

# RESEARCH REVIEW

A DIGEST OF NEW SCIENTIFIC RESEARCH CONCERNING RELIGION, BRAIN & BEHAVIOR FEBRUARY, 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 708 articles, 104 articles have been retained from 47 journals. There are 56 pre-publication citations from 39 journals.

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

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

Christensen, Julia F, Albert Flexas, Pedro de Miguel, Camilo J. Cela-Conde & Enric Munar. 2014. Roman Catholic beliefs produce characteristic neural responses to moral dilemmas. *Social Cognitive and Affective Neuroscience* 9(2). 240–249. doi:10.1093/scan/nss121.

This study provides exploratory evidence about how behavioral and neural responses to standard moral dilemmas are influenced by religious belief. Eleven Catholics and 13 Atheists (all female) judged 48 moral dilemmas. Differential neural activity between the two groups was found in precuneus and in prefrontal, frontal and temporal regions. Furthermore, a double dissociation showed that Catholics recruited different areas for deontological (precuneus; temporaparietal junction) and utilitarian moral judgments (dorsolateral prefrontal cortex [DLPFC]; temporal poles), whereas Atheists did not (superior parietal gyrus for both types of judgment). Finally, researchers tested how both groups responded to personal and impersonal moral dilemmas: Catholics showed enhanced activity in DLPFC and posterior cingulate cortex during utilitarian moral judgments to impersonal moral dilemmas and enhanced responses in anterior cingulate cortex and superior temporal sulcus during deontological moral judgments to personal moral dilemmas. These results indicate that moral judgment can be influenced by an acquired set of norms and conventions transmitted through religious indoctrination and practice. Catholic individuals may hold enhanced awareness of the incommensurability between two unequivocal doctrines of the Catholic belief set, triggered explicitly in a moral dilemma: help and care in all circumstances, but thou shalt not kill.

Crescentini, Cristiano, Salvatore M Aglioti, Franco Fabbro & Cosimo Urgesi. 2014. Virtual lesions of the inferior parietal cortex induce fast changes of implicit religiousness/spirituality. *Cortex* 54C. 1–15.

doi:10.1016/j.cortex.2014.01.023.

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Calendar year memberships US\$45 Discounts for retirees and students Religiousness and spirituality (RS) are two ubiquitous aspects of human experience. Associations between RS and frontoparietal neural activity have been recently reported. However, much less is known about whether such activity is causally involved in modulating RS or just epiphenomenal to them. Here researchers combined two-pulse (10 Hz) Transcranial Magnetic Stimulation (TMS) with a novel, ad-hoc developed RS-related, Implicit Association Test (IAT) to investigate whether implicit RS representations, although supposedly rather stable, can be rapidly modified by a virtual lesion of inferior parietal lobe (IPL) and dorsolateral prefrontal cortex (DLPFC). A self-esteem (SE) IAT, focused on self-concepts nonrelated to RS representations, was developed as control. A specific increase of RS followed inhibition of IPL demonstrating its causative role in inducing fast plastic changes of religiousness/spirituality. In contrast, DLPFC inhibition had more widespread effects probably reflecting a general role in the acquisition or maintenance of task-rules or in controlling the expression of self-related representations not specific to RS.

Elliott, James C., B. Alan Wallace & Barry Giesbrecht. 2014. A week-long meditation retreat decouples behavioral measures of the alerting and executive attention networks. *Frontiers in Human Neuroscience* 8. 69. doi:10.3389/fnhum.2014.00069.

Previous studies have examined the influence of meditation on three functionally different components of attention: executive control, alerting, and orienting. These studies have consistently found that meditation training improves both executive attention and alerting, but there has not been a consistent and clear effect of meditation training on orienting. In addition, while previous studies have shown that the functional coupling of the alerting and executive networks increases the processing of task irrelevant stimuli, it is unknown if participating in a meditation retreat can decouple these components of attention and lead to improved performance. The current study investigated the influence of a week-long intensive meditation retreat on three components of attention by randomly assigning participants to either pre- or post-retreat testing groups. A modified attention network test (ANT) was used. Executive attention was measured as the difference in response time (RT) between congruent and incongruent task irrelevant flankers (conflict effect). Reflexive and volitional orienting were measured by manipulating cue validity and stimulus onset asynchrony (SOA). The coupling of executive attention and alerting was measured by examining flanker interference as a function of the SOA of an alerting cue. The meditation retreat improved taskbased indices of executive attention, but not reflexive or volitional orienting. There was clear behavioral evidence of coupling between executive attention and alerting in the pre-retreat group, as the conflict effect peaked when an alerting cue was presented 300 ms before the target. Importantly, there was no increase in the conflict effect for the post-retreat group. This is consistent with the notion that the retreat decoupled the executive and alerting networks. These results suggest that previously reported improvements in the executive and alerting networks after meditation training might be mediated by the same underlying mechanism.

Hinterberger, Thilo, Stephanie Schmidt, Tsutomu Kamei & Harald Walach. 2014. Decreased electrophysiological activity represents the conscious state of emptiness in meditation. Frontiers in Psychology 5. 99.

doi:10.3389/fpsyg.2014.00099.

Many neuroscientific theories explain consciousness with higher order information processing corresponding to an activation of specific brain areas and processes. In contrast, most forms of meditation ask for a down-regulation of certain mental processing activities while remaining fully conscious. To identify the physiological properties of conscious states with decreased mental and cognitive processing, the electrical brain activity (64 channels of EEG) of 50 participants of various meditation proficiencies was measured during distinct and idiosyncratic meditative tasks. The tasks comprised a wakeful "thoughtless emptiness (TE)," a "focused attention," and an "open monitoring" task asking for mindful presence in the moment and in the environment without attachment to distracting thoughts. The analysis mainly focused on 30 highly experienced meditators with at least 5 years and 1000 hours of meditation experience. Spectral EEG power comparisons of the TE state with the resting state or

other forms of meditation showed decreased activities in specific frequency bands. In contrast to a focused attention task the TE task showed significant central and parietal gamma decreases. Compared to open monitoring TE expressed decreased alpha and beta amplitudes, mainly in parietal areas. TE presented significantly less delta and theta waves than a wakeful closed eyes resting condition. A group of participants with none or little meditation practice did not present those differences significantly. These findings indicate that a conscious state of TE reached by experienced meditators is characterized by reduced high-frequency brain processing with simultaneous reduction of the low frequencies. This suggests that such a state of meditative conscious awareness might be different from higher cognitive and mentally focused states but also from states of sleep and drowsiness.

Kaliman, Perla, María Jesús Álvarez-López, Marta Cosín-Tomás, Melissa A. Rosenkranz, Antoine Lutz & Richard J. Davidson. 2014. Rapid changes in histone deacetylases and inflammatory gene expression in expert meditators. *Psychoneuroendocrinology* 40. 96–107. doi:10.1016/j.psyneuen.2013.11.004.

A growing body of research shows that mindfulness meditation can alter neural, behavioral and biochemical processes. However, the mechanisms responsible for such clinically relevant effects remain elusive. Here researchers explored the impact of a day of intensive practice of mindfulness meditation in experienced subjects (n=19) on the expression of circadian, chromatin modulatory and inflammatory genes in peripheral blood mononuclear cells (PBMC). In parallel, researchers analyzed a control group of subjects with no meditation experience who engaged in leisure activities in the same environment (n=21). PBMC from all participants were obtained before (t1) and after (t2) the intervention (t2 - t1=8 h), and gene expression was analyzed using custom pathway focused quantitative-real time PCR assays. Both groups were also presented with the Trier Social Stress Test (TSST). Core clock gene expression at baseline (t1) was similar between groups and their rhythmicity was not influenced in meditators by the intensive day of practice. Similarly, researchers found that all the epigenetic regulatory enzymes and inflammatory genes analyzed exhibited similar basal expression levels in the two groups. In contrast, after the brief intervention researchers detected reduced expression of histone deacetylase genes (HDAC 2, 3 and 9), alterations in global modification of histones (H4ac; H3K4me3) and decreased expression of pro-inflammatory genes (RIPK2 and COX2) in meditators compared with controls. Researchers found that the expression of RIPK2 and HDAC2 genes was associated with a faster cortisol recovery to the TSST in both groups. The authors conclude that the regulation of HDACs and inflammatory pathways may represent some of the mechanisms underlying the therapeutic potential of mindfulness-based interventions. These findings set the foundation for future studies to further assess meditation strategies for the treatment of chronic inflammatory conditions.

Miller, Lisa, Ravi Bansal, Priya Wickramaratne, Xuejun Hao, Craig E. Tenke, Myrna M. Weissman & Bradley S. Peterson. 2014. Neuroanatomical Correlates of Religiosity and Spirituality: A Study in Adults at High and Low Familial Risk for Depression. *JAMA Psychiatry* 71(2). 128–135. doi:10.1001/jamapsychiatry.2013.3067.

Researchers previously reported a 90% decreased risk in major depression, assessed prospectively, in adult offspring of depressed probands who reported that religion or spirituality was highly important to them. Frequency of church attendance was not significantly related to depression risk. Previous brain imaging findings in adult offspring in these high-risk families also revealed large expanses of cortical thinning across the lateral surface of the right cerebral hemisphere. The researchers aimed to determine whether high-risk adults who reported high importance of religion or spirituality had thicker cortices than those who reported moderate or low importance of religion or spirituality and whether this effect varied by family risk status. Participants were 103 adults (aged 18-54 years) who were the second-or third-generation offspring of depressed (high familial risk) or nondepressed (low familiar risk) probands (first generation). Religious or spiritual importance and church attendance were assessed at 2 time points during 5 years, and cortical thickness was measured on anatomical images of the brain acquired with magnetic resonance imaging at the second time point. Results indicate that the importance of religion or

spirituality, but not frequency of attendance, was associated with thicker cortices in the left and right parietal and occipital regions, the mesial frontal lobe of the right hemisphere, and the cuneus and precuneus in the left hemisphere, independent of familial risk. In addition, the effects of importance on cortical thickness were significantly stronger in the high-risk than in the low-risk group, particularly along the mesial wall of the left hemisphere, in the same region where researchers previously reported a significant thinner cortex associated with a familial risk of developing depressive illness. Researchers note that these findings are correlational and therefore do not prove a causal association between importance and cortical thickness. The authors conclude that a thicker cortex associated with a high importance of religion or spirituality may confer resilience to the development of depressive illness in individuals at high familial risk for major depression, possibly by expanding a cortical reserve that counters to some extent the vulnerability that cortical thinning poses for developing familial depressive illness.

Singleton, Omar, Britta K Hölzel, Mark Vangel, Narayan Brach, James Carmody & Sara W Lazar. 2014. Change in Brainstem Gray Matter Concentration Following a Mindfulness-Based Intervention is Correlated with Improvement in Psychological Well-Being. Frontiers in Human Neuroscience 8. 33.

doi:10.3389/fnhum.2014.00033.

It has been found that individuals can improve their levels of psychological well-being (PWB) through utilization of psychological interventions, including the practice of mindfulness meditation, which is defined as the nonjudgmental awareness of experiences in the present moment. Researchers recently reported that an 8-weekmindfulness-based stress reduction (MBSR) course lead to increases in gray matter concentration in several brain areas, as detected with voxel-based morphometry of magnetization prepared rapid acquisition gradient echo MRI scans, including the pons/raphe/locus coeruleus area of the brainstem. Given the role of the pons and raphe in mood and arousal, the authors of this article hypothesized that changes in this region might underlie changes in well-being. A subset of 14 healthy individuals from a previously published data set completed anatomical MRI and filled out the PWB scale before and after MBSR participation. PWB change was used as the predictive regressor for changes in gray matter density within those brain regions that had previously shown pre- to post-MBSR changes. Results showed that scores on five PWB subscales as well as the PWB total score increased significantly over the MBSR course. The change was positively correlated with gray matter concentration increases in two symmetrically bilateral clusters in the brainstem. Those clusters appeared to contain the area of the pontine tegmentum, locus coeruleus, nucleus raphe pontis, and the sensory trigeminal nucleus. No clusters were negatively correlated with the change in PWB. This preliminary study suggests a neural correlate of enhanced PWB. The identified brain areas include the sites of synthesis and release of the neurotransmitters, norepinephrine and serotonin, which are involved in the modulation of arousal and mood, and have been related to a variety of affective functions as well as associated clinical dysfunctions.

Xu, Jian, Alexandra Vik, Inge R Groote, Jim Lagopoulos, Are Holen, Oyvind Ellingsen, Asta K Håberg & Svend Davanger. 2014. Nondirective meditation activates default mode network and areas associated with memory retrieval and emotional processing. *Frontiers in Human Neuroscience* 8. 86.

doi:10.3389/fnhum.2014.00086.

Nondirective meditation techniques are practiced with a relaxed focus of attention that permits spontaneously occurring thoughts, images, sensations, memories, and emotions to emerge and pass freely, without any expectation that mind wandering should abate. These techniques are thought to facilitate mental processing of emotional experiences, thereby contributing to wellness and stress management. The present study assessed brain activity by functional magnetic resonance imaging (fMRI) in 14 experienced practitioners of Acem meditation in two experimental conditions. In the first, nondirective meditation was compared to rest. Significantly increased activity was detected in areas associated with attention, mind wandering, retrieval of episodic memories, and emotional processing. In the second condition, participants carried out concentrative practicing of the same meditation

technique, actively trying to avoid mind wandering. The contrast nondirective meditation > concentrative practicing was characterized by higher activity in the right medial temporal lobe (parahippocampal gyrus and amygdala). In conclusion, the present results support the notion that nondirective meditation, which permits mind wandering, involves more extensive activation of brain areas associated with episodic memories and emotional processing, than during concentrative practicing or regular rest.

#### 1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Abásolo, Ignacio & Aki Tsuchiya. 2014. Egalitarianism and altruism in health: Some evidence of their relationship. *International Journal for Equity in Health* 13(1). 13. doi:10.1186/1475-9276-13-13.

