

## 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 1,054 articles, 104 articles have been retained from 63 journals. There are 42 pre-publication citations from 29 journals.

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

### 1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Hölzel, Britta K., Elizabeth A. Hoge, Douglas N. Greve, Tim Gard, J. David Creswell, Kirk Warren Brown, Lisa Feldman Barrett, Carl Schwartz, Dieter Vaitl & Sara W. Lazar. 2013. Neural mechanisms of symptom improvements in generalized anxiety disorder following mindfulness training. *NeuroImage: Clinical* 2. 448–458.  
doi:10.1016/j.nicl.2013.03.011.

*Mindfulness training aims to impact emotion regulation. Generalized anxiety disorder (GAD) symptoms can be successfully addressed through mindfulness-based interventions. This preliminary study is the first to investigate neural mechanisms of symptom improvements in GAD following mindfulness training. Participants were 26 patients with a current DSM-IV GAD diagnosis. These participants were randomized to an 8-week Mindfulness Based Stress Reduction (MBSR; n=15) or a stress management education (SME; n=11) active control program. 26 healthy participants were included for baseline comparisons. BOLD response was assessed with fMRI during affect labeling of angry and neutral facial expressions. At baseline, GAD patients showed higher amygdala activation than healthy participants in response to neutral, but not angry faces, suggesting that ambiguous stimuli reveal stronger reactivity in GAD patients. In patients, amygdala activation in response to neutral faces decreased following both interventions. BOLD response in ventrolateral prefrontal regions (VLPFC) showed greater increase in MBSR than SME participants. Functional connectivity between amygdala and PFC regions increased significantly pre- to post-intervention within the MBSR, but not SME group. Both, change in VLPFC activation and amygdala–prefrontal connectivity were correlated with change in Beck Anxiety Inventory (BAI) scores, suggesting clinical relevance of these changes. Amygdala–prefrontal connectivity turned from negative coupling (typically seen in down-regulation of emotions), to positive coupling; potentially suggesting a unique mechanism of mindfulness. Findings suggest that in GAD, mindfulness training leads to changes in fronto-limbic*

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*areas crucial for the regulation of emotion; these changes correspond with reported symptom improvements.*

- Zanesco, Anthony P, Brandon G King, Katherine A Maclean & Clifford D Saron. 2013. Executive control and felt concentrative engagement following intensive meditation training. *Frontiers in human neuroscience* 7. 566.  
doi:10.3389/fnhum.2013.00566.

*Various forms of mental training have been shown to improve performance on cognitively demanding tasks. Individuals trained in meditative practices, for example, show generalized improvements on a variety of tasks assessing attentional performance. A central claim of this training, derived from contemplative traditions, posits that improved attentional performance is accompanied by subjective increases in the stability and clarity of concentrative engagement with one's object of focus, as well as reductions in felt cognitive effort as expertise develops. However, despite frequent claims of mental stability following training, the phenomenological correlates of meditation-related attentional improvements have yet to be characterized. In a longitudinal study, researchers assessed changes in executive control (performance on a 32-min response inhibition task) and retrospective reports of task engagement (concentration, motivation, and effort) following one month of intensive, daily Vipassana meditation training. Compared to matched controls, training participants exhibited improvements in response inhibition accuracy and reductions in reaction time variability. The training group also reported increases in concentration, but not effort or motivation, during task performance. Critically, increases in concentration predicted improvements in reaction time variability, suggesting a link between the experience of concentrative engagement and ongoing fluctuations in attentional stability. By incorporating experiential measures of task performance, the present study corroborates phenomenological accounts of stable, clear attentional engagement with the object of meditative focus following extensive training. These results provide initial evidence that meditation-related changes in felt experience accompany improvements in adaptive, goal-directed behavior, and that such shifts may reflect accurate awareness of measurable changes in performance.*

- Dor-Ziderman, Yair, Aviva Berkovich-Ohana, Joseph Glicksohn & Abraham Goldstein. 2013. Mindfulness-induced selflessness: a MEG neurophenomenological study. *Frontiers in human neuroscience* 7. 582.  
doi:10.3389/fnhum.2013.00582.

*Contemporary philosophical and neurocognitive studies of the self have dissociated two distinct types of self-awareness: a "narrative" self-awareness (NS) weaving together episodic memory, future planning and self-evaluation into a coherent self-narrative and identity, and a "minimal" self-awareness (MS) focused on present momentary experience and closely tied to the sense of agency and ownership. Long-term Buddhist meditation practice aims at realization of a "selfless" mode of awareness (SL), where identification with a static sense of self is replaced by identification with the phenomenon of experiencing itself. NS-mediating mechanisms have been explored by neuroimaging, mainly fMRI, implicating prefrontal midline structures, but MS processes are not well characterized and SL even less so. To this end researchers tested 12 long-term mindfulness meditators using a neurophenomenological study design, incorporating both magnetoencephalogram (MEG) recordings and first person descriptions. It was found that (1) NS attenuation involves extensive frontal, and medial prefrontal gamma band (60-80 Hz) power decreases, consistent with fMRI and intracranial EEG findings; (2) MS attenuation is related to beta-band (13-25 Hz) power decreases in a network that includes ventral medial prefrontal, medial posterior and lateral parietal regions; and (3) the experience of selflessness is linked to attenuation of beta-band activity in the right inferior parietal lobule. These results highlight the role of dissociable frequency-dependent networks in supporting different modes of self-processing, and the utility of combining phenomenology, mindfulness training and electrophysiological neuroimaging for characterizing self-awareness.*

## 1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Acosta, Lealani Mae Y., John B. Williamson & Kenneth M. Heilman. 2013. Which cheek did Jesus turn? *Religion, Brain & Behavior* 3(3). 210–2. doi:10.1080/2153599X.2012.739738.

*In portraiture, subjects are mostly depicted with a greater portion of the left side of their face (left hemiface) facing the viewer. This bias may be induced by the right hemisphere's dominance for emotional expression and agency. Since negative emotions are particularly portrayed by the left hemiface, and since asymmetrical hemispheric activation may induce alterations of spatial attention and action-intention, the authors posited that paintings of the painful and cruel crucifixion of Jesus would be more likely to show his left hemiface than observed in portraits of other people. By analyzing depictions of Jesus's crucifixion from book and art gallery sources, the authors determined a significantly greater percent of these crucifixion pictures showed the left hemiface of Jesus facing the viewer than found in other portraits. In addition to the facial expression and hemispatial attention-intention hypotheses, there are other biblical explanations that may account for this strong bias, and these alternatives will have to be explored in future research.*

Ahmed, Ali & Osvaldo Salas. 2013. Religious Context and Prosociality: An Experimental Study from Valparaíso, Chile. *Journal for the Scientific Study of Religion* 52(3). 627–637. doi:10.1111/jssr.12045.

