein, Ausiàs Cebolla, Jaime G Provinciale & Javier García-Campayo. 2014. Mindfulness may both moderate and mediate the effect of physical fitness on cardiovascular responses to stress: A speculative hypothesis. *Frontiers in Physiology* 5. 105.

doi:10.3389/fphys.2014.00105.

The psychological construct of mindfulness refers to an awareness that emerges by intentionally paying attention to the present experience in a non-judgmental or evaluative way. This particular quality of awareness has been associated to several indicators of physical and psychological health, and can be developed using mindfulness-based interventions (MBIs), and therefore MBIs have been successfully applied as preventive and complementary interventions and therapies in medicine and psychology. Together with quiet sitting and lying meditation practices, mindful physical exercises such as "mindful walking" and "mindful movement" are key elements in MBIs and couple muscular activity with an internally directed focus, improving interoceptive attention to bodily sensations. In addition, MBIs seem to share similar mechanisms with physical fitness (PF) by which they may influence cardiovascular responses to stress. Based on these facts, it is feasible to raise the question of whether physical training itself may induce the development of that particular quality of awareness associated with mindfulness, or if one's dispositional mindfulness (DM) (the tendency to be more mindful in daily life) could moderate the effects of exercise on cardiovascular response to stress. The role of mindfulness as a mediator or moderator of the effect of exercise training on cardiovascular responses to stress has barely been studied. In this study, researchers have hypothesized pathways (moderation and mediation) by which mindfulness could significantly influence the effects of PF on cardiovascular responses to stress and discussed potential practical ways to test these hypotheses.

Drutchas, Alexis & Gowri Anandarajah. 2014. Spirituality and coping with chronic disease in pediatrics. *Rhode Island Medical Journal* 97(3). 26–30.

This article reviews childhood spirituality related to chronic disease coping. The existing literature, though sparse, reveals that children have a rich and complex spiritual life; one which often goes beyond religiosity to examine purpose in the context of illness. Studies suggest that spiritual beliefs have the potential to support as well as hinder children's ability to cope with chronic illness. More research is needed to better understand and meet the spiritual needs of children with chronic illnesses.

Fouladbakhsh, Judith M., Jean E. Davis & Hossein N. Yarandi. 2014. A Pilot Study of the Feasibility and Outcomes of Yoga for Lung Cancer Survivors. *Oncology Nursing Forum* 41(2). 162–174. doi:10.1188/14.ONF.162-174.

This 14-week study was designed to determine the feasibility of a standardized yoga intervention for survivors of non-small cell lung cancer (NSCLC) and effects on sleep, mood, salivary cortisol levels, and quality of life (QOL). Seven adults who had completed initial treatment for stages I-IIIa NSCLC were given eight weeks of yoga classes (40 minutes once per week). Follow-up occurred at three and six months post-study. The authors found that participants with varying stages of disease and length of survivorship were able to perform yoga without respiratory distress. Class attendance exceeded 95%, and all practiced at home. Mood, sleep efficiency, and QOL significantly improved; salivary cortisol levels decreased over time. The authors conclude that yoga was feasible for NSCLC survivors without further compromising breathing with movement.

Garcia, Marcelo Csermak, Sabine Pompéia, Helena Hachul, Elisa H. Kozasa, Altay Alves L. de Souza, Sergio Tufik & Luiz Eugênio A. M. Mello. 2014. Is mindfulness associated with insomnia after menopause? *Menopause* 21(3). 301–305. doi:10.1097/GME.0b013e31829996fc.

The aim of this study was to establish whether postmenopausal women with insomnia are less mindful than postmenopausal women without sleep disorders. Postmenopausal women aged 50 to 65 years who did not use

hormone therapy were recruited for the study. The sample included 14 women with insomnia and 12 women without insomnia or any other sleep disorder. The groups were comparable in age, schooling, and anxiety level. To assess mindfulness, researchers used the validated Mindful Attention Awareness Scale and the attentiveness domain of the Positive and Negative Affect Schedule-Expanded Form. Results indicated that participants with insomnia were less mindful than healthy women. The level of mindfulness was able to discriminate the group with insomnia from the healthy group, with 71.4% accuracy.

Goyal, Madhav, Sonal Singh, Erica M. S. Sibinga, Neda F. Gould, Anastasia Rowland-Seymour, Ritu Sharma, Zackary Berger, et al. 2014. Meditation Programs for Psychological Stress and Wellbeing: A Systematic Review and Meta-analysis. *JAMA Internal Medicine* 174(3). 357–368. doi:10.1001/jamainternmed.2013.13018.

The objective of this study was to determine the efficacy of meditation programs in improving stress-related outcomes (anxiety, depression, stress/distress, positive mood, mental health-related quality of life, attention, substance use, eating habits, sleep, pain, and weight) in diverse adult clinical populations. Researchers identified randomized clinical trials with active controls for placebo effects through November 2012 from electronic databases. After reviewing 18,753 citations, researchers included 47 trials with 3,515 participants. Mindfulness meditation programs had moderate evidence of improved anxiety and pain, and low evidence of improved stress/distress and mental health-related quality of life. Researchers found low evidence of no effect or insufficient evidence of any effect of meditation programs on positive mood, attention, substance use, eating habits, sleep, and weight. Researchers found no evidence that meditation programs were better than any active treatment (i.e., drugs, exercise, and other behavioral therapies).

Gupta, Priya S & Gowri Anandarajah. 2014. The role of spirituality in diabetes self-management in an urban, underserved population: a qualitative exploratory study. *Rhode Island Medical Journal* 97(3). 31–35.

This qualitative, focus group study elicits thoughts of diabetic patients regarding spirituality in diabetes self-care, at an urban primary care practice in Rhode Island. Focus group discussions were audiotaped, transcribed verbatim, and analyzed using the immersion/crystallization technique. Themes of the discussions included: significant impact of diabetes on daily life; fear and family as prominent self-care motivators; relationships with self, others, nature and the divine as major sources of hope and strength. Patients varied considerably regarding the role spirituality played in their illness, ranging from minimal to profound impact. All appeared comfortable discussing spirituality within the context of strength and hope.

Haugan, Gørill, Toril Rannestad, Randi Hammervold, Helge Garåsen & Geir A Espnes. 2014. The relationships between self-transcendence and spiritual well-being in cognitively intact nursing home patients. *International Journal of Older People Nursing* 9(1). 65–78. doi:10.1111/opn.12018.

The aim of this study was to identify the relationships between self-transcendence and spiritual well-being in cognitively intact nursing home patients. A cross-sectional design using the self-transcendence scale and the FACIT-Sp spiritual well-being questionnaire was adopted. A sample of 202 cognitively intact nursing home patients in mid-Norway was selected to respond to the questionnaires in 2008 and 2009. A hypothesized structural equation model comprising a two-factor construct of self-transcendence and a three-factor construct of spiritual well-being demonstrated significant direct relationships between self-transcendence and spiritual well-being and total effects of self-transcendence on spiritual well-being.