This paper explores the empirical relationship between egalitarianism and altruism, in the context of health. The authors define altruism as individual behavior that aims to benefit another individual in need, and egalitarianism as a characteristic of a social welfare function, or a meta-level preference. The researchers specify a model that explains the propensity of an individual to be egalitarian in terms of altruism and other background characteristics. Individuals who prefer a hypothetical policy that reduces socioeconomic inequalities in health outcomes over another that does not are regarded 'egalitarian' in the health domain. On the other hand, 'altruism' in the health context is captured by whether or not the same respondents are (or have been) regular blood donors, provided they are medically able to donate. Probit models are specified to estimate the relationship between egalitarianism and altruism, thus defined. A representative sample of the Spanish population was interviewed for the purpose (n=417 valid cases). Overall, 75% of respondents are found to be egalitarians, while 35% are found to be altruists. Once controlled for background characteristics, there was a statistically significant empirical relationship between egalitarianism and altruism in the health context. On average, the probability of an altruist individual supporting egalitarianism is 10% higher than for a non-altruist person. Regarding the other control variables, those living in high per capita income regions have a lower propensity and those who are politically left wing have a higher propensity to be an egalitarian. Researchers do not find evidence of a relationship between egalitarianism and age, socioeconomic status or religious practices.

Boehm, Christopher. 2014. The moral consequences of social selection. *Behaviour* 151(2/3). 167–183. doi:10.1163/1568539X-00003143.

For half a century explaining human altruism has been a major research focus for scholars in a wide variety of disciplines, yet answers are still sought. Here, paradigms like reciprocal altruism, mutualism, and group selection are set aside in order to examine the effects of social selection as an under-explored model. To complement Alexander's reputational-selection model, the author introduces group punishment as another type of social selection that could have impacted substantially the development of today's human nature, and on human potential for behaving altruistically. Capital punishment is a decisive type of social selection, which in a past hunter-gatherer environment was aimed primarily against intimidating, selfish bullies. Therefore it is proposed that moral sanctioning has played a major part in genetically shaping our social and political behaviors. Aggressive suppression of free-riding deviants who bully or deceive has made a cooperatively generous, egalitarian band life efficient for humans, even as it has helped the human species to evolve in directions that favor altruism.

Coccia, Mario. 2014. Socio-cultural origins of the patterns of technological innovation: What is the likely interaction among religious culture, religious plurality and innovation? Towards a theory of socio-cultural drivers of the patterns of technological innovation. *Technology in Society* 36. 13–25

doi:10.1016/j.techsoc.2013.11.002.

Religion shapes people's attitude of mind, education, culture and institutions of countries and likely is a main socio-cultural determinant of the patterns of technological innovation. This study analyses the process of

technological innovation exploring the predominant religious culture of countries and tests the hypothesis that a higher religious plurality, a main proxy of cultural diversity, the higher the technological outputs in advanced economies. The findings show that, on average, societies with a predominance of the Protestant, Jewish and Eastern religions tend to have technological performance higher than societies with other predominant religious cultures. In addition, the statistical evidence supports de facto the hypothesis that a higher religious fractionalization, ceteris paribus, has a positive effect on technological outputs. This appears to be particularly true among richer and more democratic countries, which are mainly located in the European and North American geoeconomic areas.

Fischer, Ronald, Dimitris Xygalatas, Panagiotis Mitkidis, Paul Reddish, Penny Tok, Ivana Konvalinka & Joseph Bulbulia. 2014. The Fire-Walker's High: Affect and Physiological Responses in an Extreme Collective Ritual. *PloS one* 9(2). e88355. doi:10.1371/journal.pone.0088355.

How do people feel during extreme collective rituals? Despite longstanding speculation, few studies have attempted to quantify ritual experiences. Using a novel pre/post design, researchers quantified physiological fluctuations (heart rates) and self-reported affective states from a collective fire-walking ritual in a Mauritian Hindu community. Specifically, researchers compared changes in levels of happiness, fatigue, and heart rate reactivity among high-ordeal participants (fire-walkers), low-ordeal participants (non-fire-walking participants with familial bonds to fire-walkers) and spectators (unrelated/unknown to the fire-walkers). Researchers observed that fire-walkers experienced the highest increase in heart rate and reported greater happiness post-ritual compared to low-ordeal participants and spectators. Low-ordeal participants reported increased fatigue after the ritual compared to both fire-walkers and spectators, suggesting empathetic identification effects. Thus, witnessing the ritualistic suffering of loved ones may be more exhausting than experiencing suffering oneself. The findings demonstrate that the level of ritual involvement is important for shaping affective responses to collective rituals. Enduring a ritual ordeal is associated with greater happiness, whereas observing a loved one endure a ritual ordeal is associated with greater fatigue post-ritual.

Harman, Oren. 2014. A history of the altruism-morality debate in biology. *Behaviour* 151(2/3). 147–165.

doi:10.1163/1568539X-00003133.

Many different histories of the altruism-morality debate in biology are possible. Here, the author offers one such history, based on the juxtaposition of four pairs of historical figures who have played a central role in the debate. Arranged in chronological order, the four dyads—Huxley and Kropotkin, Fisher and Emerson, Wynne-Edwards and Williams, and Hamilton and Price—help us grasp the core issues that have framed and defined the debate ever since Darwin: the natural origins of morality, the individual versus collective approach, the levels of selection debate, and the Is-Ought distinction. Looking forward, the continued relevance of the core issues is discussed.

Keltner, Dacher, Aleksandr Kogan, Paul K. Piff & Sarina R. Saturn. 2014. The Sociocultural Appraisals, Values, and Emotions (SAVE) Framework of Prosociality: Core Processes from Gene to Meme. *Annual Review of Psychology* 65(1). 425–460. doi:10.1146/annurev-psych-010213-115054.

The study of prosocial behaviors such as altruism, cooperation, trust, and the related moral emotions, has matured enough to produce general scholarly consensus that prosociality is widespread, intuitive, and rooted deeply within our biological makeup. Several evolutionary frameworks model the conditions under which prosocial behavior is evolutionarily viable, yet no unifying treatment exists of the psychological decision-making processes that result in prosociality. Here, researchers provide such a perspective in the form of the Sociocultural Appraisals, Values, and Emotions (SAVE) framework of prosociality. Researchers review evidence for the components of this framework

at four levels of analysis: intrapsychic, dyadic, group, and cultural. Within these levels, researchers consider how phenomena such as altruistic punishment, prosocial contagion, self-other similarity, and numerous others give rise to prosocial behavior. The authors then extend this reasoning to chart the biological underpinnings of prosociality and apply this framework to understand the role of social class in prosociality.

Norton, Michael I. & Francesca Gino. 2014. Rituals alleviate grieving for loved ones, lovers, and lotteries. *Journal of Experimental Psychology: General* 143(1). 266–272. doi:10.1037/a0031772.

Three experiments explored the impact of mourning rituals that follow the loss of loved ones, lovers, or lotteries, on mitigating grief. Participants who were directed to reflect on past rituals or who were assigned to complete novel rituals after experiencing losses reported lower levels of grief. Increased feelings of control after rituals mediated the link between use of rituals and reduced grief after losses, and the benefits of rituals accrued not only to individuals who professed a belief in rituals' effectiveness but also to those who did not. Although the specific rituals in which people engage after losses vary widely by culture and religion and among participants, these results suggest a common psychological mechanism underlying their effectiveness: regained feelings of control.

Rottman, Joshua, Deborah Kelemen & Liane Young. 2014. Tainting the soul: Purity concerns predict moral judgments of suicide. *Cognition* 130(2). 217–226. doi:10.1016/j.cognition.2013.11.007.

Moral violations are typically defined as actions that harm others. However, suicide is considered immoral even though the perpetrator is also the victim. To determine whether concerns about purity rather than harm predict moral condemnation of suicide, researchers presented American adults with obituaries describing suicide or homicide victims. While harm was the only variable predicting moral judgments of homicide, perceived harm (toward others, the self, or God) did not significantly account for variance in moral judgments of suicide. Instead, regardless of political and religious views and contrary to explicit beliefs about their own moral judgments, participants were more likely to morally condemn suicide if they (i) believed suicide tainted the victims' souls, (ii) reported greater concerns about purity in an independent questionnaire, (iii) experienced more disgust in response to the obituaries, or (iv) reported greater trait disgust. Thus, suicide is deemed immoral to the extent that it is considered impure.

Terrizzi, John A, Jr, Russ Clay & Natalie J Shook. 2014. Does the behavioral immune system prepare females to be religiously conservative and collectivistic? *Personality & Social Psychology Bulletin* 40(2). 189–202. doi:10.1177/0146167213508792.

Previous research has indicated that females are more likely than males to endorse collectivistic values and religious conservatism. The present research investigated an evolutionary explanation for these sex differences. More specifically, the sex differences in social conservatism may be due to variation in the behavioral immune system (BIS). The BIS is a set of psychological mechanisms that are proposed to be evolved solutions to disease threat. Four studies were conducted to examine this evolutionary explanation. In Study 1, BIS measures (e.g., disgust sensitivity) fully mediated sex differences in collectivism. This effect was specific to sexual disgust (Study 2). In Studies 3 and 4, the effect was extended to other forms of social conservatism (i.e., religious conservatism) and measures of the BIS. Together, these results suggest that sex differences in collectivism and religious conservatism may be explained in part by sex differences in the BIS.

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

Abela, Andrew V. 2014. Appealing to the imagination: Effective and ethical marketing of religion. *Journal of Business Research* 67(2). 50–58.

doi:10.1016/j.jbusres.2013.03.011.

This paper defines and develops the concept of "appealing to the imagination," a type of marketing communication designed to engage the imagination of the target audience, which presents aesthetic, poetic, and truthful characteristics. The paper proposes "appealing to the imagination" as an effective and ethical technique for marketing religion, arguing that appeals to the imagination persuade audiences effectively and communicate religious claims with authenticity and tolerance. The case of the Focolare, a rapidly growing religious movement that uses appeals to the imagination extensively and successfully, illustrates these propositions.

Ahmadi, Somayeh, Yaghoob Nami & Rasoul Barvarz. 2014. The Relationship between Spirituality in the Workplace and Organizational Citizenship Behavior. Procedia - Social and Behavioral Sciences 114. 262–264.

doi:10.1016/j.sbspro.2013.12.695.

In this study of 248 high school students, questionnaires were administered to collect information on workplace spirituality and organizational citizenship behavior, and the resulting data was analyzed. The results showed that there was relationship between spirituality in the workplace and organizational citizenship behavior.

Bolghan-Abadi, Mustafa, Fatemeh Ghofrani & Mohammad Saeed Abde-Khodaei. 2014. Study of the spiritual intelligence role in predicting university students' quality of life. Journal of Religion and Health 53(1). 79-85.

doi:10.1007/s10943-012-9602-0.

The aim of the study is to investigate the spiritual intelligence role in predicting Quchan University students' quality of life. A sample of 143 students of Quechan University was selected randomly enrolled for the 1989-1990 academic year. The instruments of the data collecting are World Health Organization Quality of Life (WHOQOL) and Spiritual Intelligence Questionnaire. The results of data analysis show that spiritual intelligence has ab effective role in predicting quality of life.

Cohen-Malayev, Maya, Elli P. Schachter & Yisrael Rich. 2014. Teachers and the religious socialization of adolescents: Facilitation of meaningful religious identity formation processes. Journal of Adolescence 37(2). 205–214. doi:10.1016/j.adolescence.2013.12.004.

This study investigated the effects of religious education on student religious identity over and above parent religiosity by examining student perceptions of two aspects of teacher functioning: teacher caring and teacher as rolemodel. Researchers posited that the effects of these variables on students' religious identity are mediated by student perceptions that the school provides a non-alienating religious atmosphere and meaningful religious studies. Participants were 2,691 male and female students (grades 9–12) in 152 classes of 25 schools from the Jewish public-religious sector in Israel. Results indicate that in addition to their parents' religiosity, adolescents' perceptions of their teachers as role models and their religious studies as meaningful are important variables affecting their religious identity. Moreover, this research suggests that religious identity formation processes flourish in an educational environment that students perceive as accommodating religious exploration.

Engelland, Brian T. 2014. Religion, humanism, marketing, and the consumption of socially responsible products, services, and ideas: Introduction to a special topic section. Journal of Business Research 67(2). 1–4.

doi:10.1016/j.jbusres.2013.03.005.

This introduction to a special issue provides an overview and brief summary of the eight articles that follow and take up the issue's theme. Despite the fact that religion and religious world views exert considerable influence on consumer attitudes and behavior, mainstream business journals have presented little research that explores the relationship between religion and marketing. Articles featured in this special issue examine three themes of interest: (1) the influence of strongly held religious or non-religious world views on the marketing of socially responsible behaviors; (2) how religious world views influence the conduct of marketing; and (3) what marketing scholars can learn from the marketing practices of various religious organizations.

Etengoff, Chana & Colette Daiute. 2014. Family members' uses of religion in post–coming-out conflicts with their gay relative. *Psychology of Religion and Spirituality* 6(1). 33–43. doi:10.1037/a0035198.

Religion often creates cultural meaning for interpersonal relations as individuals and societies develop interactively. Religious tools, such as God and texts, have reportedly been used in both relationally adaptive and maladaptive ways. Extant research regarding relational uses of religion largely focuses on Christian dyads' general conflicts, as opposed to conflicts related to religious prohibitions. This study expands the current research regarding theistic triangulation (i.e., God/faith positioned as an ally against other party) and mediation (i.e., God/faith invoked constructively to mediate conflict), by focusing on gay men and their Jewish and Christian relatives' accounts of relational religious tool use. 23 gay men (10 with Jewish backgrounds, and 13 with Christian backgrounds) and 15 of their religious family allies (7 Jewish, 8 Christian) completed semi-structured interviews focusing on the quality of their post—coming-out relationships and how they use religion to negotiate associated conflicts. Interviews were analyzed utilizing an applied cultural historical analysis. 74% (17/23) of gay men reported that their religious relatives utilized theistic triangulation in post—coming-out conflicts. 65% (15/23) of gay participants reported that theistic triangulation negatively impacted their familial relationships. Alternatively, 69% (16/23) of gay participants also spoke highly of religious family allies that navigated post—coming-out issues and conflicts effectively. These findings illuminate the necessity of including socioreligious contexts in the study and treatment of gay men and their religious families.