*This article asks whether people are more prosocial in a religious context, addressing the question through experiment. Researchers randomly placed participants in the control group in a neutral location (a lecture hall), and placed participants in the experimental group in a religious location (a chapel). The participants then took part in a one-shot three-person public goods game, which measured participants' degree of cooperativeness. The results showed that participants in the experimental group cooperated significantly more than did participants in the control group. Furthermore, participants' beliefs about other participants' cooperativeness were more positive in the experimental group than they were in the control group. Improved expectations of others partially explained the enhanced cooperation in the religious context. No main or interaction effect of self-reported religiosity was found in the experiment.*

Blogowska, Joanna, Catherine Lambert & Vassilis Saroglou. 2013. Religious Prosociality and Aggression: It's Real. *Journal for the Scientific Study of Religion* 52(3). 524–536. doi:10.1111/jssr.12048.

*Individual religiosity relates to prosocial attitudes, behavioral intentions, and behaviors of minimal (no/low cost; limited to in-group members) prosociality in hypothetical situations. Yet evidence on religious prosociality through other-oriented, costly helping behavior in real life is still to be documented. Similarly, religiosity relates to cognitive, emotional, and attitudinal components of prejudice toward moral out-groups. Evidence on real behavior of prejudice is nevertheless still needed. In two experiments using the same measure of religiosity and samples from the same population, religiosity predicted helping, in a real-life context, of an in-group member in need (Experiment 1) as well as overt and direct aggression by means of allocating hot sauce to a gay, but not to a neutral, target (Experiment 2). Religious prosociality and aggression are real, concern distinct kinds of targets, and are at the heart of personal religiosity.*

Van Elk, Michiel. 2013. Paranormal believers are more prone to illusory agency detection than skeptics. *Consciousness and Cognition* 22(3). 1041–1046. doi:10.1016/j.concog.2013.07.004.

*It has been hypothesized that illusory agency detection is at the basis of belief in supernatural agents and paranormal beliefs. In the present study a biological motion perception task was used to study illusory agency detection in a group of skeptics and a group of paranormal believers. Participants were required to detect the*

*presence or absence of a human agent in a point-light display. It was found that paranormal believers had a lower perceptual sensitivity than skeptics, which was due to a response bias to 'yes' for stimuli in which no agent was present. The relation between paranormal beliefs and illusory agency detection held only for stimuli with low to intermediate ambiguity, but for stimuli with a high number of visual distractors responses of believers and skeptics were at the same level. Furthermore, it was found that illusory agency detection was unrelated to traditional religious belief and belief in witchcraft, whereas paranormal beliefs (i.e. Psi, spiritualism, precognition, superstition) were strongly related to illusory agency detection. These findings qualify the relation between illusory pattern perception and supernatural and paranormal beliefs and suggest that paranormal beliefs are strongly related to agency detection biases.*

Hoverd, William J., Joseph Bulbulia & Chris G. Sibley. 2013. Does poverty predict religion? *Religion, Brain & Behavior* 3(3). 185–200.  
doi:10.1080/2153599X.2012.762937.

*The question of how religion relates to poverty has long fascinated social scientists, yet answers remain elusive. Deprivation theory holds that lower socio-economic standing is associated with higher religious identification, but not with religious affiliation. Cross-cultural support, however, is limited. The present study addressed this gap by testing the predictions of deprivation theory using a large (n=6,518) national probability sample of New Zealanders. A key innovation of this study is the use of an objective index of neighborhood deprivation derived from a Principle Components Analysis of New Zealand Census data. Consistent with deprivation theory, it was found that neighborhood deprivation predicted religious identification, but not religious affiliation. Adding education to the model improved fit, but did not attenuate the effect of deprivation. Importantly, the addition of ethnicity to the deprivation model produced a better fit for predicting the strength of religious identification. These results suggest a role for cultural inheritance in explaining the mechanisms by which religious identity and religious affiliation are related to each other, and over time. Finally, the authors consider these findings through a discussion that integrates evolutionary models of religion with the sociological model of deprivation theory.*

Kramer, Robin S. S., Ulrich W. Weger & Dinkar Sharma. 2013. The effect of mindfulness meditation on time perception. *Consciousness and Cognition* 22(3). 846–852.  
doi:10.1016/j.concog.2013.05.008.

*Research has increasingly focused on the benefits of meditation in everyday life and performance. Mindfulness in particular improves attention, working memory capacity, and reading comprehension. Given its emphasis on moment-to-moment awareness, the authors hypothesized that mindfulness meditation would alter time perception. Using a within-subjects design, participants carried out a temporal bisection task, where several probe durations are compared to "short" and "long" standards. Following this, participants either listened to an audiobook or a meditation that focused on the movement of breath in the body. Finally, participants completed the temporal bisection task for a second time. The control group showed no change after the listening task. However, meditation led to a relative overestimation of durations. Within an internal clock framework, a change in attentional resources can produce longer perceived durations. This meditative effect has wider implications for the use of mindfulness as an everyday practice and a basis for clinical treatment.*

Laor, Yuval. 2013. Cultural uniformity and religion. *Religion, Brain & Behavior* 3(3). 233–253.  
doi:10.1080/2153599X.2012.739409.

*Members of religious groups exhibit cultural uniformity in a variety of ways and to different extents. In this paper the author discusses the different ways in which this uniformity is achieved, the advantages and disadvantages that cultural uniformity offers a group, and the broader effects of cultural uniformity on cultural evolution. Partial cultural uniformity can come about in different ways, including: (1) selection involving positive and negative feedbacks (e.g., Fisher process); (2) coordinating signals that include hard-to-fake displays; and (3) the imposition of protocols that are necessarily similar enough to enable communication. These processes often interact, resulting in*

*rapid uniformity in some aspects of culture. Once a sufficient level of cultural uniformity is achieved, it has important consequences for the group as a whole and for individual members. These include: (1) credible signaling which is not costly; (2) increased detection of deviant or novel behavior; (3) increased group cohesion and commitment; (4) an agreed-upon central authority that can divide labor and direct group-wide cultural change; and (5) an increase in the rate of adaptation due to cultural group selection. These effects help explain the stability and diversity of religious group practices.*

McKay, Ryan, Jenna Herold & Harvey Whitehouse. 2013. Catholic guilt? Recall of confession promotes prosocial behavior. *Religion, Brain & Behavior* 3(3). 201–209.  
doi:10.1080/2153599X.2012.739410.