Heydari-Fard, Jabar, Masoumeh Bagheri-Nesami, Marjan Ahmad Shirvani & Reza-Ali Mohammadpour. 2014. Association between quality of life and religious coping in older people. *Nursing Older People* 26(3). 24–29.

doi:10.7748/nop2014.03.26.3.24.e496.

Researchers examined the association between quality of life (QoL) and religious coping in older people living in their own homes in Iran (n=200). Results indicated no significant association between QoL and religious coping. However, mental health and social function had a significant association with the total score for religious coping. An association between a high level of religious coping and QoL was significant only for the mental health domain of the SF-36. In light of these results, the authors conclude that older people's mental health and social function may be improved by strengthening their religious beliefs.

Hoffmann, John P & Stephen J Bahr. 2014. Parenting style, religiosity, peer alcohol use, and adolescent heavy drinking. *Journal of Studies on Alcohol and Drugs* 75(2). 222–227.

The purpose of this research was to examine the associations of parenting style, religiosity, and peer alcohol use with alcohol use and heavy drinking. Structural equation modeling was used to estimate direct and indirect associations among 5,419 adolescents ages 12-14 years from the National Longitudinal Study of Youth 1997. Adolescents whose parents were authoritative were less likely to drink heavily than adolescents who experienced neglectful or indulgent parenting styles. Religiosity was negatively associated with heavy drinking after other relevant variables were controlled for. Authoritative parenting therefore appears to have both direct and indirect negative associations with the risk of heavy drinking among adolescents. Authoritative parenting, where monitoring and support are above average, and religiosity might help deter adolescents from heavy drinking, even when adolescents experience peer environments where alcohol use is common.

Holt, Cheryl L., Eddie M. Clark, Katrina J. Debnam & David L. Roth. 2014. Religion and health in African Americans: The role of religious coping. *American Journal of Health Behavior* 38(2). 190–199

doi:10.5993/AJHB.38.2.4.

For this study, 2,370 African-American participants completed a telephone survey assessing religious involvement, religious coping, health behaviors, and demographics. Religious beliefs were associated with greater vegetable consumption, which may be due to the role of positive and negative religious coping. Negative religious coping played a role in the relationship between religious beliefs and alcohol consumption. There was no evidence of mediation for fruit consumption, alcohol use in the past 30 days, or smoking.

Krauss, Steven Eric, Azimi Hamzah, Ismi Arif Ismail, Turiman Suandi, Siti Raba'ah Hamzah, Dzuhailmi Dahalan & Fazilah Idris. 2014. Parenting, community, and religious predictors of positive and negative developmental outcomes among Muslim adolescents. *Youth & Society* 46(2). 201–227.

doi:10.1177/0044118X12464062.

Despite existing research on the contribution of social context and religiosity to adolescent behavioral outcomes, few studies have attempted to explore this topic among Muslim adolescents in non-Western settings, looking at both positive and negative outcomes. In response to this gap, the current study explored the effects of three dimensions of developmental assets (positive parenting, community support, and religiosity) on risk, prosocial, and thriving behaviors among Muslim adolescents (n=895) from Malaysia. Hierarchical regression results revealed positive parenting as the greatest protective factor against risk behavior, religiosity as the most significant factor influencing prosocial behaviors, and community support as the greatest contributor to adolescent thriving. In the final model, unique effects varied by outcome. The findings support the importance and universality of multiple levels of developmental assets for youth development, and highlight the need to better understand their interaction in non-Western cultural contexts.

Kremer, Heidemarie & Gail Ironson. 2014. Longitudinal spiritual coping with trauma in people with HIV: Implications for health care. *AIDS Patient Care and STDs* 28(3). 144–154.

doi:10.1089/apc.2013.0280.

This 10-year study (n=177) examines how people with HIV use spirituality to cope with life's trauma on top of HIV-related stress (e.g., facing death, stigma, poverty, limited healthcare) usual events. Spirituality, defined as a connection to a higher presence, is independent from religion (institutionalized spirituality). As a dynamic adaptive process, coping requires longitudinal studying. Qualitative content-analysis of interviews/essays yielded a coding of specific aspects and a longitudinal rating of overall spiritual coping. Most participants were rated as spiritual, using spiritual practices, about half experienced comfort, empowerment, growth/transformation, gratitude, less than one-third meaning, community, and positive reframing. Up to one-fifth perceived spiritual conflict, struggle, or anger, triggering post-traumatic stress, which sometimes converted into positive growth/transformation later. Over time, 65% used spiritual coping positively, 7% negatively, and 28% had no significant use. Spirituality was mainly beneficial for women, heterosexuals, and African Americans. Results suggest that spirituality is a major source of positive and occasionally negative coping (e.g., viewing HIV as sin).

Lorenc, Ava B, Yuyi Wang, Susan L Madge, Xiaoyang Hu, Awais M Mian & Nicola Robinson. 2014. Meditative movement for respiratory function: a systematic review. *Respiratory Care* 59(3). 427–440.

doi:10.4187/respcare.02570.

In this systematic review researchers synthesized the evidence on the effect of meditative movement, such as tai chi, yoga, and qi gong, on respiratory function in patients with cystic fibrosis. Researchers searched Chinese and English language databases with terms relating to tai chi/yoga/qi gong, and respiratory function/cough/dyspnea. Researchers found 1,649 papers, included 43 (30 in English, 13 in Chinese), 23 of which were randomized controlled trials, and 20 were non-randomized trials. No studies were concerned with CF. Eleven studies included patients with respiratory disorders, and 27 included healthy people. Very few studies were high quality. The main problems with the randomized controlled trials was the randomization and non-random and/or poorly reported sampling. The main problems with the non-randomized studies were poor reporting of samples and non-equivalent groups.

Moscati, Arden & Briana Mezuk. 2014. Losing faith and finding religion: Religiosity over the life course and substance use and abuse. *Drug and Alcohol Dependence* 136. 127–134. doi:10.1016/j.drugalcdep.2013.12.018.

Using data from the National Comorbidity Study – Replication (n=6,203), researchers examined how changes in religiosity from childhood to adulthood are related to use and abuse/dependence of licit (alcohol and tobacco) and illicit drugs. It was found that religiosity was inversely associated with use and misuse of both licit and illicit substances, though this relationship varied by level of childhood religiosity. Relative to stable levels of religiosity from childhood to adulthood, a 2-unit decrease in religiosity from childhood was associated with increased likelihood of illicit drug use in the past year. However, a 2-unit increase in religiosity was also associated with past-year illicit drug use. Comparable associations were found with a range of recent and lifetime measures of alcohol, tobacco, and illicit drugs.

Reed, Susan D., Katherine A. Guthrie, Katherine M. Newton, Garnet L. Anderson, Cathryn Booth-LaForce, Bette Caan, Janet S. Carpenter, et al. 2014. Menopausal quality of life: RCT of yoga, exercise, and omega-3 supplements. *American Journal of Obstetrics and Gynecology* 210(3). 244.e1–244.e11.

doi:10.1016/j.ajog.2013.11.016.