Ghani, Saedah A., Salhah Abdullah, Sharifah Mariam Syed Akil & Noratthiah Nordin. 2014. Muslim Adolescent Moral Values and Coping Strategies among Muslim Female Adolescents Involved in Premarital Sex. *Procedia - Social and Behavioral Sciences* 114. 637–643. doi:10.1016/j.sbspro.2013.12.760.

This study intends to find the relationship between Islamic moral values and the coping strategies among female adolescents in Malaysia involved in premarital sex. The study explores the demographic and the psychological profile of the participants of the study. The subject of this study consists of 238 occupants from government shelter and rehabilitation homes. Moral Values Inventory for Muslim Adolescences (MVIMA) and Coping Strategy Inventory (adapted and translated into Malay Version from Spanish Version of Coping Strategies) were used in this study. The data was analyzed using descriptive statistics. For inferential data, the Pearson Correlation was used. Findings of the research show that there is a significant relationship between coping strategies and moral values among adolescences involved in pre-marital sex.

Granger, Karen, Vinh Nhat Lu, Jodie Conduit, Roberta Veale & Cullen Habel. 2014. Keeping the faith! Drivers of participation in spiritually-based communities. *Journal of Business Research* 67(2). 68–75.

doi:10.1016/j.jbusres.2013.03.013.

Spiritually-based communities (SBCs) provide a range of economic and social benefits to society. Declining memberships prompt a need for greater understanding and insight into the factors that drive participation in these communities. This study provides a conceptual model depicting religiosity as the core driver of donation of time, money and attendances at religious services. The model further indicates that the impact of belief in a "higher being" on participation in SBCs is moderated by age, income, time available for socialization, desire to make a social contribution, and need for social interaction. A preliminary investigation in Australia provides strong support for the model, serving as a starting point for a number of future studies on the behaviors of SBC members.

Heiphetz, Larisa, Elizabeth S. Spelke & Mahzarin R. Banaji. 2014. The Formation of Belief-Based Social Preferences. *Social Cognition* 32(1). 22–47. doi:10.1521/soco.2014.32.1.22.

Beliefs are invisible contents of the mind, yet young children appear able to reason about beliefs in their minds and those of others. In three experiments, the authors explored the previously unanswered question of the manner and extent to which young children assess types of beliefs. In Experiment 1, 6- to 9-year-old children preferred peers who shared their own beliefs across several belief domains (fact, preference, and ideology) but selectively attributed prosocial behaviors only to those who shared their religious ideology. In Experiments 2 and 3, children additionally attributed prosocial behaviors to those who shared their ideological beliefs rather than to those who shared their behavior. Together, these experiments demonstrate that children form social preferences based on unobservable mental states and that they weigh ideological beliefs particularly strongly when making morally relevant behavioral attributions.

Hopkins, Christopher D., Kevin J. Shanahan & Mary Anne Raymond. 2014. The moderating role of religiosity on nonprofit advertising. *Journal of Business Research* 67(2). 23–31. doi:10.1016/j.jbusres.2013.03.008.

This study explores the role of religiosity as a moderator of antecedents to intent to donate to the nonprofit sponsor of pro-social ads, and finds that religiosity acts as a moderator in the relationship between liking of the ad, perceived corporate social responsibility of the nonprofit, and intent to donate to the nonprofit.

Iyer, Sriya, Chander Velu & Abdul Mumit. 2014. Communication and marketing of services by religious organizations in India. *Journal of Business Research* 67(2). 59–67. doi:10.1016/j.jbusres.2013.03.012.

The study uses media richness theory with competitive response to develop hypotheses about the use of personal and non-personal channels by religious organizations. The study uses unique primary survey data on 568 Hindu, Muslim, Christian, Sikh and Jain organizations spread over 7 states in India, collected between 2006 and 2008, to investigate the marketing communication strategy of religious organizations in response to their competitors' use of non-personal communication channels and provision of non-religious services. The findings suggest that if a competitor uses higher non-personal communication channels, then this evokes a retaliatory reaction with the incumbent, increasing their personal communication channels. Second, an incumbent who is more responsive to a competitor increasing their non-religious service provision will respond by increasing their non-personal communication channels and by decreasing their personal channels. The findings have implications for managers who need to select the richness of the media for their communications' strategy in the context of competitive response.

Jost, John T., Carlee Beth Hawkins, Brian A. Nosek, Erin P. Hennes, Chadly Stern, Samuel D. Gosling & Jesse Graham. 2014. Belief in a just God (and a just society): A system justification perspective on religious ideology. *Journal of Theoretical and Philosophical Psychology* 34(1). 56–81. doi:10.1037/a0033220.

Theoretical approaches that treat religiosity as an evolutionary byproduct of cognitive mechanisms to detect agency may help to explain the prevalence of superstitious thinking, but they say little about the social—motivational (or ideological) functions of religious beliefs or the specific contents of religious doctrines. To address these omissions, researchers develop the thesis that religion provides an ideological justification for the existing social order, so that prevailing institutions and arrangements are perceived as legitimate and just, and therefore worth obeying and preserving. Researchers summarize empirical evidence revealing that (a) religiosity is associated with the same set of epistemic, existential, and relational needs that motivate system justification; (b) religiosity is associated with the endorsement of the belief in a just world, Protestant work ethic, fair market ideology, opposition to equality, right-

wing authoritarianism, political conservatism, and other system-justifying belief systems; and (c) religious ideology appears to serve the palliative function of making people happier or more satisfied with the way things are. Although most major religious texts and movements contain progressive as well as conservative elements, belief in God is more often than not system-justifying in terms of its motivational antecedents, manifestations, and consequences.

Kalamas, Maria, Mark Cleveland & Michel Laroche. 2014. Pro-environmental behaviors for thee but not for me: Green giants, green Gods, and external environmental locus of control. *Journal of Business Research* 67(2). 12–22. doi:10.1016/j.jbusres.2013.03.007.

Understanding consumers' allocation of environmental responsibility to external forces (i.e., those perceived to be beyond their direct control) is important yet under-researched. This paper examines how these external attributions affect consumers' pro-environmental behaviors (PEBs). A model of external environmental locus of control (i.e., external-ELOC) is tested, consisting of two superordinate dimensions: powerful-others (encapsulating corporate and government responsibility facets) and chance/fate (incorporating God/higher-power and natural earth-cycle facets). The two higher-order factors negatively associate, such that consumers ascribing environmental responsibility to powerful-others engage in PEBs, whereas those attributing environmental change to chance/fate typically do not. The results inform practical and public policy implications, pinpointing ways for corporations and governments to target their pro-environmental efforts and to sway consumers who share in the ecological burden.

Keuschnigg, Marc & Jan Schikora. 2014. The dark side of leadership: An experiment on religious heterogeneity and cooperation in India. *The Journal of Socio-Economics* 48. 19–26. doi:10.1016/j.socec.2013.09.006.

Researchers investigate voluntary contribution to public goods in culturally heterogeneous groups with a laboratory experiment conducted among 432 Hindu and Muslim subjects in India. With the specification of "Leading by example" researchers test for an interaction effect between leadership and religious heterogeneity in a high stake environment. While cultural diversity does not affect contributions in the standard linear Public Goods Game, it reduces cooperation in the presence of a leader. Furthermore, researchers show that preferences for conditional cooperation are only prevalent in pure groups. In mixed groups, poor leadership and uncertainty about followers' reciprocity hinders the functionality of leadership as an institutional device to resolve social dilemmas.

Martin, William C. & Connie R. Bateman. 2014. Consumer religious commitment's influence on ecocentric attitudes and behavior. *Journal of Business Research* 67(2). 5–11. doi:10.1016/j.jbusres.2013.03.006.

A host of environmental issues are now of concern to many consumers, though efforts by marketing practitioners, researchers, and public policy officials to affect behavioral change among consumers have been marginal. Further, research investigating the influence of consumers' general religiosity as an antecedent to ecocentric attitudes and behaviors yields mixed results. In this study, the authors examine the antecedent role of a specific form of religiosity, intrapersonal religious commitment, on a specific environmental worldview, ecocentric attitude, and six wide-ranging environmental consumer behaviors from a socio-psychological viewpoint. Findings negate the long-standing notion of a strictly negative relationship between the Judeo-Christian faith and disregard for the environment. Among Judeo-Christians, when age, gender, and urban/rural profile are controlled, intrapersonal religious commitment has no impact on ecocentric attitudes and behaviors. Thus, highly religious consumers appear to be no less receptive to pro-environmental messages or less likely to engage in environmentally friendly behaviors than other consumers. Consistent with prior research, ecocentric attitudes evidence a relatively weak link with various pro-environmental behaviors.

Miller, Monica K., Samuel C. Lindsey & Jennifer A. Kaufman. 2014. The religious conversion and race of a prisoner: Mock parole board members' decisions, perceptions, and emotions. *Legal & Criminological Psychology* 19(1). 104–130. doi:10.1111/j.2044-8333.2012.02063.x.

Parole board members (PBMs) decide whether to release inmates on parole. Decisions may be affected by ingroup bias or stereotypes regarding religion and race. Two experiments investigated whether religious conversions/ secular lifestyle changes and race affect mock PBMs' release decisions, emotions, and perceptions. Mock PBMs read a case file of an inmate who was eligible for parole and decided whether to grant parole. Study 1 manipulated whether the inmate had converted to Christianity or Islam, had a secular lifestyle change, or had no lifestyle change. Study 2 also varied race (African-American or Caucasian). Race was not a significant factor, possibly because the manipulation was not strong enough to influence participants or because participants did not want to appear racist. Conversions to Islam and Christianity impacted the parole decision, and effects were mediated by believability of the conversion. Secular lifestyle changes affected release decisions and were mediated by perceptions of the inmate and beliefs about his likelihood of recidivism. Such inmates were the most likely to be released and were perceived most positively; their conversions were the most believable. Inmates who made no changes were perceived least positively, indicating that any lifestyle change is better than none. Importantly, no bias towards either religion (Islam, Christianity) was found. Furthermore, conversion type affected how scared PBMs were of the inmate, but this fear did not impact release decisions.

Rostami, Amir Masood & Hayedeh Cheraghali Gol. 2014. Prediction of Marital Satisfaction based on Spiritual Intelligence. *Procedia - Social and Behavioral Sciences* 116. 2573–2577. doi:10.1016/j.sbspro.2014.01.613.

The aim of the present study is to predict marital satisfaction based on spiritual intelligence. The statistical population of the study consisted of all couples who referred to family counseling centers in Tehran in 2012. A sample of 240 individuals (120 women and 120 men) was selected from among this population in counseling centers of Tehran using random multistage sampling method. Additionally, stepwise multivariate regression was used to examine research hypotheses. The results indicated that, while relying on the inner core of spiritual intelligence, the element of spiritual life had the largest contribution to the prediction of the criterion variable and explained 35.2% of the marital satisfaction variance. Adding the element of "perception of and communication with the origins of the universe" to the equation increased the explanation coefficient to 37.1%. In addition, the results showed that the elements of spiritual intelligence among women and men explain marital satisfaction differently.

Tari, Azame Zeinalizade, Nasser Sobhi-Gharamaleki, Atefeh Hojjati & Bahar Alian. 2014. Relationship between Religious Orientation and Defense Mechanisms in Adolescents. *Procedia - Social and Behavioral Sciences* 114. 287–290. doi:10.1016/j.sbspro.2013.12.700.

The present study investigates the relationship between adolescents' religious orientation and defense mechanisms. The Azerbaijani Religious Orientation Test and Martin Defense Mechanism Test were administered to 200 female students selected randomly from one of the Tehran high schools. Results indicate that there is a negative correlation between unimproved defense style and religious orientation; that is, the more one is highly religious-oriented, the less one uses the mentioned style. Moreover, there is a positive correlation between improved defense style and religious orientation. This means that the more one is highly religiously-oriented, the more one uses more improved defense mechanisms. Based on the findings researchers conclude that by increasing religious beliefs in adolescents, researchers can help them apply defense mechanisms efficiently.

Tuval-Mashiach, Rivka & Rachel Dekel. 2014. Religious meaning-making at the community level: The forced relocation from the Gaza Strip. *Psychology of Religion and Spirituality* 6(1). 64–71.

doi:10.1037/a0033917.

The purpose of the current study was to describe the process of religious coping in a religious community that underwent a forced relocation. Whereas previous work on meaning-making processes has looked at individuals, researchers sought to understand what happens to the process of religious coping when an entire community experiences a shared stressful event. Using Park's (2005) model of religion as a meaning-making framework, researchers analyzed open-ended narratives of 230 former residents of Gush Katif who wrote about the ways in which they coped with their relocation, 8 to 10 months after it took place. The primary finding was that participants referred to the impact of the relocation on their religious beliefs and referred to it not only as individuals but also, and perhaps mostly, as members of a community. Analyzing the content of these answers revealed the pathways of religious coping: resilient (no change in religious belief), strengthening of belief, weakening of belief, and open crisis. The findings suggest that in collective events, and especially in communities, meaning-making processes take place at both individual and collective levels. Researchers discuss the findings in light of existing theories of religious coping.

Village, Andrew. 2014. The relationship of psychological type to interpretations of Genesis among churchgoers in England. *Psychology of Religion and Spirituality* 6(1). 72–82. doi:10.1037/a0035184.

Building on the work of Richard Hunt (1972), the author developed scales for this study to measure interpretations of the creation account in Genesis. Three 6-item scales measured the extent of literal, rejecting, and symbolic interpretation, which paralleled Hunt's literal, antiliteral, and mythological (LAM) styles of religious commitment. Scales were completed by 632 respondents from a range of churches in England, along with measures of psychological type preferences and personal faith positions. Preference for sensing was associated with literal rather than symbolic interpretation, and the reverse was true for preference for intuition. Preference for thinking over feeling was associated with literal rather than rejecting or symbolic interpretation, but this association arose indirectly because preference for thinking was associated with religious conservatism and with belonging to Evangelical or Pentecostal denominations.