*Recent studies indicate that prosocial behavior is more likely when one feels guilty or when one's moral ledger has a negative balance. In light of such studies, the authors studied whether religious rituals of atonement and absolution are, from the perspective of religious groups, counterproductive mechanisms for addressing the moral transgressions of group members. If sin is a form of capital, might absolution rituals squander that capital? It was found that Catholic participants who recalled committing a past sin and being absolved of it donated significantly more money to the church than those who recalled committing the sin but had not yet recalled being absolved of it. This effect was more pronounced the more participants believed in divine judgment and the more they engaged in religious activities such as reading the bible or praying. These findings indicate that the Catholic ritual of confession is an effective means of promoting commitment to the church. These results complement a cultural evolutionary approach to religious prosociality, whereby religious practices evolve to the extent they contribute to high levels of cooperation in religious groups.*

Nichols, Ryan. 2013. The Origins and Effects of Filial Piety (Xiao): How Culture Solves an Evolutionary Problem for Parents. *Journal of Cognition and Culture* 13(3-4). 201–230.  
doi:10.1163/15685373-12342092.

*Parent-offspring conflict theory hypothesizes that interests of offspring and parents are asymmetrical in key contexts including the offspring's mating strategies and mate preferences. Evidence supports this hypothesis and documents these asymmetries in humans. However, offspring in East Asia have mate preferences and mating strategies that are in significantly greater harmony with that of their parents; preferences about their mating choices as compared with offspring elsewhere in the world. The paper hypothesizes that the Confucian virtue of filial piety (xiao) was designed and disseminated in order to benefit parents by enabling them successfully to extract more resources out of their offspring than is expected given either data from parent-offspring conflict theory or data from cross-cultural studies of mate preferences and mating strategies. The results of this project mark an early step in building a stable interdisciplinary platform from which to more accurately observe and appraise the unappreciated, awe-inspiring influence of Confucianism.*

Okasha, Samir. 2013. The origins of human cooperation. *Biology & Philosophy* 28(5). 873–878.  
doi:10.1007/s10539-013-9392-0.

*Bowles and Gintis argue that recent work in behavioral economics shows that humans have other-regarding preferences, i.e., are not purely self-interested. They seek to explain how these preferences may have evolved using a multi-level version of gene-culture coevolutionary theory. In this review essay the author critically examines their main arguments.*

Sparks, Adam & Pat Barclay. 2013. Eye images increase generosity, but not for long: The limited effect of a false cue. *Evolution and Human Behavior* 34(5). 317–322.  
doi:10.1016/j.evolhumbehav.2013.05.001.

*People are more cooperative when explicitly observed, and simply exposing people to images of eyes or faces has been shown to increase cooperation of various types and in various contexts, albeit with notable, if controversial,*

*exceptions. This ‘eyes effect’ is important both for its potential real-world applications and for its implications regarding the role of reputation in the evolution and maintenance of human cooperation. Based on the general principle that organisms eventually cease responding to uninformative stimuli, the authors of the present article predicted that the eyes effect would be eliminated by prolonged exposure. A novel experiment confirmed that participants exposed briefly to an eye-like image gave more money in an economic game than those in a longer exposure condition and those in a control condition. There was no generosity difference between the long exposure and control conditions. Furthermore, a meta-analysis of 25 eyes effects experiments confirmed that the effect emerges reliably after short exposures to eye images, but not after long exposures. An understanding of the limits of false cues on behavior helps resolve empirical discrepancies regarding the eyes effect and exonerates the importance of reputation even in anonymous, one-shot interactions.*

Wallmark, Erik, Kousha Safarzadeh, Daiva Daukantaitė & Rachel E. Maddux. 2013. Promoting altruism through meditation: An 8-week randomized controlled pilot study. *Mindfulness* 4(3). 223–234.  
doi:10.1007/s12671-012-0115-4.

*The purpose of this study was to investigate the effects of a Buddhist meditation intervention on empathy, perceived stress, mindfulness, self-compassion, and of particular interest, the dispositional tendency to feel empathic concern rather than personal distress when perceiving another as in need, termed altruistic orientation. Participants were randomly assigned to an intervention group (n=20) or a waiting list control group (n=22). Results indicated a trend towards increases in altruistic orientation in the intervention group—an increase that significantly correlated with meditation time, decreases in perceived stress, and increases in self-compassion and mindfulness. Additionally, compared to the controls, significant increases in mindfulness and self-compassion and a significant decrease in perceived stress were obtained for the intervention group.*

Woolley, Jacqueline D & Maliki E Ghossainy. 2013. Revisiting the fantasy-reality distinction: children as naïve skeptics. *Child Development* 84(5). 1496–1510.  
doi:10.1111/cdev.12081.

*Far from being the uncritical believers young children have been portrayed as, children often exhibit skepticism toward the reality status of novel entities and events. This article reviews research on children’s reality status judgments, testimony use, understanding of possibility, and religious cognition. When viewed from this new perspective it becomes apparent that when assessing reality status, children are as likely to doubt as they are to believe. It is suggested that immature metacognitive abilities are at the root of children’s skepticism, specifically that an insufficient ability to evaluate the scope and relevance of one’s knowledge leads to an overreliance on it in evaluating reality status. With development comes increasing ability to utilize a wider range of sources to inform reality status judgments.*

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

Bergner, R. M. and A. Ramon. 2013. Some Implications of Beliefs in Altruism, Free Will, and Nonreductionism. *Journal of Social Psychology* 153(5). 598–618.  
doi:10.1080/00224545.2013.798249.

*Researchers explored correlates of individuals’ beliefs in altruism, free will, and nonreductionism, as opposed to contrasting beliefs in psychological egoism, determinism, and biological reductionism. Beliefs in altruism, free will, and nonreductionism were associated with heightened a) senses of meaning in life, b) levels of life satisfaction, c) beliefs in morality as a legitimate and important dimension of life, and d) standards of personal moral conduct; they were not associated with levels of social isolation.*

Bilewicz, Michal & Jaroslaw Klebaniuk. 2013. Psychological consequences of religious symbols in public space: Crucifix display at a public university. *Journal of Environmental Psychology* 35. 10–17. doi:10.1016/j.jenvp.2013.03.001.