The purpose of this study was to determine the efficacy of 3 nonhormonal therapies for the improvement of menopause-related quality of life in women with vasomotor symptoms. Peri- and postmenopausal women, 40-62 years old, were assigned randomly to yoga (n=107), exercise (n=106), or usual activity (n=142) and also

assigned randomly to a double-blind comparison of omega-3 (n=177) or placebo (n=178) capsules. Following intervention, researchers found that, among healthy sedentary menopausal women, yoga appears to improve menopausal quality of life; the clinical significance of the finding is uncertain because of the modest effect.

Rodriguez, Lindsey M., Clayton Neighbors & Dawn W. Foster. 2014. Priming effects of self-reported drinking and religiosity. *Psychology of Addictive Behaviors* 28(1). 1–9. doi:10.1037/a0031828.

Research has revealed negative associations between religiosity and alcohol consumption. Given these associations, the aim of the current research was to evaluate whether the order of assessing each construct might affect subsequent reports of the other. The present research provided an experimental evaluation of response biases of self-reported religiosity and alcohol consumption based on order of assessment. Participants (n=301 undergraduate students) completed an online survey. Based on random assignment, religiosity was assessed either before or after questions regarding recent alcohol consumption. Results revealed a priming effect such that participants who answered questions about their religiosity prior to their alcohol consumption reported fewer drinks on their peak drinking occasions, drinking less on typical occasions, and drinking less frequently, even when controlling for social desirability and for the significant negative associations between their own religiosity and drinking. In contrast, assessment order was not significantly associated with religiosity. Results indicate priming religion results in reporting lower, but potentially more accurate, levels of health risk behaviors and that these effects are not simply the result of socially desirable responding.

Siddarth, Divya, Prabha Siddarth & Helen Lavretsky. 2014. An Observational Study of the Health Benefits of Yoga or Tai Chi Compared with Aerobic Exercise in Community-Dwelling Middle-Aged and Older Adults. *American Journal of Geriatric Psychiatry* 22(3). 272–273. doi:10.1016/j.jagp.2013.01.065.

This study explores whether participation in mind/body exercise classes, specifically yoga and tai chi, that have elements of both physical activity and mindfulness, is associated with better mood, mental health, and sleep compared with aerobic physical exercise. The study demonstrated that the participants in mind body exercise reported significantly better mood, mental health, and sleep compared with participants in aerobic exercise classes. The groups did not differ on measures of physical health and pain. The major limitations of the study included cross-sectional comparison of a convenience sample and potential self-selection bias in those attending mind body classes versus aerobic exercise classes. Despite these limitations, the results of this study suggested potential mental health benefits of interventions by using mind body techniques in the aging population.

Stewart, Onwilasini, Khemika Yamarat, Karl J Neeser, Somrat Lertmaharit & Eleanor Holroyd. 2014. Buddhist religious practices and blood pressure among elderly in rural Uttaradit Province, northern Thailand. *Nursing & Health Sciences* 16(1). 119–125. doi:10.1111/nhs.12075.

The purpose of this study was to test the relationship between Buddhist religious practices and blood pressure. A cross-sectional survey of Buddhist religious practices and blood pressure was conducted with 160 Buddhist elderly in rural Uttaradit, northern Thailand. After controlling for the variables of gender, status, education, salary, underlying hypertension, exercise, salt intake, and taking antihypertensive medications, it was found that lower systolic and diastolic blood pressure is associated with the Buddhist religious practice of temple attendance. The Buddhist older people who regularly attended a temple every Buddhist Holy day (which occurs once a week) were found to have systolic and diastolic blood pressure readings lower than people who did not attend as regularly.

Tonelli, Makenzie E. & Amy B. Wachholtz. 2014. Meditation-Based Treatment Yielding Immediate Relief for Meditation-Naïve Migraineurs. *Pain Management Nursing* 15(1). 36–40. doi:10.1016/j.pmn.2012.04.002.

The purpose of this study was to evaluate the effectiveness of meditation as an immediate intervention for reducing migraine pain as well as alleviating emotional tension, examined herein as a negative affect hypothesized to be correlated with pain. Twenty-seven migraineurs, with two to ten migraines per month, reported migraine-related pain and emotional tension ratings on a Likert scale (ranging from 0 to 10) before and after exposure to a brief meditation-based treatment. All participants were meditation- naïve, and attended one 20-minute guided meditation session based on the Buddhist "loving kindness" approach. After the session, participants reported a 33% decrease in pain and a 43% decrease in emotional tension. The data suggest that a single exposure to a brief meditative technique can significantly reduce pain and tension. It can be concluded that single exposure to a meditative technique can significantly reduce pain and tension.

Treloar, Hayley R, Mary Ella Dubreuil & Robert Miranda. 2014. Spirituality and treatment of addictive disorders. *Rhode Island Medical Journal* 97(3). 36–38.

Spirituality is generally protective against the initiation of alcohol and drug use and progression to disordered use. In addition, mutual-help organizations, such as Alcoholics Anonymous, were founded on spiritual principles, and reliance on a "higher power" is a central component of the 12 steps. Despite this, spirituality is not commonly addressed in formal treatment of addictions. The purpose of this paper is to provide a summary of the role of spirituality in the development and recovery from addictive disorders for health care professionals.

Tyagi, Anupama & Marc Cohen. 2014. Yoga and Hypertension: A Systematic Review. *Alternative Therapies in Health & Medicine* 20(2). 32–59.

Lifestyle modification is a cornerstone of hypertension (HPT) treatment, yet most recommendations currently focus on diet and exercise and do not consider stress reduction strategies. Yoga is a spiritual path that may reduce blood pressure (BP) through reducing stress, increasing parasympathetic activation, and altering haroreceptor sensitivity; however, despite reviews on yoga and cardiovascular disease, diabetes, metabolic syndrome, and anxiety that suggest yoga may reduce BP, no comprehensive review has yet focused on yoga and HPT. A systematic review of all published studies on yoga and HPT was performed revealing 39 cohort studies, 30 nonrandomized, controlled trials (NRCTs), 48 randomized, controlled trials (RCTs), and 3 case reports with durations ranging from 1 week to 4 years, and involving a total of 6,693 subjects. Most studies reported that yoga effectively reduced BP in both normotensive and hypertensive populations. These studies suggest that yoga is an effective adjunct therapy for HPT and worthy of inclusion in clinical guidelines, yet the great heterogeneity of yoga practices and the variable quality of the research makes it difficult to recommend any specific yoga practice for HPT.

#### 2.2 Spirituality & Health: Mental Health

Aghababaei, Naser. 2014. God, the good life, and HEXACO: The relations among religion, subjective well-being and personality. *Mental Health, Religion & Culture* 17(3). 284–290. doi:10.1080/13674676.2013.797956.

The relations among religiousness, subjective well-being (SWB) and the HEXACO (Honesty–Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, Openness) model of personality were studied in a Muslim population. As expected, Extraversion and Honesty-Humility factors were the strongest correlates of SWB and religiosity, respectively. Religiosity also correlated with higher levels of SWB, and explained variance in SWB beyond personality factors, showing that religion is a unique predictor of well-being.