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

Abu-Raiya, Hisham & Peter C. Hill. 2014. Appraising the state of measurement of Islamic religiousness. *Psychology of Religion and Spirituality* 6(1). 22–32. doi:10.1037/a0035082.

Given that measurement is a vital element of scientific research of religious phenomena, researchers examine how well-developed the Islamic measurement literature is by systematically reviewing, summarizing, and evaluating the available measures of Islamic religiousness that are grounded in Islam. The evaluation is based on 5 criteria: theoretical clarity, sample representation, reliability, validity, and generalizability. Most measures are theoretically sound and have produced reliable scores, but concerns are raised regarding the external and predictive validity of many of the instruments' scores. The evaluation also points to the need for (a) refinement and further validation of some instruments, (b) exploration of the distinction and overlap of the constructs religion and spirituality from an Islamic perspective, and (c) testing the applicability of some further constructs (e.g., attachment to God, religious and spiritual development) to the Muslim context.

Poulakou-Rebelakou, E, A Liarmakopoulos, C Tsiamis & D Ploumpidis. 2014. Holy fools: A religious phenomenon of extreme behaviour. *Journal of Religion and Health* 53(1). 95–104. doi:10.1007/s10943-012-9600-2.

Monks in Byzantine times (330-1453 AD) often expressed their faith with extreme manifestations of behavior, such as living on a high column (stylites), on a tree (dendrites), or in crowded urban centers of the empire,

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pretending to be fools for Christ's sake. These Holy Fools exposed themselves to the ridicule and the mistreatment of the citizens, being protected, however, by their state of insanity to mock and violate moral codes and social conventions. The official Church barely tolerated these religious attitudes as promoting deviations from standard orthodoxy, and the Quinisext Ecumenical Council (592 AD) judged them as dangerous and formally denounced the phenomenon. The two most famous of them in Byzantium were Symeon of Emesa and Andrew of Constantinople, whose lives constitute unique testimonies to insanity and the simulation thereof. The survival and transplantation of the Holy Fools in Russia, called "yurodivye", where they met widespread acceptance, confirm their appeal in specific geographic areas and their endurance over time. Researchers attempt to approach the symbolism of holy lunacy and to analyze the personality trends of these "eccentric" saints.

Santos, Saskia Daniele & Jodi Lane. 2014. Expanding Clear et al.'s value of religion ideas: Former inmates' perspectives. *Deviant Behavior* 35(2). 116–132. doi:10.1080/01639625.2013.834746.

Clear et al. (2000) examined the value of religion in prisons and identified intrinsic and extrinsic meanings for inmates turning to religion. This research expanded Clear et al.'s work by using self-report data from former inmates regarding ideas developed in the prior qualitative study, as well as included new items that may further clarify the role of religion in prison. Using descriptive statistics and other analyses, limited support was found for Clear et al.'s (2000) findings.

Yablon, Yaacov B., Leslie J. Francis & Mandy Robbins. 2014. The Katz-Francis Scale of Attitude toward Judaism: Internal Consistency Reliability and Construct Validity among Female Undergraduate Students in Israel. *Pastoral Psychology* 63(1). 73–78. doi:10.1007/s11089-013-0523-y.

The Katz-Francis Scale of Attitude toward Judaism was developed to extend to the Jewish community a growing body of international research concerned to map the correlates, antecedents, and consequences of individual differences in attitude toward religion as assessed by the Francis Scale of Attitude toward Christianity. The internal consistency reliability and construct validity of the Katz-Francis Scale of Attitude toward Judaism were supported by data provided by 284 Hebrew-speaking female undergraduate students attending Bar-Ilan University. This instrument is commended for application in further research.

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

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

Allen, Jennifer D, John E Pérez, Claudia R Pischke, Laura S Tom, Alan Juarez, Hosffman Ospino & Elizabeth Gonzalez-Suarez. 2014. Dimensions of religiousness and cancer screening behaviors among church-going Latinas. *Journal of Religion and Health* 53(1). 190–203. doi:10.1007/s10943-012-9606-9.

The purpose of this study was to explore relationships between dimensions of religiousness with adherence to cancer screening recommendations among church-going Latinas. Female Spanish-speaking members, aged 18 and older, from a Baptist church in Boston, Massachusetts (n=78), were interviewed about cancer screening behaviors and dimensions of religiousness. Researchers examined adherence to individual cancer screening tests (mammography, Pap test, and colonoscopy), as well as adherence to all screening tests for which participants were age-eligible. Dimensions of religiousness assessed included church participation, religious support, active and passive spiritual health locus of control, and positive and negative religious coping. Results showed that roughly half (46%) of the sample had not received all of the cancer screening tests for which they were age-eligible. In multivariate analyses, positive religious coping was significantly associated with adherence to all age-appropriate screening.

Banerjee, Ananya Tina, Michael H Boyle, Sonia S Anand, Patricia H Strachan & Mark Oremus. 2014. The relationship between religious service attendance and coronary heart disease and related risk factors in Saskatchewan, Canada. *Journal of Religion and Health* 53(1). 141–156. doi:10.1007/s10943-012-9609-6.

Research suggests that attending religious services could provide small yet important protective benefits against coronary heart disease (CHD) and CHD risk factors (e.g., diabetes, hypertension). The extent to which these benefits apply to Canada deserves study because approximately one-third of adult Canadians attend religious services at least monthly. Therefore, the objective of this study is to examine the association between frequency of religious service attendance and prevalence of (1) CHD, (2) diabetes, and (3) hypertension in Canada. Researchers used the Saskatchewan sample (n=5,442) of the Canadian Community Health Survey (CCHS-4.1) and built multivariable logistic regression models to evaluate associations between religious service attendance and self-reported CHD, diabetes, and hypertension. After controlling for demographic, socioeconomic and health behavior variables, the association between religious service attendance and prevalence of CHD was not significant. However, persons who attended religious services more than once a week exhibited lower prevalence odds of diabetes and hypertension compared to persons who attended less than once a year. The findings of this study are the first to suggest religious service attendance may be associated with a lower prevalence of CHD risk factors in Canada.

Barton, Alison L, J Blake Snider, Alexander T Vazsonyi & Jaclyn Layne Cox. 2014. Adolescent religiosity as a mediator of the relationship between parental religiosity and adolescent health outcomes. *Journal of Religion and Health* 53(1). 86–94. doi:10.1007/s10943-012-9596-7.

Studies have demonstrated the positive impacts of both parent and adolescent religiosity on adolescent outcomes; however, the relationships among these variable have not been studied. The study was conducted to assess whether adolescent religiosity mediates the relationship between parent religiosity and adolescent emotional and behavioral health outcomes. A sample of 491 late adolescents ages 18-22 completed surveys that assessed their parents' religious practices, their own religious practices, deviant behaviors, and internalizing behaviors. Findings suggest that adolescent religiosity mediates the relationship between parents' religiosity and adolescent health outcomes such as drug and alcohol use and depression.

Billioux, Veena G, Susan G Sherman & Carl Latkin. 2014. Religiosity and HIV-related drug risk behavior: A multidimensional assessment of individuals from communities with high rates of drug use. *Journal of Religion and Health* 53(1). 37–45. doi:10.1007/s10943-012-9587-8.

Researchers examined the relationship between religiosity and HIV-related drug risk behavior among individuals from communities with high rates of drug use who participated in the SHIELD (Self-Help in Eliminating Life-Threatening Disease) study. This analysis examined the dimensions of religious ideation, religious participation, and religious support separately to further understand the relationship with risk taking. Results indicate that greater religious participation appeared to be the dimension most closely associated with drug behaviors. Specifically, researchers found that those with greater religious participation are significantly less likely to report recent opiates or cocaine use; injection drug use; crack use; and needle, cotton or cooker sharing.

Cavallera, Guido Maria, Massimo Gatto & Giuseppe Boari. 2014. Personality, cognitive styles and Morningness-Eveningness disposition in a sample of Yoga trainees. *Medical Science Monitor* 20. 238–246.

doi:10.12659/MSM.889030.

In this exploratory study researchers posited that Morningness-Eveningness disposition might be associated with personality in Yoga trainees. Since Yoga can have influences over cognitive perspectives, and since it has been observed that Morningness-Eveningness disposition can associate with cognitive processes, researchers investigated a sample of Yoga trainees with reference to relationship with styles of learning and thinking (relevant aspects of cognitive functioning) and also with Morningness-Eveningness disposition. Researchers tested 184 Yoga trainees using the following questionnaires: Styles of Learning and Thinking (Torrance), Big Five Questionnaire (Caprara, Barbaranelli, Borgogni), and reduced Morningness-Eveningness Questionnaire (Natale). It was found that Morning types score significantly higher than Evening types on Conscientiousness, Friendliness, Scrupulousness, Openness to Culture, emotional Stability, emotion Control, they score higher than intermediate types on Conscientiousness, Friendliness, Scrupulousness. Moreover, data showed that the high majority of subjects, also with reference to Morningness-Eveningness disposition, have right-sided styles of learning and thinking, pointing out a tendency towards right-sided cognitive precessing in the whole sample.

Dias, Marcio, Guillermo Coca Vellarde, Beni Olej, Ana Emília Teófilo Salgado & Ighor de Barros Rezende. 2014. Effects of electroacupuncture on stress-related symptoms in medical students: A randomised placebo-controlled study. *Acupuncture in Medicine* 32(1). 4–11. doi:10.1136/acupmed-2013-010408.

This article aims to assess the effects of electroacupuncture (EA) on relieving stress-related symptoms-sleep disorders, anxiety, depression and burnout-in medical students. Eighty-two students were randomized into an EA treatment group (n=30), a sham transcutaneous electrical nerve stimulation (TENS) group (n=18) and an untreated control group (n=34). EA was applied at a continuous frequency of 2 Hz to the limbs, face, ears and scalp for 20 min once a week, over 6-8 weeks. Sham TENS was performed on similar sites for the same number of times in each session and for the same length of time. Outcome measurements included a comparison of the indices obtained by different self-applied questionnaires before and after treatment. The surveys used were the Mini-Sleep Questionnaire (MSQ), Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), the Beck Depression and Anxiety Inventories (BDI and BAI) and the Maslach Burnout Inventory-Student Survey (MBI-SS), in addition to the Quality of Life Questionnaire-abbreviated version (WHOQOL-brief). Following intervention, it was found that EA significantly reduced stress-related mental symptoms. However, the improvement also obtained by sham TENS, when compared with the control group, confirmed the presence of a placebo effect resulting from the treatment ritual.

Fan, Yaxin, Yi-Yuan Tang & Michael I Posner. 2014. Cortisol level modulated by integrative meditation in a dose-dependent fashion. *Stress and Health* 30(1). 65–70. doi:10.1002/smi.2497.

Prior research has shown that an additional training session immediately after acute stress decreases release of salivary cortisol in a college student group trained with 5-day integrative body-mind training (IBMT) in comparison with a control group given the same amount of relaxation training. However, 5 days of training does not influence the basal secretion of cortisol. The current study seeks to extend this finding and determine whether increasing amounts of IBMT will decrease the basal cortisol level, suggesting reduced stress to daily activities. Thirty-four Chinese undergraduates were randomly assigned either to 4 weeks of IBMT or a relaxation control. Salivary cortisol levels at baseline before training and the three stages of a stress intervention test (i.e. rest, stress and additional 20-min practice) after 2 and 4 weeks of training were assessed. The basal cortisol level decreased significantly in the IBMT but not in relaxation group after 2 and 4 weeks of training. An additional IBMT practice session immediately after acute stress produced significantly lower cortisol release for the IBMT group in comparison with relaxation at weeks 2 and 4. The results indicate that IBMT produces a change in the basal endocrine system and larger acute effects as the dose of training increases.

Gootjes, Liselotte & Eric Rassin. 2014. Perceived thought control mediates positive effects of meditation experience on affective functioning. *Mindfulness* 5(1). 1–9. doi:10.1007/s12671-012-0140-3.

The present study explored whether perceived thought control is involved in positive effects of meditation and mindfulness on psychological functioning. To this end, researchers examined perceived thought control ability in a healthy self-selected group of experienced and novel meditators. Researchers found that meditation experience, both in hours spent meditating as well as in occurrence of mindful states in daily life, is associated with increased perceived thought control ability, more positive affect, less negative affect, less trait anxiety, higher optimism scores, and higher sense of social connectedness. Using a mediation model, researchers found that perceived thought control ability mediates the significant relation between meditation experience and these aspects of psychological functioning. These results are in line with the hypothesis that increased perceived thought control plays a role in positive effects of meditative practices.

Holt, Cheryl L., David L. Roth, Eddie M. Clark & Katrina Debnam. 2014. Positive self-perceptions as a mediator of religious involvement and health behaviors in a national sample of African Americans. *Journal of Behavioral Medicine* 37(1). 102–112. doi:10.1007/s10865-012-9472-7.

Self-esteem and self-efficacy are theorized to serve as mediators of the relationship between religious involvement and health outcomes. Studies confirming these relationships have produced mixed evidence. This study examined whether self-esteem and self-efficacy mediate the relationship between religious involvement (beliefs, behaviors) and a set of modifiable health behaviors in a national probability sample of African Americans. African Americans, in general, are relatively high in religious involvement and have higher than average rates of chronic disease. Participants were interviewed by telephone, and a Religion-Health Mediational Model was tested using structural equation modeling. Results suggest that self-esteem and self-efficacy at least in part mediate the relationship between religious beliefs (e.g., relationship with God) and greater fruit and vegetable consumption, and lower alcohol consumption. Religious behaviors (e.g., service attendance) were found to have direct, unmediated effects on health behaviors. Findings have implications for church-based health promotion in African American communities such as education or support groups.

Hubbling, Amber, Maryanne Reilly-Spong, Mary Jo Kreitzer & Cynthia R Gross. 2014. How mindfulness changed my sleep: Focus groups with chronic insomnia patients. *BMC Complementary and Alternative Medicine* 14(1). 50.

doi:10.1186/1472-6882-14-50.