*The present experimental study examined the influence of religious displays in a public university room on the psychological state of students: their self-esteem, as well as positive and negative affect. The study found that the religious symbol reduced negative affect among students who identify strongly with religion and those who frequently attend religious ceremonies. The negative effects on non-religious students were less pronounced. This result is discussed with reference to self-affirmation theory, environmental psychological theories and more recent findings on the social consequences of more subtle religious exposures.*

Coulter, Ronald L., Charles M. Hermans & R. Stephen Parker. 2013. Religiosity and generational effects on gambling: Support for and opposition to introducing casino gambling in a non-gambling tourist entertainment environment. *Journal of Business Research* 66(9). 1682–1688. doi:10.1016/j.jbusres.2012.12.015.

*The current study examines visitors to an existing tourist destination to gauge the level of support for and opposition to casino gambling coming into a tourist region/market with over eight million annual visitors. Tourists representing all 50 US states participated in this study. Religiosity, religious giving, denominational and generational effects are important factors in explaining attitudes toward gambling among participants.*

Cranney, Stephen. 2013. Do People Who Believe in God Report More Meaning in Their Lives? The Existential Effects of Belief. *Journal for the Scientific Study of Religion* 52(3). 638–646. doi:10.1111/jssr.12046.

*This article is the reports on the first large-N study explicitly exploring the association between belief in God and sense of purpose in life. This relationship, while often discussed informally, has received little empirical attention. The General Social Survey was utilized to investigate how form of and confidence in belief in God is related to sense of purpose in life, as measured by a Likert item level of agreement with the statement “In my opinion, life does not serve any purpose.” Using logistic regression analysis, it was found that those who indicate that they are confident in God’s existence report a higher sense of purpose compared to nonbelievers, believers in a higher power, and those who believe but occasionally doubt.*

Ganzach, Yoav & Chemi Gotlibovski. 2013. Intelligence and religiosity: Within families and over time. *Intelligence* 41(5). 546–552. doi:10.1016/j.intell.2013.07.003.

*Researchers studied the effect of intelligence (General Mental Ability) on religiosity using research designs that allow for stronger causal inferences compared to previous research in this area. First, the authors examine how between-siblings differences in intelligence are related to differences in their religiosity. Second, they examine how intelligence is related to changes in religiosity over time. The results of both designs suggest that intelligence has a strong negative effect on religiosity. In addition, the results also suggest that intelligence interacts with age in determining religiosity: the more intelligent the person, the stronger the negative effect of age on religiosity.*

Hunsinger, Matthew, Robert Livingston & Linda Isbell. 2013. The impact of loving-kindness meditation on affective learning and cognitive control. *Mindfulness* 4(3). 275–280. doi:10.1007/s12671-012-0125-2.

*The present study investigated the impact of loving-kindness meditation on an affective variable not yet examined in the literature, affective learning, as well as cognition. Participants were randomly assigned to a control condition or a three-session, loving-kindness meditation training. Results suggest that the beginning stages of loving-kindness meditation training impact the tendency to learn to associate positivity with neutral stimuli and cognitive control.*



- Jones, June & Andrew Shanks. 2013. Laid bare: Religious intolerance within online commentary about “bare below the elbows” guidance in professional journals. *Health care analysis: HCA: journal of health philosophy and policy* 21(3). 271–281.  
doi:10.1007/s10728-013-0248-1.

*The decision by the Department of Health to introduce amendments to the uniform and workwear policy for the NHS in response to increasing problems with infection control seemed uncontroversial. There was, however, some difficulty with implementing the policy, which arose largely because of the conflict this caused for staff who wished to keep their arms covered for reasons which stemmed from religious beliefs. This paper uses textual analysis to examine how those reasons and challenges were discussed in online commentary within a medical and nursing journal. The papers shows that there was a marked difference in how the two groups of professionals responded to the changes to workwear, and exposes a worrying degree of religious intolerance expressed by contributors to the nursing journal.*

- Kay, Aaron C. & Richard P. Eibach. 2013. Compensatory control and its implications for ideological extremism. *Journal of Social Issues* 69(3). 564–585.  
doi:10.1111/josi.12029.

*This article outlines and reviews evidence for a model of compensatory control designed to account for the motivated belief in personal and external sources of control. In doing so, the authors attempt to shed light on the content and strength of ideologies, including extreme libertarian, nationalist, socialist, and religious fundamentalist ideologies. The article suggests that, although these ideologies differ in their content, they commonly function to provide people with a sense of control over otherwise random events. The authors hypothesize that extreme ideologies of personal control (e.g., libertarianism) and external control (e.g., socialism, religious fundamentalism) are equifinal means of meeting a universal need to believe that things, in general, are under control; that is, that events do not unfold randomly or haphazardly. This model is used to explain how the adoption and strength of ideologies of personal and external control may vary across temporal and sociocultural contexts.*

- Khan, Ziasma Haneef, P. J. Watson & Zhuo Chen. 2013. Smoking, Muslim religious commitments, and the experience and behaviour of Ramadan in Pakistani men. *Mental Health, Religion & Culture* 16(7). 663–670.  
doi:10.1080/13674676.2012.712956.

*This study examined the possibility that smoking may interfere with Muslim commitments in general and with the experience and behavior of Ramadan in particular. During Ramadan, a sample of 29 smoking and 46 non-smoking Pakistani men responded to measures of smoking, Religious Orientation, Religious Interest, Positive and Negative Ramadan Experience, and Ramadan Behavior. Various indices of smoking predicted a disinterest in religion, less of an Intrinsic Religious Orientation, lower levels of Positive Ramadan Experience, higher Negative Ramadan Experience, and reductions in Ramadan Behavior. These data offered preliminary support for the suggestion that smoking presents a challenge to Muslim beliefs and practices, especially during Ramadan.*

- King, Valarie, Maggie Ledwell & Jennifer Pearce-Morris. 2013. Religion and ties between adult children and their parents. *Journals of Gerontology Series B-Psychological Sciences and Social Sciences* 68(5). 825–836.  
doi:10.1093/geronb/gbt070.