Agorastos, Agorastos, Cüneyt Demiralay & Christian G Huber. 2014. Influence of religious aspects and personal beliefs on psychological behavior: Focus on anxiety disorders. *Psychology Research and Behavior Management* 7. 93–101. doi:10.2147/PRBM.S43666.

The current paper presents literature relevant to the relationship of religiosity, spirituality, and personal beliefs with mental health and, in particular, anxiety disorders as an empirical narrative review, providing an overview on the most important and clinically relevant research results on the topic. The relationship between religiosity/spirituality, personal beliefs (i.e., magical ideation and paranormal beliefs), and mental health has lately been studied extensively, and results have indicated significant associations among these variables. However, scientific approaches to this field are complex and multidimensional, partly leading to poor operationalization, incomparable data, and contradictory results. Literature demonstrates that higher religiosity/spirituality and magical ideation scores have often been associated with increased obsessive-compulsive traits. Similar results could not be confidently replicated for other anxiety disorders. However, it is still unclear if these differences suggest a specific association with obsessive-compulsive traits and reflect deviating etiopathogenetic and cognitive aspects between obsessive-compulsive disorder and other anxiety disorders, or if these results are biased through other factors.

Boettcher, Johanna, Viktor Aström, Daniel Påhlsson, Ola Schenström, Gerhard Andersson & Per Carlbring. 2014. Internet-based mindfulness treatment for anxiety disorders: A randomized controlled trial. *Behavior Therapy* 45(2). 241–253. doi:10.1016/j.beth.2013.11.003.

The current trial aims at evaluating the efficacy of a stand-alone, unguided, Internet-based mindfulness treatment program for anxiety. Ninety-one participants diagnosed with social anxiety disorder, generalized anxiety disorder, panic disorder, or anxiety disorder not otherwise specified were randomly assigned to a mindfulness treatment group (MTG) or to an online discussion forum control group (CG). Mindfulness treatment consisted of 96 audio files with instructions for various mindfulness meditation exercises. Primary and secondary outcome measures were assessed at pre-, posttreatment, and at 6-months follow-up. Participants of the MTG showed a larger decrease of symptoms of anxiety, depression, and insomnia from pre- to postassessment than participants of the CG. Within effect sizes were large in the MTG and small to moderate in the CG. In contrast to participants of the CG, participants of the MTG also achieved a moderate improvement in their quality of life.

Boggs, Jennifer M., Arne Beck, Jennifer N. Felder, Sona Dimidjian, Christina A. Metcalf & Zindel V. Segal. 2014. Web-based intervention in mindfulness meditation for reducing residual depressive symptoms and relapse prophylaxis: A qualitative study. *Journal of Medical Internet Research* 16(3). e87.

doi:10.2196/jmir.3129.

Mindful Mood Balance (MMB) is a Web-based intervention designed to treat residual depressive symptoms and prevent relapse. The present study is a qualitative investigation of participants' experiences with MMB. Qualitative content analysis was conducted via 38 exit interviews with MMB participants. Study inclusion required a current PHQ-9 (Patient Health Questionnaire) score ≤12 and lifetime history ≥1 major depressive episode. Feedback was obtained on specific website components, program content, and administration as well as skills learned. Codes were assigned to interview responses and organized into four main themes: MBCT Web content, MBCT Web-based group process, home practice, and evidence of concept comprehension. Within these four areas, participants highlighted the advantages and obstacles of translating and delivering MBCT in a Web-based format. Adding increased support was suggested for troubleshooting session content as well as managing time challenges for completing home mindfulness practice. Participants endorsed developing affect regulation skills and identified several advantages to Web-based delivery including flexibility, reduced cost, and time commitment.

Currier, Joseph M., Kent D. Drescher & J. Irene Harris. 2014. Spiritual functioning among veterans seeking residential treatment for PTSD: A matched control group study. *Spirituality in Clinical Practice* 1(1). 3–15. doi:10.1037/scp0000004.

A total of 788 persons completed the Brief Multidimensional Measure of Religiousness and Spirituality, comprising 2 primary comparisons: (1) Vietnam veterans presenting for residential treatment for PTSD in the Veterans Affairs (VA) Heath Care System (PTSD; n=194), versus demographically matched men from the 1998 General Social Survey (GSS; n=194); and (2) veterans from the Iraq/Afghanistan Wars seeking PTSD residential treatment outside of the VA (n=200), versus a younger group of demographically matched controls from the GSS (n=200). When compared to their control group counterparts, veterans from the 2 clinical samples endorsed weaker spirituality across nearly all dimensions assessed in the study (daily spiritual experiences, forgiveness, private practices, religious coping, organizational religiousness, values). Results of other comparisons further revealed that veterans from these 2 eras largely did not differ from one another in their spiritual functioning, and that the 2 PTSD treatment groups reported weaker spiritual functioning with respect to controls from the other age group as well. Spirituality factors were also generally correlated with PTSD symptom severity at the start of treatment and multivariate results found that greater forgiveness problems were uniquely linked with more symptomatology across both eras.

Florenzano, Ramón, Jorge Rodríguez, Catalina Sieverson, Eny Cataldo, Sol Pastorino & Loreto Fernández. 2014. Suicidal risk, depression, and religiosity: A study of women in a general hospital in Santiago de Chile. *Asia-Pacific Psychiatry* 6(1). 23–27. doi:10.1111/appy.12102.

The purpose of the present study is to compare the role of spiritual and religious beliefs in the prevention of suicidal risk among depressive women with suicidal ideation or attempts, treated in the psychiatric unit of a general hospital in Santiago de Chile between 2010 and 2011. The sociodemographic and clinical characteristics of believers (n=121) and nonbelievers (n=22) were compared, and their global mental health was assessed, as well as their rating in scales for depression, anxiety, aggression, and impulsivity. Most of the patients self-reported to belong to Catholic or other Christian churches. There were few statistically significant differences between them and nonbelievers, who were younger, had more years of education, were more frequently employed, and lived alone or with their parents. When comparing the least religious and the most religious quartiles, there were no differences in the type of affective disorder, attendance to temples, or self-appraisal of religiosity. Nonbelievers had more history of previous suicidal attempts and had more relatives committing suicide.

Guardino, Christine M., Christine Dunkel Schetter, Julienne E. Bower, Michael C. Lu & Susan L. Smalley. 2014. Randomised controlled pilot trial of mindfulness training for stress reduction during pregnancy. *Psychology & Health* 29(3). 334–349. doi:10.1080/08870446.2013.852670.