The purpose of this study was to understand mindfulness training as experienced by patients with chronic insomnia, and suggest procedures that may be useful in optimizing sleep benefits. Adults (n=18) who completed an 8-week mindfulness-based stress reduction (MBSR) program as part of a randomized, controlled clinical trial to evaluate MBSR as a treatment for chronic insomnia were invited to participate in post-trial focus groups. Two groups were held. Participants (n=9) described how their sleep routine, thoughts and emotions were affected by MBSR and about utility (or not) of various mindfulness techniques. Groups were audio-recorded, transcribed and analyzed using content analysis. Four themes were identified: the impact of mindfulness on sleep and motivation to adopt a healthy sleep lifestyle; benefits of mindfulness on aspects of life beyond sleep; challenges and successes in adopting mindfulness-based practices; and the importance of group sharing and support. Participants said they were not sleeping more, but sleeping better, waking more refreshed, feeling less distressed about insomnia, and better able to cope when it occurred. Some participants experienced the course as a call to action, and for them, practicing meditation and following sleep hygiene guidelines became priorities. Motivation to sustain behavioral changes was reinforced by feeling physically better and more emotionally stable, and seeing others in the MBSR class improve. The body scan was identified as an effective tool to enable falling asleep faster. Participants described needing to continue practicing mindfulness to maintain benefits. The authors conclude that mindfulness training in a group format, combined with sleep hygiene education, is important for effective application of MBSR as a treatment for chronic insomnia.

Kortt, Michael A & Brian Dollery. 2014. Religion and BMI in Australia. *Journal of Religion and Health* 53(1). 217–228. doi:10.1007/s10943-012-9621-x.

Researchers estimated the relationship between religion and body mass index (BMI) for a general and representative sample of the Australia population. Data from the Household Income Labor Survey were analyzed for 9,408 adults aged 18 and older. Analysis revealed that religious denomination was significantly related to higher BMI, after controlling for socio-demographic, health behaviors, and psychosocial variables. Baptist' men had, on average, a 1.3 higher BMI compared to those reporting no religious affiliation. Among women, 'Non-Christians' had, on average, a 1 unit lower BMI compared to those reporting no religious affiliation while 'Other Christian' women reported, on average, a 1 unit higher BMI. The results also indicate that there was a negative relationship between religious importance and BMI among Australian women.

Krause, Neal & R. David Hayward. 2014. Church-based social support, functional disability, and change in personal control over time. *Journal of Religion and Health* 53(1). 267–278. doi:10.1007/s10943-013-9707-0.

The purpose of this study is to see whether measures of church-based and secular social support offset the effects of functional disability on change in feelings of personal control over time. Survey data were obtained from Wave 2 and Wave 3 of a nationwide sample of older adults (n=583). The findings suggest that spiritual support from fellow church members offsets the effects of functional disability on change in feelings of personal control over time. In contrast, neither emotional support from fellow church members nor emotional support from secular social network members exerted a similar effect.

Lassiter, Jonathan Mathias. 2014. Extracting Dirt From Water: A Strengths-Based Approach to Religion for African American Same-Gender-Loving Men. *Journal of Religion and Health* 53(1). 178–189.

doi:10.1007/s10943-012-9668-8.

Religion is one of the most powerful and ubiquitous forces in African American same-gender-loving (SGL) men's lives. Research indicates that it has both positive and negative influences on the health behaviors and outcomes of

this population. This paper presents a review of the literature that examines religion as a risk and protective factor for African American SGL men. A strengths-based approach to religion that aims to utilize its protective qualities and weaken its relation to risk is proposed. Finally, recommendations are presented for the use of a strengths-based approach to religion in clinical work and research.

Luczak, Susan E., Carol A. Prescott, Cyril Dalais, Adrian Raine, Peter H. Venables & Sarnoff A. Mednick. 2014. Religious factors associated with alcohol involvement: Results from the Mauritian Joint Child Health Project. *Drug and Alcohol Dependence* 135. 37–44. doi:10.1016/j.drugalcdep.2013.10.028.

The purpose of this study was to examine religious factors associated with alcohol involvement in Mauritius. The three main religions on the island, Hinduism, Catholicism, and Islam, promote different views of the appropriate use of alcohol. Based on reference group theory, researchers hypothesized that both the content of a religion's alcohol norms and an individual's religious commitment would relate to alcohol use behavior. Participants were from the Joint Child Health Project, a longitudinal study that has followed a birth cohort of 1,795 individuals since 1972 when they were 3 years old. All available participants (67%) were assessed in mid-adulthood on religious variables, lifetime drinking, and lifetime alcohol use disorders. Across religions, individuals who viewed their religion as promoting abstinence were less likely to be drinkers. Religious commitment was associated with reduced probability of drinking only in those who viewed their religion as promoting abstinence. Among drinkers, abstention norms and religious commitment were not associated with lower likelihood of alcohol use disorders. In Catholics who viewed their religion as promoting abstinence and still were drinkers, high religious commitment was associated with increased risk for alcohol use disorders. Predictions based on reference group theory were largely supported, with religious norms and commitment differentially related to alcohol use and problems both across religions and among individuals within religions.

Obeng Gyimah, Stephen, Ivy Kodzi, Jacques Emina, Jones Adjei & Alex Ezeh. 2014. Adolescent sexual risk-taking in the informal settlements of Nairobi, Kenya: understanding the contributions of religion. *Journal of Religion and Health* 53(1). 13–26. doi:10.1007/s10943-012-9580-2.

Young people in sub-Saharan Africa are at the center of the global HIV epidemic as they account for a disproportionate share of new infections. Their vulnerability to HIV has been attributed to myriad factors, but in particular risky sexual behaviors. While economic factors are important, increasing attention has been devoted to religion on the discourse on sexual decision-making because religious values provide a perspective on life that often conflicts with risky sexual behaviors. Given the centrality of religion in the African social fabric, this study assesses the relationship between adolescent religiousness and involvement in risky sexual behaviors using data from the informal settlements of Nairobi. Guided by social control theory, the paper explores if and how religion and religiosity affect sexual risk-taking among adolescents.

Quenstedt-Moe, Gretchen & Sue Popkess. 2014. Forgiveness and health in Christian women. *Journal of Religion and Health* 53(1). 204–216. doi:10.1007/s10943-012-9603-z.

Researchers in psychology have studied the influence of forgiveness on both the psychological and physical health of individuals. In addition, parish nursing is also looking at forgiveness as a potential benefit for self-care and health promotion. Forgiveness was measured using Enright's Forgiveness Inventory in 96 participants. Health was measured using Spielberg's State/Trait Anger measure, Beck's II Depression measure, SPF-15 Health Survey. Body Mass Index was also calculated. Mixed Methods was also used to describe the qualitative findings using content analysis on the types of unjust violations Christian women experienced. Women expressed very severe unjust violations involving sexual, physical, emotional, financial and spiritual abuse. Statistical correlations suggested important relationships among forgiveness and overall health measures warranting further investigation.

The relationship between Church type and forgiveness raised questions about women's role in the Church as well as, the importance of acknowledging personal feelings, which are excluded in many orthodox denomination's doctrines.

Sauer-Zavala, Shannon, Jessica L Burris & Charles R Carlson. 2014. Understanding the relationship between religiousness, spirituality, and underage drinking: the role of positive alcohol expectancies. *Journal of Religion and Health* 53(1). 68–78. doi:10.1007/s10943-012-9598-5.

Research has consistently found that religiousness and spirituality are negatively associated with underage drinking. However, there is a paucity of research exploring the mechanisms by which these variables influence this important outcome. With 344 underage young adults (ages 18-20; 61% women), researchers investigated positive alcohol expectancies as a mediator between religiousness and spirituality (measured separately) and underage alcohol use. Participants completed the Religious Commitment Inventory-10, Daily Spiritual Experiences Scale, Alcohol Expectancies Questionnaire, and Drinking Styles Questionnaire. Results indicate less positive alcohol expectancies partially mediate the relationship between both religiousness and spirituality and underage alcohol use. This suggests that religiousness and spirituality's protective influence on underage drinking is partly due to their influence on expectations about alcohol's positive effects.

Savage, Linda E. 2014. Reclaiming women's sexuality: The intersection of Shamanic practices and sex therapy. *Sexual & Relationship Therapy* 29(1). 121–131. doi:10.1080/14681994.2013.861061.

This paper delineates a treatment model co-created by a psychologist and sex therapist and an elder in Shamanic work that can be utilized for healing and empowering women's sexuality. The interweaving of perspectives and experience using yoga breathing patterns, movement, guided meditation, Mesa work, and Shamanic ceremony, offers new pathways for awakening feminine sexual energy, creativity, and personal power.

Savas, Esen, Zeynel Abidin Öztürk, Derya Tanrıverdi & Yalçın Kepekçi. 2014. Do Ramadan fasting restrictions alter eating behaviours in obese women? *Journal of Religion and Health* 53(1). 135–140. doi:10.1007/s10943-012-9605-x.

Ramadan fasting can be considered as a kind of dietary restriction. Eating restriction is a risk factor for later development of eating disorders. The purpose of this study is to evaluate whether Ramadan fasting changes the eating behaviors of obese women. The sample consisted of 34 obese women who fasted during the Ramadan month. The data were collected by using Questionnaire Form, Eating Attitude Test (EAT) and Bulimic Investigatory Test, Edinburgh (BITE). No statistically significant differences were found between the scores of EAT, BITE, BMI, which were administered within the weeks before and after Ramadan. According to the results, Ramadan fasting restrictions do not seem to change the eating behaviors of obese women.

Ursaru, Manuela, Irina Crumpei & Gabriel Crumpei. 2014. Quality of Life and Religious Coping in Women with Breast Cancer. *Procedia - Social and Behavioral Sciences* 114. 322–326. doi:10.1016/j.sbspro.2013.12.705.

For decades the surgical treatment of choice for breast cancer in Romanian hospitals has been radical mastectomy. Nowadays the preferred method of treatment for many women with early breast cancer is conservative surgery. Fifty seven breast cancer patients were surveyed to assess the differences in quality of life and explore the importance of religious coping in their recovery. Findings show an important prevalence of religious coping among patients with breast cancer and a lower quality of life for patients who underwent conservative surgery. Further attention needs to be paid to the impact of different types of surgical treatments on patients' quality of life.

Ussher, Michael, Amy Spatz, Claire Copland, Andrew Nicolaou, Abbey Cargill, Nina Amini-Tabrizi & Lance M. McCracken. 2014. Immediate effects of a brief mindfulness-based body scan on patients with chronic pain. *Journal of Behavioral Medicine* 37(1). 127–134. doi:10.1007/s10865-012-9466-5.

Mindfulness-based stress reduction (MBSR) has benefits for those with chronic pain. MBSR typically entails an intensive 8-week intervention. The effects of very brief mindfulness interventions are unknown. Among those with chronic pain, the immediate effects of a 10 minute mindfulness-based body scan were compared with a control intervention. Fifty-five adult outpatients were randomly assigned to either: (1) mindfulness-based body scan (n=27) or (2) a reading about natural history (control group, n=28), provided via a 10 minute audio-recording. Interventions were delivered twice across 24 hours, once in the clinic and once in participants' "normal" environment. Immediately before and after listening to the recording, participants rated pain severity, pain related distress, perceived ability for daily activities, perceived likelihood of pain interfering with social relations, and mindfulness. In the clinic, there was a significant reduction in ratings for pain related distress and for pain interfering with social relations for the body scan group compared with the control group. In the normal environment none of the ratings were significantly different between the groups. These data suggest that, in a clinic setting, a brief body scan has immediate benefits for those experiencing chronic pain.

Wong, Kar Yong, Ern Yu Tan, Juliana Jc Chen, Christine Teo & Patrick My Chan. 2014. The use of traditional chinese medicine among breast cancer patients: implications for the clinician. *Annals of the Academy of Medicine, Singapore* 43(2). 74–78.

Traditional Chinese Medicine or Traditional Complementary Medicine (TCM) is commonly used in the culture. There are several concerns regarding its use in patients undergoing conventional treatments for breast cancer. In this study, researchers aimed to evaluate the prevalence and pattern of TCM use among the breast cancer patients, and to identify patients who were most likely to choose TCM. A total of 300 patients on active follow-up with Breast Service at Tan Tock Seng Hospital were interviewed using a structured questionnaire. Of these, a total of 35% (104 of 296) reported using TCM. The majority of the patients were introduced to TCM by family and friends following the diagnosis of breast cancer. All except 3 patients continued with recommended conventional therapy although most did not inform their clinicians of TCM use. None of the patients reported any serious adverse events and 75% of them perceived a benefit from TCM use. Younger patients and those of Chinese ethnicity were more likely to use TCM. There was no significant difference in the dialect group, religious beliefs and educational level between the 2 groups. The authors conclude that TCM use is common among breast cancer patients, particularly younger women.

#### 2.2 Spirituality & Health: Mental Health

Ames, Catherine S., Jessica Richardson, Susanna Payne, Patrick Smith & Eleanor Leigh. 2014. Mindfulness-based cognitive therapy for depression in adolescents. *Child and Adolescent Mental Health* 19(1). 74–78.

doi:10.1111/camh.12034.

Mindfulness-Based Cognitive Therapy (MBCT) has been shown to be effective in preventing relapse of depression in adults, but has not previously been applied to adolescents who have residual symptoms of depression following treatment. For this study, an 8-week MBCT group was adapted for adolescents, and evaluated using qualitative and quantitative measures. Following intervention, participants report high levels of satisfaction with the group intervention. Qualitative analysis of semi-structured interviews provides areas for future development of this intervention. Pilot data indicate reductions in depressive symptoms, alongside positive change in mindfulness skills, quality of life and rumination.

Bentley, Jacob, Zeba Ahmad & John Thoburn. 2014. Religiosity and posttraumatic stress in a sample of East African refugees. *Mental Health, Religion & Culture* 17(2). 185–195. doi:10.1080/13674676.2013.784899.