*This study examined whether religious adults (measured by the frequency of attendance at religious services) report more extensive ties with their parents. Using data from the National Survey of Families and Households (n=9,002), a series of bivariate and multivariate regression models were tested. Several dimensions of adult children’s relationships with their parents were considered including relationship quality, frequency of contact, providing care to parents, and providing other assistance. It was found that adult children who attended religious*

*services more frequently were significantly more likely to provide assistance to parents, and they reported higher quality relationships and more frequent contact with both their fathers and mothers. Results were similar for sons and daughters, and for younger and older adult children.*

- Lewis, Valerie A. & Ridhi Kashyap. 2013. Are Muslims a Distinctive Minority? An Empirical Analysis of Religiosity, Social Attitudes, and Islam. *Journal for the Scientific Study of Religion* 52(3). 617–626.  
doi:10.1111/jssr.12044.

*Scholarly and public discourses on Muslim immigrants in Europe have questioned if Islam is an impediment to sociocultural adaptation and whether Muslims are a distinctive group in their religiosity and social values. Using a new survey of 480 British Muslims in conjunction with the British Social Attitudes Survey, the authors examine differences between Muslim and non-Muslim Britons on religiosity (practice, belief, salience) and moral and social issues regarding gender, abortion, and homosexuality. Muslims are more religious than other Britons, including both British Christians and religious “nones.” Muslims also are more conservative than other Britons across the range of social and moral attitudes. Multivariate analysis shows, however, that much of the difference on moral issues is due to socioeconomic disadvantage and high religiosity among Muslims. Although being a highly religious group in an otherwise secular country renders Muslims distinctive, factors that predict social conservatism among all Britons—high religiosity and low SES—apply similarly to Muslims.*

- McAloney, Kareena. 2013. Inter-faith relationships in Great Britain: Prevalence and implications for psychological well-being. *Mental Health, Religion & Culture* 16(7). 686–694.  
doi:10.1080/13674676.2012.714359.

*Britain is increasingly multicultural, with greater potential for mixing between individuals of differing religions. While both religion and romantic partnerships offer benefits for psychological well-being, religious heterogeneity in a relationship may be detrimental. This study aimed to investigate the prevalence of interfaith partnerships using the UK Household Longitudinal Study, and explore impact on well-being. Over one-fifth of individuals were in heterogeneous relationships, and this was associated with greater psychological distress. The results suggest a need for further research into the mechanisms by which religious mixing in relationships impacts upon health in order to best support an increasingly religiously diverse Britain.*

- Miller, Monica K. 2013. Relationship between religious characteristics and responses to vigilantism. *Personality and Individual Differences* 55(5). 496–501.  
doi:10.1016/j.paid.2013.04.014.

*Religious characteristics are often related to attitudes about legal issues (e.g., death penalty). This study investigated whether U.S. university students’ religious beliefs (i.e., fundamentalism, devotionism, evangelism) and religious motivations (i.e., intrinsic, extrinsic religiosity) were associated with responses to vigilantism (i.e., whether the vigilante is justified, should be legally responsible, should receive a lighter sentence). Participants read three scenarios describing vigilantism in response to different crimes (murder, drug dealing, child molestation). More punitive responses to vigilantism were associated with being low in fundamentalism, extrinsic religiosity, and evangelism, and with being high in devotionism and intrinsic religiosity. Motivations were more frequent predictors of responses to vigilantism than beliefs. Results are the first step in explaining relationships between religious characteristics and responses to vigilantism.*

- Mullick, Mohammad S.I., Najat Khalifa, Jhunu S. Nahar & Dawn-Marie Walker. 2013. Beliefs about Jinn, black magic and evil eye in Bangladesh: the effects of gender and level of education. *Mental Health, Religion & Culture* 16(7). 719–729.  
doi:10.1080/13674676.2012.717918.

*This study examined beliefs among 320 attendees of a large University Hospital in Dhaka about Jinn, black magic and evil eye among Muslims in Bangladesh, using a self-completed questionnaire. The majority believed in the existence of Jinn (72%) and in Jinn possession (61%). In contrast, a relatively smaller proportion believed in the existence of black magic and evil eye (50% and 44%, respectively). Women were more likely than men to believe in the existence of Jinn and to cite religious figures as the treating authority for diseases attributed to affliction by black magic. Participants with a higher educational attainment were less likely than those with lower attainment to believe in jinn possession; or to believe that Jinn, black magic, or evil eye could cause mental health problems.*

- Pereira, M. Graça, Ebru Taysi, Fatih Orcan & Frank Fincham. 2013. Attachment, infidelity, and loneliness in college students involved in a romantic relationship: The role of relationship satisfaction, morbidity, and prayer for partner. *Contemporary Family Therapy: An International Journal*.  
doi:10.1007/s10591-013-9289-8.

*This study examined the mediating effects of relationship satisfaction, prayer for a partner, and morbidity in the relationship between attachment and loneliness, infidelity and loneliness, and psychological morbidity and loneliness, in college students involved in a romantic relationship. Participants were students in an introductory course on family development. This study examined only students (n=345) who were involved in a romantic relationship.*

- Porter, Jeremy R. & Michael O. Emerson. 2013. Religiosity and Social Network Diversity: Decomposing the “Divided by Faith” Theoretical Framework. *Social Science Quarterly* 94(3). 732–757.  
doi:10.1111/j.1540-6237.2012.00926.x.

*Researchers used national survey data to examine individual-level variations in social network diversity. A multifaceted measure of diversity was decomposed to examine racial, gender, educational, and occupational variations in network diversity using a series of hierarchical linear models. Results show that while previous structural explanations suggest that religious belonging is likely to lower the diversity of one’s close social network at the individual level, the current findings indicate a positive relationship between religious membership and the diversity of one’s close friendship network above and beyond the effects of denominational affiliation.*

- Razmyar, Soroush & Charlie L. Reeve. 2013. Individual differences in religiosity as a function of cognitive ability and cognitive style. *Intelligence* 41(5). 667–673.  
doi:10.1016/j.intell.2013.09.003.