This randomized controlled pilot trial tested a six-week mindfulness-based intervention in a sample of pregnant women experiencing high levels of perceived stress and pregnancy anxiety. Forty-seven women enrolled between 10 and 25 weeks gestation were randomly assigned to either a series of weekly Mindful Awareness Practices classes (n=24) with home practice or to a reading control condition (n=23). Hierarchical linear models of between-group differences in change over time demonstrated that participants in the mindfulness intervention experienced larger decreases from pre-to post-intervention in pregnancy-specific anxiety and pregnancy-related anxiety (PRA) than participants in the reading control condition. However, these effects were not sustained through follow-up at six weeks post-intervention. Participants in both groups experienced increased mindfulness, as well as decreased perceived stress and state anxiety over the course of the intervention and follow-up periods.

Kidwai, Rubeena, Brent E Mancha, Qiana L Brown & William W Eaton. 2014. The effect of spirituality and religious attendance on the relationship between psychological distress and negative life events. *Social Psychiatry & Psychiatric Epidemiology* 49(3). 487–497. doi:10.1007/s00127-013-0723-x.

The aim of this study was to assess the effect of religious attendance and spirituality on the relationship between negative life events and psychological distress. This was a cross-sectional study of 1,071 community dwelling adults from East Baltimore, Maryland who participated in the fourth (2004-2005) wave of the Baltimore Epidemiologic Catchment Area study. In pooled analysis, negative events were significant predictors of distress. Religious attendance and spirituality did not affect or modify the association between negative events and distress. However, religious attendance was inversely associated with distress with higher frequency of attendance associated with lower distress after controlling for demographic and social support factors. In stratified analysis, negative events were associated with distress for those who were low on spirituality, but not for those who were high on spirituality; the association between religious attendance and decreased distress was true only for those scoring high in spirituality. Social support accounted for some of the inverse association between religious and distress.

Knabb, Joshua J. & Joseph Pelletier. 2014. The relationship between problematic Internet use, God attachment, and psychological functioning among adults at a Christian university. *Mental Health, Religion & Culture* 17(3). 239–251. doi:10.1080/13674676.2013.787977.

In the present study, the authors utilized structural equation modelling to investigate the relationship between God attachment and problematic Internet use, mediated by emotional distress. Findings supported the proposed hypothesis that anxious God attachment (i.e., anxiety about God's abandonment) predicts both problematic Internet use (i.e., obsessing about the Internet, neglecting tasks and relationships due to the Internet, struggling to control Internet use) and psychological distress (i.e., depression, anxiety, stress, worry). In addition, weak-to-moderate correlations emerged between depression, anxiety, stress, and worry and problematic Internet use.

Luberto, Christina M., Alison C. McLeish, Stephanie A. Robertson, Kimberly M. Avallone, Kristen M. Kraemer & Emily R. Jeffries. 2014. The role of mindfulness skills in terms of distress tolerance: A pilot test among adult daily smokers. *American Journal on Addictions* 23(2). 184–188. doi:10.1111/j.1521-0391.2013.12096.x.

The purpose of the current study was to examine the relationship between mindfulness skills and distress tolerance among regular smokers. Daily smokers (n=125) completed self-report measures assessing smoking and emotions. After controlling for age, gender, and nicotine dependence, and education the mindfulness skills of acting with awareness and accepting without judgment significantly predicted distress tolerance. The authors conclude that, for smokers, being able to pay attention to present moment vents and accept negative events without judgment is associated with a greater ability to withstand such events.

Nadi, Mohammad Ali & Nasrin Ghahremani. 2014. The relationship between dimensions of religiosity/spirituality with mental health and hope for future between staff of public hospitals in Shiraz. *Journal of Education and Health Promotion* 3. 20. doi:10.4103/2277-9531.127600.

This study investigated the relationship between dimensions of spirituality with mental health and hope for future. Research findings show that there are significant correlations between existential well-being and hope for the future, motivation, devotion and coping and hope for the future, and mental health and hope for the future. Furthermore, all components of religiosity/spirituality have had significant correlations with mental health. Hierarchical regression analysis showed that in the first step motivation, devotion and coping with a variance of 5%, in the second step motivation, devotion and coping with mental health with a variance of 6.4%, in the third step motivation, devotion and coping with mental health and existential well-being with a variance of 9.1% and in the fourth step, the combining of motivation, devotion and coping and existential well-being with a variance of 8.9% with hope for the future have meaningful multiple relationships.

Neece, Cameron L. 2014. Mindfulness-Based Stress Reduction for Parents of Young Children with Developmental Delays: Implications for Parental Mental Health and Child Behavior Problems. *Journal of Applied Research in Intellectual Disabilities* 27(2). 174–186. doi:10.1111/jar.12064.

The current study examined the efficacy of mindfulness-based stress reduction (MBSR) for parents of children with developmental delays (DD) by investigating whether this intervention is effective in reducing parenting stress and whether decreases in parenting stress lead to reductions in behavior problems among children with DD. Forty-six parents of children with DD were randomly assigned to an immediate treatment or wait list-control group. Participants completed questionnaires assessing parental stress and child behavior problems at intake and at a second assessment, which took place after only the immediate treatment group had received the MBSR. Parents who participated in MBSR reported significantly less stress and depression as well as greater life satisfaction compared with wait list-control parents. Regarding child outcomes, children whose parents participated in MBSR were reported to have fewer behavior problems following the intervention, specifically in the areas of attention problems and ADHD symptomatology.

Reutter, Kirby K. & Silvia M. Bigatti. 2014. Religiosity and Spirituality as Resiliency Resources: Moderation, Mediation, or Moderated Mediation? *Journal for the Scientific Study of Religion* 53(1). 56–72. doi:10.1111/jssr.12081.

A growing body of literature indicates a modestly positive association between religiosity and spirituality as predictors of psychological health (anxiety and depression), suggesting that they serve as personal resiliency factors. The purpose of this study was to expand understanding of the relationships among these constructs. Using Lazarus's Transactional Model of Stress as a theoretical framework, the authors examined: (a) the extent to which spirituality and religiosity mediated and/or moderated the association between perceived stress and psychological health and (b) whether there was a moderated (religiosity) mediation (spirituality) between stress and health. This study utilized a nonexperimental, quantitative, correlational, cross-sectional, moderated-mediation design, and included a convenience sample of 331 research participants. Results indicate that both spirituality and religiosity moderated stress and health. However, only spirituality partially mediated the relationship. In addition, religiosity did not moderate the mediating effects of spirituality. Overall, this study confirmed the role of both religiosity and spirituality as effective resiliency resources.

Rider, Katie A., DeAnne J. Terrell, Timothy A. Sisemore & Janet E. Hecht. 2014. Religious Coping Style as a Predictor of the Severity of Anorectic Symptomology. *Eating Disorders* 22(2). 163–179. doi:10.1080/10640266.2013.864890.

A review of the literature concerning the relationship between anorexia nervosa (AN) and religion reveals two disparate themes: religion as a cultivator of AN, and religion as a recovery benefactor. The purpose of the present study was to address this discrepancy by exploring one factor—religious coping style—suspected to influence the role religion assumes in the lives of individuals with AN. A sample of 134 women who self-identified as having received an AN diagnosis completed measures of religious coping style and anorectic symptomology. Analyses revealed that religious coping style significantly predicted severity of anorectic symptomology.