The present study focused on organizational religious activity (ORA), non-organizational religious activity (NORA), and intrinsic religiosity as potential moderators of the relationship between traumatic exposure and posttraumatic stress disorder (PTSD) symptoms in a sample of 59 East African refugees living in the United States. Results demonstrated a moderating effect for ORA and NORA on symptoms of PTSD. High ORA was associated with reduced PTSD symptoms for participants reporting relatively low traumatic exposure. However, results indicated that neither ORA nor NORA buffered against the development of PTSD symptoms as traumatic exposure increased.

Crosby, James W. & Jorge G. Varela. 2014. Preferences for religious help-seeking: racial and gender differences, interfaith intolerance, and defensive theology. *Mental Health, Religion & Culture* 17(2). 196–209.

doi:10.1080/13674676.2013.784900.

Researchers examined the relation between preference for religious help-seeking and defensive theology, interfaith intolerance, spiritual conceptualizations of mental health problems, race/ethnicity, and gender in a predominantly Christian sample of 389 college students. MANOVA revealed significant main effects for race/ethnicity, with African American participants showing higher scores than Caucasians and Latinos/as across all main study variables. Follow-up ANOVA yielded main effects for race across all four variables and main effects for gender on spiritual conceptualization of mental health problems and defensive theology. All race/ethnicity by gender interactions were not significant. Preference for religious help-seeking was regressed in a hierarchical manner on race/ethnicity and gender, followed by interfaith intolerance, defensive theology, and spiritual conceptualization of mental health problems. A statistically significant model explaining 46% of the variance emerged incorporating all variables except race. A framework for understanding help-seeking preference is presented.

Hawley, Lance L., Danielle Schwartz, Peter J. Bieling, Julie Irving, Kathleen Corcoran, Norman A. S. Farb, Adam K. Anderson & Zindel V. Segal. 2014. Mindfulness Practice, Rumination and Clinical Outcome in Mindfulness-Based Treatment. Cognitive Therapy and Research 38(1). 1–9. doi:10.1007/s10608-013-9586-4.

Mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR) are particularly effective treatment approaches in terms of alleviating depressive symptoms and preventing relapse once remission has been achieved. Although engaging in mindfulness practice is an essential element of both treatments, it is unclear whether informal or formal practices differentially impact on symptom alleviation. The current study utilizes a correlational design to examine data provided by thirty-two previously depressed, remitted outpatients who received either MBCT or MBSR treatment. Outpatients in the MBCT group received treatment as part of a previously published randomized efficacy trial (Segal et al., in Arch Gen Psychiatry 67:1256-1264), while those in the MBSR group received treatment as part of a separate, unpublished randomized clinical trial. Throughout treatment, clients reported on their use of formal and informal mindfulness practices. Results indicate that engaging in formal (but not informal) mindfulness practice was associated with decreased rumination, which was associated with symptom alleviation.

Hoffman, Steven & Flavio F. Marsiglia. 2014. The impact of religiosity on suicidal ideation among youth in central Mexico. *Journal of Religion and Health* 53(1). 255–266. doi:10.1007/s10943-012-9654-1.

Although over 100 years of research has been dedicated to understanding the connection between religiosity and suicide, many questions still remain. This is especially true among adolescent populations in countries outside the

US. In 2008, over 700 students attending eight alternative high school centers in central Mexico completed a health survey designed to provide a comprehensive overview of their physical, mental, spiritual, and emotional health. This article reports on the findings of a secondary analysis study of those data and focuses on the protective influence of religiosity on suicidal ideation. The findings of this study are discussed in light of the network theory's assertion that there is a belonging aspect to religion, and also to the idea that in religiously homogeneous communities of Mexico, religion can have a protective effect on the suicidal ideation of its members.

Jazaieri, Hooria, Kelly McGonigal, Thupten Jinpa, James R. Doty, James J. Gross & Philippe R. Goldin. 2014. A randomized controlled trial of compassion cultivation training: Effects on mindfulness, affect, and emotion regulation. *Motivation and Emotion* 38(1). 23–35. doi:10.1007/s11031-013-9368-z.

Compassion is a positive orientation towards suffering that may be enhanced through compassion training and is thought to influence psychological functioning. However, the effects of compassion training on mindfulness, affect, and emotion regulation are not known. Researchers conducted a randomized controlled trial in which 100 adults from the community were randomly assigned to either a 9-week compassion cultivation training (CCT) or a waitlist (WL) control condition. Participants completed self-report inventories that measured mindfulness, positive and negative affect, and emotion regulation. Compared to WL, CCT resulted in increased mindfulness and happiness, as well as decreased worry and emotional suppression. Within CCT, the amount of formal meditation practiced was related to reductions in worry and emotional suppression. These findings suggest that compassion cultivation training effects cognitive and emotion factors that support psychological flexible and adaptive functioning.

Josefsson, Torbjörn, Magnus Lindwall & Anders G. Broberg. 2014. The effects of a short-term mindfulness based intervention on self-reported mindfulness, decentering, executive attention, psychological health, and coping style: Examining unique mindfulness effects and mediators. *Mindfulness* 5(1). 18–35.

doi:10.1007/s12671-012-0142-1.

The majority of mindfulness intervention studies do not include active control groups. To examine potential unique effects of mindfulness practice and to study the mechanism responsible for beneficial mental health effects associated with mindfulness-based interventions, the present study compared mindfulness meditation with an active control group in a randomized controlled trial. A short-term mindfulness-based intervention (n=46) was compared with both an active control group undergoing relaxation training (n=40) and an inactive wait-list group (n=40). Comparisons were made on self-reported mindfulness and decentering, executive attention, psychological well-being, anxiety, depression, and coping style, in an adult working population with no prior meditation experience. Analyses of covariance showed that the mindfulness group scored higher than the wait-list group on self-reported mindfulness and psychological well-being. However, no differences were found on decentering, anxiety, depression, executive attention, or coping style. Moreover, the study failed to distinguish any unique mindfulness effects since there were no differences between mindfulness and relaxation on any of the variables. Simple mediation analyses, using a bootstrap approach, revealed that decentering acted as a mediator between self-reported mindfulness and psychological well-being. The length of the intervention, the similarities between body scan exercises in MBI and relaxation, and the absence of decentering effects may partly explain the lack of distinct MBI effects, suggesting that MBIs aimed at increasing well-being and problem-focused coping whilst reducing psychological symptoms in a working population should be longer than merely 4 weeks and include more than seven sessions.

Kamble, Shanmukh V., P.J. Watson, Savitri Marigoudar & Zhuo Chen. 2014. Attitude towards Hinduism, religious orientations, and psychological adjustment in India. *Mental Health, Religion & Culture* 17(2). 161–172.

doi:10.1080/13674676.2013.773967.

In a sample of Indian university students, the Attitude towards Hinduism Scale correlated positively with the Intrinsic and Extrinsic Personal Religious Orientations, exhibited an inverse relationship with depression, and predicted greater self-esteem and religious collective self-esteem. Extrinsic Social and Quest Orientations displayed no linkages with Hindu religious commitments and predicted psychological maladjustment. Attitude towards Hinduism displayed incremental validity over religious orientations in explaining variance in self-esteem and religious collective self-esteem and fully mediated Intrinsic and Extrinsic Personal linkages with religious collective self-esteem. Moderation analyses demonstrated that the Attitude towards Hinduism Scale had more robust mental health implications in those who were stronger in their Intrinsic Orientation. These data illustrated how the examination of tradition-specific forms of commitment can clarify more general measures of religiousness, and vice versa. They also confirmed the potential of the Attitude towards Hinduism Scale in efforts to develop a Hindu psychology of religion.

Kao, Henry Sr, Lin Zhu, An An Chao, Hao Yi Chen, Ivy Cy Liu & Manlin Zhang. 2014. Calligraphy and meditation for stress reduction: an experimental comparison. *Psychology research and behavior management* 7. 47–52.

doi:10.2147/PRBM.S55743.

This study compared the effectiveness of Chinese calligraphic handwriting (CCH) and meditation as distinctive and parallel stress reduction interventions. Thirty graduate students and academic staff members in Taiwan who suffered from stress were selected by the General Health Questionnaire and randomly assigned to one of three treatment groups: a CCH group, a meditation group, or a control group. Intervention lasted for 8 consecutive weeks. Changes in physiological parameters were measured before, during, and after treatment. Following intervention, CCH and meditation showed their strength in the respective indices of stress. There was a significant difference in respiratory rate, heart rate, and electromyographic scores between the groups. Comparing pre- and post-effects, a decrease in heart rate and an increase in skin temperature was seen in subjects who practiced CCH. Increased skin temperature and decreased respiratory rate were also seen in subjects who practiced meditation, along with reduced muscle tension and heart rate.

Kasala, Eshvendar Reddy, Lakshmi Narendra Bodduluru, Yogeshwar Maneti & Rajesh Thipparaboina. 2014. Effect of meditation on neurophysiological changes in stress mediated depression. *Complementary Therapies in Clinical Practice* 20(1). 74–80. doi:10.1016/j.ctcp.2013.10.001.

Meditation is a complex mental practice involving changes in sensory perception, cognition, hormonal and autonomic activity. It is widely used in psychological and medical practices for stress management as well as stress mediated mental disorders like depression. A growing body of literature has shown that meditation has profound effects on numerous physiological systems that are involved in the pathophysiology of major depressive disorder (MDD). Although meditation-based interventions have been associated with improvement in depressive symptoms and prevention of relapse, the physiological mechanisms underlying the therapeutic effects of meditation are not clearly defined and even paradoxical. This paper reviews many of the physiological abnormalities found in cytokine-mediated and stress-mediated depression and the reversal of these anomalies by different meditation techniques.

Kim, Soonja & Junghee Ki. 2014. A case study on the effects of the creative art therapy with stretching and walking meditation—Focusing on the improvement of emotional expression and alleviation of somatisation symptoms in a neurasthenic adolescent. *The Arts in Psychotherapy* 41(1). 71–78.

doi:10.1016/j.aip.2013.11.002.

The purpose of this study is to investigate how the creative art therapy with stretching and walking meditation can improve the emotional expression of a neurasthenic adolescent and alleviate her somatization symptoms. The

subject is a female third-year high-school student in D-Cube city in South Korea. The art therapy program was conducted from 22 July, 2012 to 30 August, 2012, 3—4 times a week, for a total of 21 therapy sessions, with each session lasting 40—90 min. The following research tools were used in this study: a measure of alexithymia as a cognitive-affective disorder, and a measure of somatization symptoms pre-test and post-test with a follow-up test. The results were compared. A content analysis of every session was also conducted. The results are as follows. First, creative art therapy led to an improvement in the emotional expression of a neurasthenic adolescent. Second, creative art therapy alleviated somatization symptoms in the neurasthenic adolescent. The follow-up test revealed that the effects of the therapy continued beyond the treatment period. In conclusion, the creative art therapy with stretching and walking meditation improved the emotional expression and alleviated somatization symptoms in a neurasthenic adolescent.

Kuo, Ben C. H., Robert Arnold & Beatriz Rodriguez-Rubio. 2014. Mediating effects of coping in the link between spirituality and psychological distress in a culturally diverse undergraduate sample. Mental Health, Religion & Culture 17(2). 173–184. doi:10.1080/13674676.2013.780015.

The present study sets out to examine the spirituality-coping-health link in a culturally and religiously diverse undergraduate sample (n=301) in Canada. Specifically, this investigation: (a) assessed intrinsic spirituality with a factorially-derived measure, created based on a multidimensional measure of spirituality; (b) tested the mediating role of coping in the spirituality-psychological well-being relation with a validated cross-cultural measure of coping; and (c) examined this complex, multivariate web of relationships with a path analysis. The results showed that Intrinsic Spirituality reduced Psychological Distress, promoted the use of Collective Coping, and reduced the use of Avoidance Coping. Furthermore, Engagement Coping reduced Psychological Distress while Avoidance Coping increased the distress. The findings suggest that one way in which spiritual faith and belief can act to improve individuals' psychological well-being is through promoting adaptive and culturally congruent/appropriate coping behaviors in the face of stressful situations. Implications and recommendations for future research are discussed.

Lord, Benjamin D & Sandra E Gramling. 2014. Patterns of religious coping among bereaved college students. *Journal of Religion and Health* 53(1). 157–177. doi:10.1007/s10943-012-9610-0.

Contemporary research has suggested that bereavement is a paramount issue in college populations, a group which has historically been underrepresented in grief research. Indeed, there has been a call to generate new research on grief with specific populations and age groups. Religion is often described as a primary way that individuals cope with bereavement in particular and has been shown to affect college student reactions to stress in general. The RCOPE scale is a frequently used measure of religious coping, but has not been evaluated with a bereaved undergraduate population. Given that emerging adulthood is a critical developmental phase of religious identity, the current study examined the factor structure of the RCOPE within a sample of bereaved college students. An exploratory factor analysis was performed, which approximated the factor structure proposed by Pargament et al.. However, a high correlation between the positive and negative religious coping subscales detracted from the predictive utility of Pargament et al.'s two overarching subscales. Therefore, an exploratory factor analysis with an orthogonal rotation was used to identify two uncorrelated subscales (adaptive religious coping and maladaptive religious coping). This new two-factor, 39-item version of the RCOPE was found to demonstrate good internal consistency as well as convergent and discriminant validity. The interaction between religious coping strategies and core beliefs about the predictability of the world is explored.

Nyklíček, Ivan, Suzanne C. Dijksman, Pim J. Lenders, Willem A. Fonteijn & Jacques J. Koolen. 2014. A brief mindfulness based intervention for increase in emotional well-being and quality of life in percutaneous coronary intervention (PCI) patients: the MindfulHeart randomized controlled trial. *Journal of Behavioral Medicine* 37(1). 135–144.

doi:10.1007/s10865-012-9475-4.

In this study the effects of a brief mindfulness-based stress reduction intervention were examined in cardiac patients who had a percutaneous coronary intervention (PCI). One-hundred-and-fourteen patients (mean age  $55 \pm 7$  years, 18% women) were randomly assigned to a 4-session mindfulness group intervention or a minimal mindfulness self-help control group that received a booklet containing identical information. Compared to self-help, the group intervention showed larger increases in psychological and social quality of life. For symptoms of anxiety and depression, and for perceived stress, this effect was evident only in patients younger than 60 years. These effects were partially or fully mediated by increase in mindfulness. The brief group mindfulness intervention seems beneficial for cardiac PCI patients regarding general psychosocial quality of life, although for specific psychological symptoms, this intervention can be recommended only for nonelderly patients.