*The current study examines the degree to which individual differences in cognitive ability and cognitive style (rational thinking vs. experiential thinking) uniquely and jointly account for differences in religiosity. Using an array of measures of religiosity, results show that cognitive ability has a medium to large negative effect on various aspects of religiosity. Though also negatively related to religiosity, rational thinking style did not add significant unique effects, nor did it convey a significant indirect effect from cognitive ability. Experiential thinking was generally unrelated to ability but was positively related to some aspects of religiosity. Overall the results confirm that those with higher cognitive ability are less likely to accept religious doctrine or engage in religious behaviors and those with lower ability are more likely to accept religious doctrine and exhibit higher levels of fundamentalism. Cognitive style appears to play a lesser role in explaining individual differences in religiosity than cognitive ability.*

- Schuermans-Stekhoven, James Benjamin. 2013. Is God’s call more than audible? A preliminary exploration using a two-dimensional model of theistic/spiritual beliefs and experiences. *Australian Journal of Psychology* 65(3). 146–155.

doi:10.1111/ajpy.12015.

*Among spiritual individuals, auditory hallucinations (AHs) are often accompanied by positive affectivity (PA) suggesting that such coincidental affective valence might gainfully demark spiritual from comparable non-spiritual aberrant perceptions. Yet nearly all of the relevant past religiosity/spirituality research has been limited to AHs and/or known groups (Evangelicals, epilepsy patients, etc.). Using a community sample (n=485), this article explores whether unusual perceptual experiences (UEs) more generally (not simply AHs) together with PA predict participants' self-reported spirituality. Specifically, a dual marker hypothesis developed from affect attribution theory—in which UE, PA, and their interaction predict spirituality in a non-additive positive fashion—is proposed and confirmed. The estimators reveal that spirituality is disproportionately elevated for high scorers on both predictors. These results are consistent with previous known-group studies and support recent speculation that the affective-cognitive interpretation of perceptual aberrations might be a key feature of spirituality and one that potentially demarks it from psychosis. Moreover, the correlation between spirituality and PA varies depending upon one's UE level; a result not anticipated by the incumbent positive psychological theory of spirituality.*

Sibley, Chris G. & Joseph Bulbulia. 2013. The proportion of religious residents predicts the values of nonreligious neighbors: evidence from a national sample. *Religion, Brain & Behavior* 3(3). 219–232. doi:10.1080/2153599X.2012.739740.

*Researchers conducted a natural experiment by using the resilience of conservative values among religious residents to evaluate the extent of leveling in the conservative values of nonreligious neighbors. The researchers employed a Multi-level Random Coefficient Model that linked survey data on religious/value orientations from a nationally representative sample of New Zealanders (n=6,217 people) with census data on the proportion of religious people living in respondent neighborhoods. Consistent with the religious value-leveling hypothesis, the conservative values of religious residents predicted levels of conservative values among nonreligious neighbors. The strength of conservative values leveling among nonreligious neighbors was found to be a linear function of the proportion of religious residents. This pattern appeared consistently across New Zealand, and held controlling for demographic variables and regional deprivation.*

Smits, Fransje & Wout Ultee. 2013. Examining Trends in Muslim Self-Identification and Mosque Attendance Among People of Turkish and Moroccan Descent in the Netherlands, 1997–2009. *Journal for the Scientific Study of Religion* 52(3). 596–616. doi:10.1111/jssr.12047.

*This study examines the extent to which Muslim self-identification and mosque attendance have changed in the period 1997–2009 among people of Turkish and Moroccan descent in the Netherlands. Mainly trendless fluctuations are found. Overall, Muslim self-identification seems to very slightly increase and mosque attendance seems to very slightly decrease. The researchers examined the extent to which factors that are important according to theories and previous research explain or enlarge these differences over time. The factors about which the authors hypothesize are largely unable to explain differences over time in Muslim self-identification and mosque attendance.*

Thomas, Jeremy N. 2013. Outsourcing Moral Authority: The Internal Secularization of Evangelicals' Anti-Pornography Narratives. *Journal for the Scientific Study of Religion* 52(3). 457–475. doi:10.1111/jssr.12052.

*Based on content analysis of the popular evangelical magazine "Christianity Today" the author shows that while evangelicals' outward opposition to pornography has remained steady and robust across the period 1956 to 2010, nonetheless, during this same time, evangelicals' anti-pornography narratives have become increasingly secular. Through using and expanding Chaves's notion of internal secularization, it is demonstrated how these narratives*

*have become decreasingly legitimated through religious forms of moral authority such as scriptural prohibitions and derivative ideas about God's plan for society, and increasingly legitimated through secular forms of moral authority such as humanistic conceptions of individual rights and of psychological health. This type of internal secularization is referred to as the process of outsourcing moral authority, and the theoretical significance of this process for potential investigations of a range of other moral narratives is discussed.*

- Tongeren, Daryl R. Van, Jennifer M. Raad, Daniel N. McIntosh & Jessica Pae. 2013. The Existential Function of Intrinsic Religiousness: Moderation of Effects of Priming Religion on Intercultural Tolerance and Afterlife Anxiety. *Journal for the Scientific Study of Religion* 52(3). 508–523.  
doi:10.1111/jssr.12053.

*Managing existential concerns is theorized to be a key function of religion. Researchers in this study posit that priming religion should be related to greater existential security for those high in intrinsic religiosity. In Experiment 1, priming religion increased intercultural tolerance among individuals who were highly intrinsically religious but decreased it for those low in intrinsic religiousness. In Experiment 2, intrinsic religiousness again moderated the effects of the prime, suggesting that priming religion resulted in attenuated afterlife anxiety for intrinsically religious individuals but greater anxiety for individuals low in intrinsic religiousness. Religious reminders appeared to provide existential security—evidenced by tolerance and reduced death anxiety—only to those high in intrinsic religiousness and can be threatening to those low in intrinsic religiousness. Existential outcomes are a specific case in which intrinsic religiousness can moderate the effects of religious primes, suggesting that religion plays a different existential role for different people.*

- Village, Andrew & Sylvia Baker. 2013. Rejection of Darwinian Evolution Among Churchgoers in England: The Effects of Psychological Type. *Journal for the Scientific Study of Religion* 52(3). 557–572.  
doi:10.1111/jssr.12049.

*Rejection of Darwinian evolution (implying rejection of the common origin of all species, including humans) was assessed among 1,100 churchgoers from a range of Christian denominations in England. The main predictors of rejecting evolution were denominational affiliation and attendance. Individuals from Pentecostal or evangelical denominations were twice as likely to reject evolution compared with those from Anglican or Methodist churches. In all denominations, higher attendance was associated with greater rejection of evolution. Education in general, and theological education in particular, had some effect on reducing rejection, but this was not dependent on having specifically scientific or biological educational qualifications. Psychological type preferences for sensing over intuition and for thinking over feeling also predicted greater rejection, after allowing for the association of type preferences and general religiosity. Reasons for the association between psychological type and rejection of evolution are discussed in the light of the known characteristics of different function preferences.*

- Vohs, Kathleen D, Yajin Wang, Francesca Gino & Michael I Norton. 2013. Rituals enhance consumption. *Psychological science* 24(9). 1714–1721.  
doi:10.1177/0956797613478949.