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

Anandarajah, Gowri & Janet Lynn Roseman. 2014. A qualitative study of physicians' views on compassionate patient care and spirituality: Medicine as a spiritual practice? *Rhode Island Medical Journal* 97(3). 17–22.

This in-depth, qualitative interview study explores practicing physicians' views regarding the relationship between compassion and spirituality in medical practice. Interviews were audiotaped, transcribed verbatim and analyzed using the immersion/crystallization method. Despite diversity of personal spiritual beliefs, all study physicians felt compassion was "essential for a physician." Most linked compassion to underlying spiritual values (religious and secular). Many physicians saw medicine as providing opportunities for them to grow in compassion, essentially employing medicine as a spiritual discipline. Significant barriers to compassionate care included time pressures and values of the current culture of medicine. Facilitators included time for self-care.

Aten, Jamie D., Kari A. O'Grady, Glen Milstein, David Boan & Alice Schruba. 2014. Spiritually oriented disaster psychology. *Spirituality in Clinical Practice* 1(1). 20–28. doi:10.1037/scp0000008.

The purpose of this article is to introduce readers to empirical research on the psychology of religion/spirituality and disasters as well as to introduce a framework for spiritually oriented disaster psychology. Research shows that disasters often leave a significant psychological and spiritual "footprint" on affected communities. Research indicates that the number of people who will experience a disaster will double by 2050 from one billion people to two billion people. Since 1985 there has been an almost 400% increase in global natural disasters. Researchers managing the global terrorism database report a similar increase in terrorist events over the last decade, with almost 5,000 events annually. Some of the worst disasters, such as Hurricane Katrina, Haiti Earthquake, Japan Tsunami, and Philippines Typhoon occurred in the past decade alone. Disasters are becoming more complex, with primary disasters (e.g., earthquake) often triggering secondary disasters (e.g., nuclear meltdown).

Borhani, F., S. H. Hosseini & A. Abbaszadeh. 2014. Commitment to care: A qualitative study of intensive care nurses' perspectives of end-of-life care in an Islamic context. *International Nursing Review* 61(1). 140–147. doi:10.1111/inr.12079.

The purpose of this study was to explore intensive care nurses' perspectives of the end-of-life care in South-east of Iran. A descriptive qualitative research approach was used to engage 12 intensive care nurses from three intensive care units of teaching hospitals affiliated to Kerman University of Medical Science in a semi-structured interview. Interview transcripts were analyzed using an inductive coding approach. Four major categories emerged from analysis of the interviews: commitment to care, awareness of dying patients, caring relationships, and dealing with barriers and ethical issues. The first category was emphasized and appeared dominant in all interviews.

Breslin, Michael J. & Christopher Alan Lewis. 2014. Eysenck's model of personality and prayer: The utility of a multidimensional approach. *Mental Health, Religion & Culture* 17(3). 291–296. doi:10.1080/13674676.2013.798721.

The present aim was to examine the relationship between a multidimensional prayer measure and Eysenck's model of personality to ascertain if personality can be differentially predicted by different types of prayer and to investigate if a multidimensional measure of prayer has utility over a single-item measure. A sample of 282 Irish respondents completed the measure of prayer type and the abbreviated form of the Revised Eysenck Personality Questionnaire. Hierarchical multiple regression showed that ritual prayer was the only significant independent predictor of personality, predicting psychoticism only. Results suggested that a multidimensional measure of prayer has limited utility over a single-item measure.

Chittaro, Luca & Andrea Vianello. 2014. Computer-supported mindfulness: Evaluation of a mobile thought distancing application on naive meditators. *International Journal of Human-Computer Studies* 72(3). 337–348. doi:10.1016/j.ijhcs.2013.11.001.

The last 2 decades have seen a constantly increasing interest in mindfulness, due to its positive effects on health and well-being. Recently, a number of mobile applications aimed at supporting people in practicing mindfulness techniques have appeared, but their efficacy has not been formally evaluated yet. In this paper, researchers first introduce the reader to mindfulness techniques, traditional as well as computer-based. Then, they propose and evaluate a mobile application (called AEON) aimed at helping users in practicing thought distancing, i.e., a mindfulness technique that requires one not to react in response to his/her thoughts but to be aware of them and observe them while they go away. AEON allows the user to enter his/her thoughts and visualize them as written in ink on a parchment placed under water. By touching the screen, the user can interact with the water and produce waves that progressively dissolve each written thought. Researchers evaluate AEON on a sample of naive meditators (i.e. people with no or minimal experience with meditation), contrasting it with two traditional thought distancing techniques that are not computer-based. The first traditional technique requires users to mentally visualize their thoughts as printed on clouds and observe them as they pass by, while the second requires users to write their thoughts on cards, then pick up the cards one at a time, look at them and toss them into a wastepaper basket. AEON obtained better results in terms of achieved mindfulness, perceived level of difficulty and degree of pleasantness. Since practicing mindfulness tends to be difficult for naive meditators, these results suggest that AEON can be a novel and effective way to help them approach mindfulness.

Dossey, Larry. 2014. Spirituality and nonlocal mind: A necessary dyad. *Spirituality in Clinical Practice* 1(1). 29–42. doi:10.1037/scp0000001.

A growing body of empirical evidence suggests that human consciousness is nonlocal, as it is not confined to specific points in space, such as brains and bodies, or specific moments in time, such as the present. Evidence for nonlocal consciousness can be found in distant cell-to-cell, organ-to-organ, and person-to-person interactions. Throughout history, what are commonly called spiritual experiences involve a similar motif of experience: the felt transcendence of space and time and a sense of unity with all there is. This article proposes that nonlocality is a common feature of consciousness in general, and of spiritual experience in particular. Consciousness is seen as fundamental in this view, as working through the brain but not produced by the brain. Entanglement, now recognized to occur in biological systems, is proposed as a mechanism for the nonlocal interactions of conscious beings. A consequence of nonlocal consciousness is immortality, because temporal nonlocality implies infinitude in time. Because the experience of nonlocal consciousness often involves a sense of the spiritual, nonlocal consciousness and spirituality are seen as a complementary dyad.

Groves, Karen, Cath Baldry & Cathy Sherrat. 2014. What's the "e" in e-learning for spirituality: A comparison of online and face to face course versions for healthcare workers. *BMJ Supportive & Palliative Care* 4(Suppl. 1). A31. doi:10.1136/bmjspcare-2014-000654.86.

Researchers assessed the impact on frontline clinical staff of a course designed to raise spiritual awareness. A qualitative study involving thematic analysis of semi structured, mainly open question, interviews, offered to the last 100 each of online and face-to-face (F2F) course attendees. Interviews were offered to 54 (27%) respondents and 24 agreed a mutually convenient time. This part of the evaluation reports the analysis of the interviews with 20 frontline clinicians (4 chaplain interviews form part of another study). Following intervention, researchers found that spiritual awareness was achieved independently of the mode of course delivery, although participants articulated preferences. A diverse participant group enjoyed varied learning methods, resources and discussion. Good IT support and lack of technical hitches was important to smooth running online. Positive use of grouping, skilled facilitation (crucial) and the flexibility and anonymity of online learning suits a mixture of clinicians regardless of role and hierarchy. Confidence and structure in conversations with patients, empowering patients to seek innate solutions and strategies for dealing with questions about personal beliefs helped clinicians to address spiritual needs.