Rees, Brian, Fred Travis, David Shapiro & Ruth Chant. 2014. Significant Reductions in Posttraumatic Stress Symptoms in Congolese Refugees Within 10 days of Transcendental Meditation Practice. *Journal of Traumatic Stress* 27(1). 112–115. doi:10.1002/jts.21883.

This follow-up pilot study tested whether Transcendental Meditation® (TM) practice would significantly reduce symptoms of posttraumatic stress in Congolese refugees within 10 days after instruction. The Posttraumatic Stress Disorder Checklist-Civilian (PCL-C) was administered to non-matched waitlist controls from a previous study 3 times over a 90-day period. Within 8 days of the third baseline measure, 11 refugees were taught TM, then retested 10 days and 30 days after instruction. Average PCL-C scores dropped 29.9 points from 77.9 to 48.0 in 10 days, then dropped another 12.7 points to 35.3 at 30 days. Effect size at 10 days was high. There were no adverse events. All participants completed the study and were able to practice TM.

Schultz, Jessica M., Elizabeth Altmaier, Saba Ali & Benjamin Tallman. 2014. A study of posttraumatic spiritual transformation and forgiveness among victims of significant interpersonal offences. *Mental Health, Religion & Culture* 17(2). 122–135. doi:10.1080/13674676.2012.755616.

Forgiveness and spiritual transformation, both gain and decline, may follow being victimized. The purpose of this study was to investigate the role of forgiveness in posttraumatic spiritual transformation following interpersonal offences. One hundred forty-six participants who had been "significantly wronged" by another person completed measures of event-related distress, forgiveness, and spiritual transformation. Results showed that spiritual growth was positively related to the personal importance of religion. Event-related distress and unforgiveness were positively correlated with spiritual decline. Regression analyses revealed that forgiveness did not uniquely account for a significant amount of the variance in spiritual growth after controlling for demographic variables, religious and spiritual importance, and event-related distress. Rather, religious and spiritual importance accounted for a significant amount of variance in spiritual growth. Unforgiveness uniquely predicted spiritual decline. This study suggests a complex relationship between spiritual transformation and forgiveness.

Werdel, Mary Beth, Gabriel S. Dy-Liacco, Joseph W. Ciarrocchi, Robert J. Wicks & Gina M. Breslford. 2014. The Unique Role of Spirituality in the Process of Growth Following Stress and Trauma. *Pastoral Psychology* 63(1). 57–71. doi:10.1007/s11089-013-0538-4.

This study investigated the unique contributions and moderating effects of positive and negative experiences of spirituality in predicting variance in stress-related growth and positive affect over and above the variance explained by the domains of the Five-Factor Model of Personality, social support, perceived stress, and gender in a sample of 109 male and 320 female volunteers. Responses were analyzed using hierarchical linear regression. Results indicated that faith maturity predicted unique variance in stress-related growth after controlling for the influence of

personality and gender; faith maturity and spiritual struggle predicted significant unique additional variance in positive affect over and above the variance predicted by personality, social support, and stress-related growth; and spiritual struggle moderated the relationship between stress-related growth and positive affect. The implications of these results are discussed in light of Park's (Journal of Social Issues 61:707-729) model of religion as a meaning-making framework.

Williams, S Taylor. 2014. Illness narrative, depression, and sainthood: an analysis of the writings of Mother Teresa. *Journal of Religion and Health* 53(1). 290–297. doi:10.1007/s10943-013-9774-2.

In 2007, the letters of The Blessed Mother Teresa to her confessors were published for the public in a book entitled Come Be My Light. What surprised many readers was that Mother Teresa felt very distant from God and described feeling great "darkness" for many years. This paper draws parallels between the writings of Mother Teresa and those of writers' illness narratives describing the psychiatric condition of Depression. The author provides this textual analysis to explore Mother Teresa's experience within a psychiatric paradigm (Major Depressive Disorder), in comparison with and contrast to the spiritual paradigm of a "Dark Night of the Soul."

Wnuk, Marcin & Jerzy Tadeusz Marcinkowski. 2014. Do existential variables mediate between religious-spiritual facets of functionality and psychological wellbeing? *Journal of Religion and Health* 53(1). 56–67.

doi:10.1007/s10943-012-9597-6.

Religiosity has been related to psychological wellbeing outcomes. Although this relationship is primarily based on studies of church attendance or prayer and wellbeing, more recent work has focused on the potential mechanisms that may mediate the religion-wellbeing findings. One of the major function of religion is finding of meaning of life and improving hope. Recent studies have indicated that hope and meaning of life are the potential variables mediate between religion and wellbeing. It was hypothesized that one pathway through which religiosity may exert its positive influence on psychological wellbeing is through finding meaning of life and improving hope. One study was conducted examining the relationships among spiritual experiences, hope, meaning of life and psychological wellbeing operationalized as satisfaction with life, positive affect and negative affect. The following research tools were used: Daily Spiritual Experiences Scale, Purpose in Life Test, Hearth Hope Index, Cantril Ladder, Positive and Negative Affect Schedule. Meaning of life and hope were noticed to mediate between spiritual experiences and satisfaction with life as well as between spiritual experiences and positive affect. Spiritual experiences were not related to negative affect. Both meaning of life and hope predicted negative affect. This study found meaning of life and hope to be an important factors in the religion-wellbeing relationship and related to positive psychological outcomes, including improved satisfaction with life and positive affect as well as reduced negative affect.

Wu, Chang-shing & Yi-jung Liu. 2014. Religious coping in life difficulties: a case study of Taiwanese folk religion female believers. *Mental Health*, *Religion & Culture* 17(2). 210–218. doi:10.1080/13674676.2013.787976.

The purpose of this study was to investigate (1) the process of religious coping for female believers of Taiwanese folk religion; (2) religious coping resources and activities; and (3) mental health outcomes of religious coping. The process of religious coping found in this study is basically in line with the model proposed by Koenig et al. This study identifies religious coping sources that include belief in law of Karma, the power of gods, and mysterious power of shaman's ritual. This study also supports previous findings that religion beliefs and practices can change one's cognitive appraisal of negative event, and directly or indirectly reduce painful feelings, promote positive emotions and the development of human virtues.

Yi, Gu-Hwa Hong & Jeffrey P. Bjorck. 2014. Religious support and psychological functioning in Korean American Protestant Christians. *Psychology of Religion and Spirituality* 6(1). 44–52. doi:10.1037/a0034417.

Researchers examined relationships between religious attendance, general social support from persons of the same ethnicity, religious support, and psychological functioning among Korean-speaking Protestants in the United States. Religious support operationally defined as coming from 2 perceived sources: (a) God and (b) members of one's religious community. General social support and both sources of religious support were all related positively to life satisfaction and negatively to depression. Moreover, even after controlling for 5 demographic covariates (gender, education, income, age, and years in the United States), attendance, and general social support, these findings were maintained for both God support and religious community support regarding life satisfaction but not depression. Conversely, after controlling for the same 5 covariates, attendance, and religious support, general social support's relationship was maintained with depression but not with life satisfaction. Findings support the importance for Korean Protestants of both religious support and general social support from fellow Koreans.

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

Aldwin, Carolyn M., Crystal L. Park, Yu-Jin Jeong & Ritwik Nath. 2014. Differing pathways between religiousness, spirituality, and health: A self-regulation perspective. *Psychology of Religion and Spirituality* 6(1). 9–21. doi:10.1037/a0034416.

The literature on religiousness, spirituality (R/S), and health has increased dramatically in the past decade, but suffers from a lack of integrative theoretical models and well-defined constructs. Drawing on self-regulation theory, researchers hypothesized that the effects of religiousness (e.g., affiliation, service attendance) on health affects behavioral self-regulation of health habits; in contrast, the effects of spirituality (e.g., meditation, self-transcendence) on health are thought to be mediated primarily via the effects of emotion regulation on the inflammatory processes underlying chronic illnesses such as cardiovascular disease and cancer. The adverse effects of religious alienation are thought to be mediated by both pathways. Researchers conducted database searches to identify current models of R/S and health as well as the empirical literature linking specific aspects of R/S and physical health. Researchers then reviewed the extent to which the literature supports this model, the review largely supported the proposed model. Religiousness was strongly associated with better health behavior habits, including lower smoking and alcohol consumption and greater likelihood of medical screenings, but only weakly related to inflammatory biomarkers. Measures of spirituality were more strongly linked to biomarkers, including blood pressure, cardiac reactivity, immune factors, and disease progression. Religious alienation had adverse effects on both pathways. This distinction between religiousness and spirituality and the better delineation of health behavior and biomarker pathways can inform and improve clinical applications and interventions.

Baig, Arshiya A, Cara A Locklin, Abigail E Wilkes, Donna Dempsey Oborski, John C Acevedo, Rita Gorawara-Bhat, Michael T Quinn, Deborah L Burnet & Marshall H Chin. 2014. Integrating diabetes self-management interventions for mexican-americans into the catholic church setting. *Journal of Religion and Health* 53(1). 105–118. doi:10.1007/s10943-012-9601-1.

Churches provide an innovative and underutilized setting for diabetes self-management programs for Latinos. This study sought to formulate a conceptual framework for designing church-based programs that are tailored to the needs of the Latino community and that utilize church strengths and resources. To inform this model, researchers conducted six focus groups with mostly Mexican-American Catholic adults with diabetes and their family members (n=37) and found that participants were interested in church-based diabetes programs that emphasized information sharing, skills building, and social networking, the model demonstrates that many of these requested

components can be integrated into the current structure and function of the church. However, additional mechanisms to facilitate access to medical care may be necessary to support community members' diabetes care.

Barnert, Elizabeth S., Samuel Himelstein, Sarah Herbert, Albert Garcia-Romeu & Lisa J. Chamberlain. 2014. Innovations in Practice: Exploring an intensive meditation intervention for incarcerated youth. *Child and Adolescent Mental Health* 19(1). 69–73. doi:10.1111/camh.12019.

Researchers examined the experiences of incarcerated adolescent males (n=29) who participated in a one-day meditation retreat and 10-week meditation program. Self-report surveys assessing mindfulness, self-regulation, impulsivity and stress were examined, as were behavioral assessments and focus group data. Following intervention, significantly higher scores in self-regulation were observed, and psychometric markers demonstrated psychological enhancement. No behavioral change was observed. Six themes emerged: enhanced well-being, increased self-discipline, increased social cohesiveness, expanded self-awareness, resistance to meditation and future meditation practice. The authors conclude that the early evidence suggests that meditation training for incarcerated youth is a feasible and promising intervention.

Besiroglu, Lutfullah, Sitki Karaca & Ibrahim Keskin. 2014. Scrupulosity and obsessive compulsive disorder: The cognitive perspective in Islamic sources. *Journal of Religion and Health* 53(1). 3–12. doi:10.1007/s10943-012-9588-7.

A moral/religious subtype of obsessive compulsive disorder has been termed as scrupulosity by mental health professionals. Since ultimate feared consequence in scrupulous individuals is religious or moral in nature, it also presents interesting and difficult issue for religious authorities. This article focuses on various aspects of scrupulosity that have until now been poorly conceptualized in Islamic world and provides a conceptual cognitive framework and analysis of scrupulosity according to Islamic sources.

Elkonin, Diane, Ottilia Brown & Samantha Naicker. 2014. Religion, spirituality and therapy: implications for training. *Journal of Religion and Health* 53(1). 119–134. doi:10.1007/s10943-012-9607-8.

Religion and spirituality are recognized coping resources but are neglected in psychological training and practice. However, religion and spirituality can be successfully used to cope with psychological disorders, prevent unhealthy behaviors and promote resilience. This study explored and described two questions regarding the concepts of the terminology religion and spirituality, and the perceptions of the use of religion and spirituality in therapy. Purposive sampling was utilized in a qualitative study of 15 registered psychologists, and data were analyzed using Tesch's model of qualitative content analysis. The concepts religion and spirituality appear difficult to define but the importance of their use as coping mechanisms in their own and their clients' lives was recognized.

Hafenbrack, Andrew C., Zoe Kinias & Sigal G. Barsade. 2014. Debiasing the mind through meditation: Mindfulness and the sunk-cost bias. *Psychological Science* 25(2). 369–376. doi:10.1177/0956797613503853.

In the research reported here, researchers investigated the de-biasing effect of mindfulness meditation on the sunk-cost bias. Researchers conducted four studies (one correlational and three experimental). The results suggest that increased mindfulness reduces the tendency to allow unrecoverable prior costs to influence current decisions. Study 1 served as an initial correlational demonstration of the positive relationship between trait mindfulness and resistance to the sunk-cost bias. Studies 2a and 2b were laboratory experiments examining the effect of a mindfulness-meditation induction on increased resistance to the sunk-cost bias. In Study 3, researchers examined the mediating mechanisms of temporal focus and negative affect, and researchers found that the sunk-cost bias was attenuated by drawing one's temporal focus away from the future and past and by reducing state negative affect, both of which were accomplished through mindfulness meditation.

Hanin Hamjah, Salasiah & Noor Shakirah Mat Akhir. 2014. Islamic approach in counseling. *Journal of Religion and Health* 53(1). 279–289. doi:10.1007/s10943-013-9703-4.

A religious approach is one of the matters emphasized in counseling today. Many researchers find that there is a need to apply the religious element in counseling because religion is important in a client's life. The purpose of this research is to identify aspects of the Islamic approach applied in counseling clients by counselors at Pusat Kaunseling Majlis Agama Islam Negeri Sembilan (PKMAINS). In addition, this research also analyses the Islamic approach applied in counseling at PKMAINS with reference to al-Quran and al-Sunnah. This is a qualitative research in the form of case study at PKMAINS. The main method used in this research is interview. The research instrument used is interview protocol. The respondents in this study include 9 counselors who serve in one of the counseling centers in Malaysia. This study also uses questionnaire as an additional instrument, distributed to 36 clients who receive counseling service at the center. The findings of the study show that the Islamic approach applied in counseling at PKMAINS may be categorized into three main aspects: aqidah (faith), ibadah (worship/ultimate devotion and love for God) and akhlaq (moral conduct). Findings also show that the counseling in these aspects is in line with Islamic teachings as contained in al-Quran and al-Sunnah.