*Four experiments tested the novel hypothesis that ritualistic behavior potentiates and enhances ensuing consumption, which is an effect that has been found for chocolates, lemonade, and even carrots. Experiment 1 showed that participants who engaged in ritualized behavior, compared with those who did not, evaluated chocolate as more flavorful, valuable, and deserving of behavioral savoring. Experiment 2 demonstrated that random gestures do not boost consumption as much as ritualistic gestures do. It further showed that a delay between a ritual and the opportunity to consume heightens enjoyment, which attests to the idea that ritual behavior stimulates goal-directed action (to consume). Experiment 3 found that performing a ritual oneself enhances consumption more than watching someone else perform the same ritual, suggesting that personal involvement is crucial for the benefits*

*of rituals to emerge. Finally, Experiment 4 provided direct evidence of the underlying process: Rituals enhance the enjoyment of consumption because of the greater involvement in the experience that they prompt.*

Whitehead, Andrew L. 2013. Gendered Organizations and Inequality Regimes: Gender, Homosexuality, and Inequality Within Religious Congregations. *Journal for the Scientific Study of Religion* 52(3). 476–493.  
doi:10.1111/jssr.12051.

*Building upon Acker's theory of gendered organizations and inequality regimes, this study investigates the extent to which inequality in gender and sexuality are linked within religious congregations. Using a nationally representative sample of congregations in the United States, the results demonstrate that a congregation's stance toward allowing women to serve as head clergy is significantly associated with its acceptance of gays and lesbians as members or leaders within the congregation. This research extends existing literature in three ways. First, it offers support for the utility of the concept of inequality regimes for investigating dimensions of inequality in addition to gender. Second, it provides evidence of the intersection of gender and sexuality within religious congregations, thereby contributing to the growing dialogue on congregational responses to homosexuality. Finally, these findings propose a number of avenues for future research regarding gender, sexuality, and organizations.*

Whitmarsh, Stephen, Julia Uddén, Henk Barendregt & Karl Magnus Petersson. 2013. Mindfulness reduces habitual responding based on implicit knowledge: Evidence from artificial grammar learning. *Consciousness and Cognition* 22(3). 833–845.  
doi:10.1016/j.concog.2013.05.007.

*Participants were unknowingly exposed to complex regularities in a working memory task. The existence of implicit knowledge was subsequently inferred from a preference for stimuli with similar grammatical regularities. Several affective traits have been shown to influence artificial grammar learning performance positively, many of which are related to a tendency for automatic responding. The researchers therefore tested whether the mindfulness trait predicted a reduction of grammatically congruent preferences, and used emotional primes to explore the influence of affect. Mindfulness was shown to correlate negatively with grammatically congruent responses. Negative primes were shown to result in faster and more negative evaluations. The authors conclude that grammatically congruent preference ratings rely on habitual responses, and that these findings provide empirical evidence for the non-reactive disposition of the mindfulness trait.*

Williams, Ryan J. 2013. Network Hubs and Opportunity for Complex Thinking Among Young British Muslims. *Journal for the Scientific Study of Religion* 52(3). 573–595.  
doi:10.1111/jssr.12050.

*This study examines whether individuals in a network esteem peers who think in integratively complex ways about religious issues in the context of a small-group educational course comprised of young British Muslims. Integrative complexity (IC) measures the degree to which an individual's information processing is characterized by (a) rigid, black-and-white thinking or (b) ability to recognize the validity of, and integrate, multiple perspectives. A novel measurement procedure was developed for this research called the Social Field Generator. Results from seven groups (n=55) showed that (a) participants with levels of IC were described by their peers with more positive sentiment than their low-IC counterparts; (b) the higher the IC scores of participants, the closer peers felt toward them; and (c) the highest IC individuals were consistently selected as sources of advice, whereas the lowest IC individuals were not viewed as sources of advice. This research shows that within an educational environment aimed at promoting complex thinking, group processes and grassroots religious leadership can encourage higher levels of IC as a group norm.*

## 1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Jong, Jonathan, Matthias Bluemke & Jamin Halberstadt. 2013. Fear of Death and Supernatural Beliefs: Developing a New Supernatural Belief Scale to Test the Relationship. *European Journal of Personality* 27(5). 495–506.  
doi:10.1002/per.1898.

*Fear of death features in both historical and contemporary theories of religion, but the relationship between death anxiety and religious belief is still ambiguous, largely due to the use of inappropriate or imprecise measures. The current studies therefore aimed to develop a valid, targeted measure of respondents' tendency towards religious belief, the 'Supernatural Belief Scale' (SBS), and to use the SBS to examine the relation between death anxiety and religious belief. Results indicate that the SBS shows high reliability and convergent validity and that its relation to death anxiety depends on participants' religious identification: 'religious' participants fear death less the stronger their religious beliefs, whereas 'non-religious' participants are more inclined towards religious belief the more they fear death.*

Khachouf, Omar T, Stefano Poletti & Giuseppe Pagnoni. 2013. The embodied transcendental: a Kantian perspective on neurophenomenology. *Frontiers in human neuroscience* 7. 611.  
doi:10.3389/fnhum.2013.00611.

*Neurophenomenology is a research program aimed at bridging the explanatory gap between first-person subjective experience and neurophysiological third-person data, through an embodied and enactive approach to the biology of consciousness. The present proposal attempts to further characterize the bodily basis of the mind by adopting a naturalistic view of the phenomenological concept of intentionality as the a priori invariant character of any lived experience. Building on the Kantian definition of transcendental as "what concerns the a priori formal structures of the subject's mind" and as a precondition for the very possibility of human knowledge, the authors of this article suggest that this transcendental core may in fact be rooted in biology and can be examined within an extension of the theory of autopoiesis. The argument will be first clarified by examining its application to previously proposed elementary autopoietic models, to the bacterium, and to the immune system; it will be then further substantiated and illustrated by examining the mirror-neuron system and the default mode network as biological instances exemplifying the enactive nature of knowledge, and by discussing the phenomenological aspects of selected neurological conditions (neglect, schizophrenia). In this context, the free-energy principle proposed recently by Karl Friston will be briefly introduced as a rigorous, neurally-plausible framework that seems to accommodate optimally these ideas. While this approach is biologically-inspired, the authors maintain that lived first-person experience is still critical for a better understanding of brain function, as the former and the latter share the same transcendental structure. Finally, the role that disciplined contemplative practices can play to this aim, and an interpretation of the cognitive processes taking place during meditation under this perspective, will be also discussed.*

Ritter, Ryan S. & Jesse Lee Preston. 2013. Representations of Religious Words: Insights for Religious Priming Research. *Journal for the Scientific Study of Religion* 52(3). 494–507.  
doi:10.1111/jssr.12042.