Hanley, Adam, Eric L Garland & David S Black. 2014. Use of mindful reappraisal coping among meditation practitioners. *Journal of Clinical Psychology* 70(3). 294–301. doi:10.1002/jclp.22023.

A sample of 118 meditation practitioners completed an online survey comprising assessments of the prevalence and frequency of mindful reappraisal, as well as measures of well-being and distress. Regular use of mindful reappraisal was reported by over half of the sample and was significantly correlated with years of meditation practice, meditation practice days per month, and meditation hours per week. Controlling for frequency of meditation practice and trait mindfulness, mindful reappraisal frequency explained significant portions of variance in well-being and distress.

Inbadas, Hamilton, Jane Seymour & Aru Narayanasamy. 2014. Principles of spiritual care in end-of-life care in India: A historical-cultural investigation. *BMJ Supportive & Palliative Care* 4(Suppl. 1). A18.

doi:10.1136/bmjspcare-2014-000654.48.

This study seeks to examine the features of the care of the dying that were prevalent in the past in South India in order to understand the values and principles of spiritual care in the care of the dying in India. Taking a historical-cultural perspective, in-depth oral history interviews were conducted with thirty older adults belonging to different religions and none. Participants were recruited using purposive and snowhalling sampling technique from Kanyakumari district, South India. Several religious and cultural care practices that were customary in the care of the dying and beliefs about good death that prevailed over a couple of decades 40 years ago emerged from the data. Union with the divine', 'being at peace' and 'preserving dignity' were the three core principles that were found to be at the heart of these practices and beliefs. All these practices and beliefs were found to have meanings and values attached to them that relate to these core principles.

Lucette, A., A. Brédart, B. Vivat & T. Young. 2014. Pilot-testing the French version of a provisional European Organisation for Research and Treatment of Cancer (EORTC) measure of spiritual well-being for people receiving palliative care for cancer. *European Journal of Cancer Care* 23(2). 221–227.

doi:10.1111/ecc.12107.

The European Organisation for Research and Treatment of Cancer (EORTC) Quality of Life Group is developing a measure for assessing spiritual well-being cross-culturally for people receiving palliative care for cancer. The pilot-testing phase of the study explored potential problems related to the content and administration of a provisional version of this measure. This article reports on the experience of the French version being pilot-tested with 12 patients in a palliative and supportive day care unit in Paris. Participants were asked to complete the measure and the EORTC QLQ-C15-PAL before being interviewed about their responses. The administration of the measure enabled participants to express the difficulties and existential concerns they experienced. The items were not considered intrusive, despite the sensitive topic of the measure. This article considers difficulties with items pertaining to 'religion' and 'spirituality' in the context of French culture. Overall, this measure appears to enhance holistic care, by providing caregivers with a means of broaching spirituality issues, a topic otherwise difficult to discuss in the context of palliative care.

Macleod, Roderick, Richard Egan, Rob Walker, Sarah Wood & Jane Mountier. 2014. Spiritual care and kidney disease in NZ: A qualitative study with New Zealand renal specialists. *BMJ Supportive & Palliative Care* 4(Suppl. 1). A28.

doi:10.1136/bmjspcare-2014-000654.76.

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 used semi-structured interviews and thematic analysis. Participants

were recruited across New Zealand's ten renal centers. Participants were asked about their understandings of spirituality, patients' spiritual needs, current service provision of spiritual care, pre- and in-service spiritual care training, and suggestions for improvements. Five specialist doctors and nine specialist nurses were recruited for interviews in 2012. Most participants indicated they would attempt to provide some form of spiritual care, but they generally demonstrated a lack of confidence and awareness of how to address a patient's spiritual and end of life needs.

Matteliano, Deborah, Barbara J. St. Marie, June Oliver & Candace Coggins. 2014. Adherence monitoring with chronic opioid therapy for persistent pain: A biopsychosocial-spiritual approach to mitigate risk. *Pain Management Nursing* 15(1). 391–405. doi:10.1016/j.pmn.2012.08.008.

Opioids represent a mainstay in the pharmacologic management of persistent pain. Although these drugs are intended to support improved comfort and function, the inherent risk of abuse or addiction must be considered in the delivery of care. The experience of living with persistent pain often includes depression, fear, loss, and anxiety, leading to feelings of hopelessness, helplessness, and spiritual crisis. Collectively, these factors represent an increased risk for all patients, particularly those with a history of substance abuse or addiction. This companion article to the American Society for Pain Management Nursing "Position Statement on Pain Management in Patients with Substance Use Disorders" (2012) focuses on the intersection of persistent pain, substance use disorder (SUD), and chronic opioid therapy and the clinical implications of monitoring adherence with safe use of opioids for those with persistent pain. This paper presents an approach to the comprehensive assessment of persons with persistent pain when receiving opioid therapy by presenting an expansion of the biopsychosocial model to include spiritual factors associated with pain and SUD, thus formulating a biopsychosocial-spiritual approach to mitigate risk. Key principles are provided for adherence monitoring using the biopsychosocial-spiritual assessment model developed by the authors as a means of promoting sensitive and respectful care.

Orme-Johnson, David W & Michael C Dillbeck. 2014. Methodological concerns for meta-analyses of meditation: Comment on Sedlmeier et al. (2012). *Psychological Bulletin* 140(2). 610–616. doi:10.1037/a0035074.

The authors of this comment commend Sedlmeier et al. (2012) for their significant undertaking of meta-analysis of all meditation types on all psychological variables, but additional analyses may modify some of their conclusions. Whereas they suggest from visual inspection of funnel diagrams that there may be publication bias of underreporting low-effect studies on the Transcendental Meditation (TM) technique, quantitative tests do not indicate the presence of bias for any type of meditation. The authors additionally found that there was no significant difference in effect sizes between studies originating from researchers affiliated with a TM organization and studies from other universities. Researchers found that comparison of different types of meditation on their global index was confounded because their global index aggregated different sets of variables for the different groups. That is, using composite indices that only aggregated variables for which each group had at least 3 studies confirmed the authors' conclusion that effect sizes for different research designs were not different, but found that effect sizes for the TM technique were significantly larger than effect sizes for mindfulness meditation or other meditations. Researchers also located 35 studies on the TM technique that appear to meet the authors' inclusion criteria that were missed by their meta-analysis, and several others on important psychosocial behavioral variables, such as job performance, substance abuse, and prison recidivism that were not reviewed. In addition, they suggest that future meta-analyses on psychological variables include cross-validating physiological studies.