Hathcoat, John D. & Dale R. Fuqua. 2014. Initial development and validation of the Basic Psychological Needs Questionnaire–Religiosity/Spirituality. *Psychology of Religion and Spirituality* 6(1). 53–63. doi:10.1037/a0035078.

Self-determination theorists propose that the satisfaction of basic psychological needs facilitates the integration of meaning. Though previous research has utilized self-determination theory to investigate religiosity and spirituality, no known scale has directly aimed to measure religious/spiritual basic psychological need satisfaction. Researchers investigated the factor structure of a newly developed measure, the Basic Psychological Needs Questionnaire—Religiosity/Spirituality, across two samples of college students. Exploratory factor analysis among 183 college students supported a theoretically meaningful two-factor structure whose content references Religious/Spiritual Relatedness and Religious/Spiritual Self-Mastery. Results from a confirmatory factor analysis among a second sample of 651 college students supported this factor structure. Validation evidence explored zero-order correlations between each factor and selected indicators of religiosity and spirituality across both samples. Divergences in observed correlations were found for students who self-identified as Christian and those who considered themselves either atheists, agnostics, or unaffiliated. Variation in observed correlations across these groups of students implicates the idiosyncratic character of basic psychological need satisfaction across distinct religious self-identifications.

Islam, F. & R. A. Campbell. 2014. "Satan has afflicted me!" Jinn-possession and mental illness in the Qur'an. *Journal of Religion and Health* 53(1). 229–243. doi:10.1007/s10943-012-9626-5.

Mental health stigma in Muslim communities may be partly due to a commonly held belief among some Muslims about the supernatural causes of mental illness (i.e., jinn-possession brought on by one's sinful life). A thematic analysis was carried out on four English translations and the Arabic text of the Qur'an to explore whether the connection between jinn-possession and insanity exists within the Muslim holy book. No connection between spirit-possession and madness or mental illness was found. Pagans taunted and labelled people as jinn-possessed only to ostracize and scapegoat. Linking the labelling of people as jinn-possession to a pagan practice may be used to educate Muslims, so they can reassess their community's stigma towards the mentally ill.

Malloy, D C, P R Sevigny, T Hadjistavropoulos, K Bond, E Fahey McCarthy, M Murakami, S Paholpak, N Shalini, P L Liu & H Peng. 2014. Religiosity and ethical ideology of physicians: A cross-cultural study. *Journal of Religion and Health* 53(1). 244–254.

doi:10.1007/s10943-012-9624-7.

In this study of ethical ideology and religiosity, 1,255 physicians from Canada, China, Ireland, India, Japan and Thailand participated. Forsyth's (1980) Ethical Position Questionnaire and Rohrbaugh and Jessor's Religiosity Measure were used as the survey instruments. The results demonstrated that physicians from India, Thailand and China reported significantly higher rates of idealism than physicians from Canada and Japan. India, Thailand and China also scored significantly higher than Ireland. Physicians from Japan and India reported significantly higher rates of relativism than physicians from Canada, Ireland and China. Physicians from China also reported higher rates of relativism than physicians from Canada, Ireland and Thailand. Overall, religiosity was positively associated with idealism and negatively associated with relativism. This study is the first to explore the differences between ethical ideology and religiosity among physicians in an international setting as well as the relationship between these two constructs. Both religiosity and ethical ideology are extremely generalized, and the extent to which they may impact the actual professional behavior of physicians is unknown.

McMinn, Mark R., Rodger K. Bufford, Michael J. Vogel, Tyler Gerdin, Brian Goetsch, Michael M. Block, Jason K. Mitchell, et al. 2014. Religious and spiritual diversity training in professional psychology: A case study. *Training and Education in Professional Psychology* 8(1). 51–57. doi:10.1037/tep0000012.

Despite the American Psychological Association's long-standing commitment to training in diversity, legitimate concerns can be raised about the adequacy of spiritual/religious diversity training in professional psychology programs. An example is provided of a doctoral program that intentionally trains students in religious and spiritual diversity from a pluralistic and diverse perspective. Coursework, clinical competencies, clinical training, research, ethical training, and outcome assessment are explored from both faculty and student perspectives.

Morris, Douglas N, Jo Stecher, Kayla M Briggs-Peppler, Chelsea M Chittenden, Joseph Rubira & Lindsay K Wismer. 2014. Spirituality in occupational therapy: Do researchers practice what researchers teach? *Journal of Religion and Health* 53(1). 27–36. doi:10.1007/s10943-012-9584-y.

This mixed-method study examined the responses of 97 occupational therapists on the subject of spirituality in occupational therapy practice. The inclusion of spirituality into the Occupational Therapy Practice Framework (2008) implies that clinicians address spirituality as a component of client-centered practice. This research revealed a gap between education, theory, and practice as evidenced in the quantitative and qualitative data. Although occupational therapy is intended to be holistic, therapists require a more complete understanding of what spirituality is and what the role of the occupational therapist is when addressing spirituality in evaluation or treatment. The discussion of this research provides information for future occupational therapy educators and educational programs as they seek to incorporate the construct of spirituality into curricula.

Nakao, Mutsuhiro & Chisin Ohara. 2014. The perspective of psychosomatic medicine on the effect of religion on the mind-body relationship in Japan. *Journal of Religion and Health* 53(1). 46–55. doi:10.1007/s10943-012-9586-9.

Shintoism, Buddhism, and Qi, which advocate the unity of mind and body, have contributed to the Japanese philosophy of life. The practice of psychosomatic medicine emphasizes the connection between mind and body and combines the psychotherapies (directed at the mind) and relaxation techniques (directed at the body), to achieve stress management. Participation in religious activities such as preaching, praying, meditating, and practicing Zen can also elicit relaxation responses. Thus, it is time for traditional religions to play an active role in helping those seeking psychological stability after the Great East Japan Earthquake and the ongoing crisis related to the nuclear accident in Fukushima, Japan, to maintain a healthy mind-body relationship.

Pan, Peter Jen Der, Liang-Yu F. Deng, S.L. Tsai, Ho-Yuan J. Chen & Sheng-Shiou Jenny Yuan. 2014. Development and validation of a Christian-based Grief Recovery Scale. *British Journal of Guidance & Counselling* 42(1). 99–114. doi:10.1080/03069885.2013.852158.

The purpose of this study was to develop and validate a Christian-based Grief Recovery Scale (CGRS) which was used to measure Christians recovering from grief after a significant loss. Taiwanese Christian participants were recruited from churches and a comprehensive university in northern Taiwan. They were influenced by both the Christian faith and Chinese cultural beliefs. The CGRS is developed through replicated factor analyses in three stages. The final version of the CGRS retains 35 Likert-type items and consists of six factors: spiritual wellbeing; recovering meaning and sense of control; ongoing physical and emotional responses; reassuring faith; strongly missing a deceased loved one; and life disturbance. The evidence for CGRS reliability and validity is highlighted.

Racine, Catherine. 2014. Loving in the context of community mental health practice: A clinical case study and reflection on mystical experience. *Mental Health*, *Religion & Culture* 17(2). 109–121. doi:10.1080/13674676.2012.749849.

Current research on mystical experience is offering community mental health professionals the opportunity to reconsider the role of love within clinical care. In psychological literature the historical conflation of love and sexuality is fraught with ethical concerns about professional impropriety, and the abuse of power. But the intimacy, intensity and beauty to be found within the therapeutic process hears the hallmark of the mystical, alluded to by Carl Rogers near the end of his career. This embodied experience that researchers are striving to understand in client populations is overlooked within the context of the therapeutic relationship. Described as the "essence" of love, or mystical consciousness, this liminal and transformational experience has the capacity to challenge and refresh the medicalised, often inhospitable, culture of community mental health by helping "professionals" re-discover that in treating the help-seeker they are always treating the Sacred Self.

Sadzio, Julia, Henning Vieker, Oliver Gruber & David Zilles. 2014. Development of schizoaffective psychosis in the course of a long-term occupation as spiritual healer: coincidence or causality? *The American Journal of Psychiatry* 171(2). 145–148. doi:10.1176/appi.ajp.2013.13020174.

Psychotic reactions in the context of meditation and esoteric practices have been described in the psychiatric literature. In most cases, these psychotic conditions are transient and do not lead to functional impairment. The authors present the case of a 46-year-old woman who had worked as a spiritual healer for several years and, in the course of this occupation, increasingly developed a highly specific configuration of psychotic symptoms (all of which could be convincingly traced back to the formerly used spiritual techniques) along with depressive symptoms and severe functional impairment. The differential diagnosis was initially complicated by the relative conformity of the patient's psychotic symptoms with her occupational practices and the absence of other, more typical, symptoms of schizophrenia. Only a thorough anamnesis with another spiritual healer and precise identification of psychopathology helped to disentangle the merely uncommon from the pathologic features of this case. Possible mechanisms of psychotogenesis are discussed in light of the literature and the specific features of the presented case. Although a single case report cannot prove a causal link between spiritual healing and development of psychosis, the patient's specific psychopathology, with preeminently disturbed self-experience, and its consistency with the patient's spiritual practices suggest at least a contributory role in this case.

Saunders, Stephen M., Megan L. Petrik & Melissa L. Miller. 2014. Psychology doctoral students' perspectives on addressing spirituality and religion with clients: Associations with personal preferences and training. *Psychology of Religion and Spirituality* 6(1). 1–8. doi:10.1037/a0035200.

Students (n=543) in doctoral clinical and counseling psychology programs were surveyed about training experiences with regard to addressing the spiritual and religious beliefs and practices (SRBP) of their patients. About one fourth of the respondents indicated they had received no training related to patients' SRBP. Another half had only read material on their own or discussed such issues with a supervisor. Nonetheless, respondents almost universally endorsed the idea that patients should be asked about spirituality and religiousness. Participants also rated the appropriateness of spiritual and religious queries that might be asked of patients. As expected, queries about the relevance of SRBP were rated as the most appropriate, whereas queries that implied a disrespectful or challenging tone were rated as the least appropriate. Participants' personal SRBP and training that was specific to patients' SRBP were weakly but significantly associated with appropriateness ratings. The results suggest that students are formulating ideas about how to ask patients about their spiritual and religious issues despite potentially inadequate formal instruction.

Shonin, Edo, William Van Gordon & Mark D. Griffiths. 2014. Do mindfulness-based therapies have a role in the treatment of psychosis? *Australian and New Zealand Journal of Psychiatry* 48(2). 124–127.

doi:10.1177/0004867413512688.

The article offers a review a review and appraisal of empirical findings supporting or opposing the operationalization of mindfulness-based therapies for psychotic disorders. It discusses whether mindfulness should be deployed as a treatment for psychosis.

Wahbeh, Helané, James B Lane, Elena Goodrich, Meghan Miller & Barry S Oken. 2014. One-on-one Mindfulness Meditation Trainings in a Research Setting. *Mindfulness* 5(1). 88–99. doi:10.1007/s12671-012-0155-9.

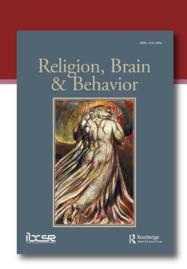
Researchers created a standardized one-on-one mindfulness meditation intervention with six weekly 90-minute training sessions and home practice. The trainings included didactic instruction, discussion and guided meditations, and home-practice guided meditations and mindfulness exercises. Twenty-eight participants completed mindful awareness, nonjudgment, perceived stress, positive and negative affect, and credibility/expectancy scales before and after the intervention. There were no adverse events or unanticipated side effects. Participants' mindful awareness and nonjudgment scores and perceived credibility of the intervention increased after the intervention, while negative affect and perceived stress decreased. There was no change in positive affect.

Zoysa, Nicole de, Florian A. Ruths, James Walsh & Jane Hutton. 2014. Mindfulness based cognitive therapy for mental health professionals: A long-term qualitative follow-up study. *Mindfulness* 5(1). 10–17.

doi:10.1007/s12671-012-0141-2.

The aims of this study were (a) to explore the long-term impact of attending a Mindfulness Based Cognitive Therapy (MBCT) program upon the personal and professional lives of a sample of clinical psychologists and (b) to assess how their experiences might inform existing theoretical and practical discussions around training for MBCT facilitators. Semi-structured interviews were conducted with seven clinical psychologists who had attended an MBCT program some 18 months earlier. The transcribed interviews were analysed using Interpretative Phenomenological Analysis. None of the participants was following a regular, formal, meditation practice and for most this was a barrier to facilitating their own groups. Instead, participants described using mindfulness in a more informal, ad hoc, way to enhance pleasant experiences and/or deal with stressful situations. Mindfulness was associated with being able to decenter from strong emotions and feel more grounded, although some equated this with avoidance. Participants used elements of MBCT with their clients tentatively. The results suggest that attending an MBCT program is associated with perceived benefits for clinical psychologists. However, some core principles of MBCT such as non-judgmental awareness, compassion, and regular formal practice seem more elusive

from these accounts. Further research is needed to establish the importance of these elements and their impact on the training requirements for MCBT facilitators.



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#### PART 3. BOOKS

#### 3. 1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

Hodder, Ian (ed.). 2014. Religion at work in a neolithic society: Vital matters. Cambridge University Press.

Jindra, Ines W. 2014. A new model of religious conversion: Beyond network theory and social constructivism. (Religion in the Americas 14). Brill.

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#### 3.2 Spirituality & Health Research

Pollak, Susan, Thomas Pedulla & Ronald D Siegel. 2014. Sitting together: essential skills for mindfulness-based psychotherapy. Guilford Press.

#### PART 4. ARTICLES IN PRESS

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

- Abanes, Menandro S., Peer L. H. Scheepers & Carl Sterkens. Ethno-religious groups, identification, trust and social distance in the ethno-religiously stratified Philippines. Research in Social Stratification and Mobility.
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