Peterman, Amy H, Charlie L Reeve, Eboni C Winford, Sian Cotton, John M Salsman, Richard McQuellon, Joel Tsevat & Cassie Campbell. 2014. Measuring meaning and peace with the FACIT-Spiritual Well-Being Scale: distinction without a difference? *Psychological Assessment* 26(1). 127–137.

doi:10.1037/a0034805.

The Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale (FACIT-Sp) has become a widely used measure of spirituality; however, there remain questions about its specific factor structure and the validity of scores from its separate scales. Specifically, it remains unclear whether the Meaning and Peace scales denote distinct factors. The present study addresses previous limitations by examining the extent to which the Meaning and Peace scales relate differentially to a variety of physical and mental health variables across 4 sets of data from adults with a number of chronic health conditions. Although a model with separate but correlated factors fit the data better, discriminant validity analyses indicated limited differences in the pattern of associations each scale showed with a wide array of commonly used health and quality-of-life measures. In total, the results suggest that people may distinguish between the concepts of Meaning and Peace, but the observed relations with health outcomes are primarily due to variance shared between the 2 factors. Additional research is needed to better understand the separate and joint role of Meaning and Peace in the quality of life of people with chronic illness.

Post, Brian C., Nathaniel G. Wade & Marilyn A. Cornish. 2014. Religion and spirituality in group counseling: Beliefs and preferences of university counseling center clients. *Group Dynamics: Theory, Research, and Practice* 18(1). 53–68. doi:10.1037/a0034759.

The main purpose of the present study was to explore client beliefs and preferences regarding the discussion of religious and spiritual issues in group counseling. Researchers collected and described both quantitative and qualitative data. One major finding of this study was that on average the majority (85%) of clients at a university counseling center (n=68) reported that religious concerns are an appropriate topic for discussion in group counseling. However, only a minority of clients reported that they would like to discuss religious (24%) and spiritual (47%) concerns in group. Open-ended responses from participants provided reasons why they would or would not like to discuss religion and spirituality in their specific groups and provided insight into the discrepancy between their ratings of appropriateness and interest. In regression analyses, client spirituality and group engagement significantly predicted clients' preferences to discuss both religious and spiritual issues. Majority religious affiliation also predicted preferences to discuss religious issues.

Ragsdell, Bethanie & Michael Tapley. 2014. An audit to evaluate the assessment of spirituality for patients admitted to Willow Wood hospice inpatient unit. *BMJ Supportive & Palliative Care* 4(Suppl. 1). A65.

doi:10.1136/bmjspcare-2014-000654.185.

Palliative medicine entails a holistic approach to patient care. Spirituality is an important component and should be explored with terminally ill patients. Studies have demonstrated a link between increased spiritual well-being and a decrease in physical symptoms and psychological distress in terminal care. An audit was undertaken to evaluate whether patient's spirituality was being assessed on admission to the inpatient unit at an adult hospice. The standard set for this audit was 80% and applied to both genders. The method employed was a retrospective cohort audit of 30 patients, using their admission pro formas. The quantitative data was collected assessed by whether the spirituality section in the admission pro forma had been filled in, and gender. From the data collected the results showed an average of 73.30% (n=22) of patients having a documented conversation about their spirituality and needs on the admission form. Further analysis highlighted that, when compared with the average, the percentage of female admissions that considered their spirituality rose to 89.47% (n=17). However for the men the results fell to 45.45% (n=5). The standard set in this audit was, on average, not achieved by the hospice. It is recognized that, due to the limitation of a single cohort, it restricted the opportunity for equal gender population samples. The lower results for the male gender could be attributed to gender specific barriers to discussing spirituality and may be a training issue for the team members. Therefore the main recommendations of this audit were for further education for all members of the healthcare team.

Seedall, Ryan B., Mark H. Butler & Jennifer Z. Elledge. 2014. Does Religious Motivation Influence the Conceptualization and Acceptability of Forgiveness as a Therapeutic Intervention? *The American Journal of Family Therapy* 42(2). 127–140. doi:10.1080/01926187.2013.772868.

This study addresses a gap in the research related to understanding how religious motivation (both extrinsic and intrinsic) relates to attitudes towards forgiveness as a therapeutic intervention. The current findings provide evidence that intrinsic religious motivation was associated with acceptability of forgiveness framed as a spiritual issue and overall, while extrinsic-social religious motivation was not associated with acceptance of forgiveness intervention framed in any way. Extrinsic-personal religious motivation was associated with greater acceptability of forgiveness framed as a spiritual issue, but it was also related to the misconception of forgiveness as relationship reconciliation.

Seligman, Martin. 2014. God comes at the end. *Spirituality in Clinical Practice* 1(1). 67–70. doi:10.1037/scp0000002.

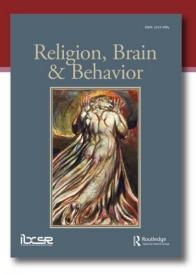
In this article, a conception of God which is not supernatural and which does not require faith is sketched. Complexity inevitably grows in biological evolution and in social evolution, drawn by the invisible hand of mounting positive sum games. God, in Judeo-Christian theology, is omniscient, omnipotent, righteous, and also created the universe. The positive sum games of knowledge, technology, and virtue lead in their most ultimate end toward omniscience, omnipotence, and righteousness—but not toward a Creator. God, perhaps, is the end point of this process, not the beginning.

Silpakit, O. & C. Silpakit. 2014. A Thai version of mindfulness questionnaire: Srithanya sati scale. *East Asian Archives of Psychiatry* 24(1). 23–29.

The authors develop a scale for assessing mindfulness named Srithanya Sati Scale (SSS) in Thai context. Fourteen items were derived with the help from meditation experts. These were then validated by 16 mental health experts followed by analysis of their psychometric properties. A total of 466 subjects were purposively sampled from various sources. The 11-item SSS was found to fit across groups of people with different meditation experiences. Two of the components (awareness and self-recollection) explained the overall mindfulness in beginners. The reliability and other psychometric properties of the scale were highly acceptable.

Timmins, Fiona, Freda Neill, Mary Quinn Griffin, John Kelly & Eden De La Cruz. 2014. Spiritual dimensions of care: Developing an educational package for hospital nurses in the Republic of Ireland. *Holistic Nursing Practice* 28(2). 106–123. doi:10.1097/HNP.0000000000000015.

The nurses' role in providing spiritual care to in-hospital patients is not clearly outlined in the Republic of Ireland (ROI). This and other deficits reveal that there are current gaps in nurses' knowledge and confidence in this area. In response, an educational innovation has been developed and this article reports on its development.



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#### PART 3. BOOKS

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

- Chidester, David. 2014. Empire of Religion: Imperialism and Comparative Religion. Chicago; London: University Of Chicago Press.
- Halliwell, Martin & Joel D. S. Rasmussen (eds.). 2014. William James and the Transatlantic Conversation: Pragmatism, Pluralism, and Philosophy of Religion. New York, NY: Oxford University Press.
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#### 3.2 Spirituality & Health Research

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#### PART 4. ARTICLES IN PRESS

#### 4. 1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

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