*Researchers often expose participants to a series of words (e.g., religion, God, faith) to activate religious concepts and observe their subsequent effects on people's thoughts, feelings, and behaviors. This research has revealed many important effects of experimentally manipulated religious cognition in domains ranging from prosocial behavior to prejudice. However, it is not exactly clear what constitutes a "religious cognition," and no research has yet investigated conceptual distinctions between different kinds of religious prime words. In the present research the authors used a card-sorting task to examine laypeople's subjective understanding of religious prime words, and the central categories or dimensions of these religious concepts. Using multidimensional scaling, property fitting, and cluster analysis methods to analyze the proximities among the words, evidence is found for the mental*

*representation of three relatively distinct kinds of religious concepts: agents (e.g., God, angel), spiritual/abstract (e.g., faith, belief), and institutional/concrete (e.g., shrine, scripture).*

Russell, Yvan I. & Fernand Gobet. 2013. What is counterintuitive? Religious cognition and natural expectation. *Review of Philosophy and Psychology*.  
doi:10.1007/s13164-013-0160-5.

*What is 'counterintuitive'? There is general agreement that it refers to a violation of previously held knowledge, but the precise definition seems to vary with every author and study. The aim of this paper is to deconstruct the notion of 'counterintuitive' and provide a more philosophically rigorous definition congruent with the history of psychology, recent experimental work in 'minimally counterintuitive' concepts, the science vs. religion debate, and the developmental and evolutionary background of human beings. The authors conclude that previous definitions of counterintuitiveness have been flawed and did not resolve the conflict between a believer's conception of the supernatural entity (an atypical "real kind") and the non-believer's conception (empty name/fictional). Furthermore, too much emphasis has been placed on the universality and (presumed) innateness of intuitive concepts (and hence the criteria for what is counterintuitive)—and far too little attention paid to learning and expertise. It is argued that many putatively universal concepts are not innate, but mostly learned and defeasible—part of a religious believer's repertoire of expert knowledge. Nonetheless, the results from empirical studies about the memorability of counterintuitive concepts have been convincing and it is difficult to improve on existing designs and methodologies. However, future studies in counterintuitive concepts need to embed their work in research about context effects, typicality, the psychology of learning and expertise (for example, the formation of expert templates and range defaults), with more attention to the sources of knowledge (direct and indirect knowledge) and a better idea of what 'default' knowledge really is.*



## PART 2. ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

### 2.1 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Agadjanian, Victor. 2013. Religious denomination, religious involvement, and modern contraceptive use in southern Mozambique. *Studies in family planning* 44(3). 259–274.  
doi:10.1111/j.1728-4465.2013.00357.x.

*Drawing upon unique recent data from a population-based survey of women conducted in a predominantly Christian high-fertility area of Mozambique, this study examines the connections between religion and contraception from two complementary angles. First, differences in current use of modern contraceptives across main denominational groups are analyzed. The results show higher prevalence of modern contraceptive use among Catholics and, to a lesser extent, traditional Protestants net of other individual- and community-level factors. Second, an analysis of religious involvement reveals that frequent church attendance has a net positive association with modern contraceptive use regardless of denominational affiliation. These findings are situated within the historical context of religious, demographic, and socio-political dynamics of Mozambique and similar sub-Saharan settings.*

Bharadwaj, Ishwar, Asim Kulshrestha & Anuja. 2013. Effect of Yogic Intervention on Blood pressure and Alpha- EEG level of working women. *Indian Journal of Traditional Knowledge* 12(3). 542–546.

*The present study was aimed to find out the effect of Yogic intervention on working women blood pressure and Alpha- EEG level. Fifty working women of age group 25-39 yrs selected from DAV Girls Degree College Yamuna Nagar (Haryana), and divided in to two groups, twenty five working women for experimental group and twenty five for control group. Before starting the practice both the groups control and experimental underwent test for homogeneity of the groups. Control research design has been employed for the study. Practice time was 60 minutes each morning and the duration was 45 days. After 45 days again the post-test has been taken for both the groups. The result of t-test revealed that the yogic intervention have significant effect at .01 level on blood pressure and Alpha- EEG level of working women age ranged from 25-39 yrs.*

Carlson, Linda E, Richard Doll, Joanne Stephen, Peter Faris, Rie Tamagawa, Elaine Drysdale & Michael Speca. 2013. Randomized controlled trial of Mindfulness-based cancer recovery versus supportive expressive group therapy for distressed survivors of breast cancer. *Journal of clinical oncology: Official journal of the American Society of Clinical Oncology* 31(25). 3119–3126.  
doi:10.1200/JCO.2012.47.5210.

*Researchers set out to compare the efficacy of the following two empirically supported group interventions to help distressed survivors of breast cancer cope: mindfulness-based cancer recovery (MBCR) and supportive-expressive group therapy (SET) in a multisite, randomized controlled trial. Distressed survivors of stage I to III breast cancer (n=271) were assigned to MBCR, SET, or a 1-day stress management control condition. MBCR focused on training in mindfulness meditation and gentle yoga, whereas SET focused on emotional expression and group support. Following intervention, analysis of results showed that MBCR was superior for improving a range of psychological outcomes for distressed survivors of breast cancer. Both SET and MBCR also resulted in more normative diurnal cortisol profiles than the control condition.*

Chokkanathan, Srinivasan. 2013. Religiosity and well-being of older adults in Chennai, India. *Aging & Mental Health* 17(7). 880–887.  
doi:10.1080/13607863.2013.790924.

*Using the theory of religious effects, the current study examined the relationship among religiosity, psychosocial resources (social support and mastery) and psychological distress. Through face-to-face interviewing, data were collected from 321 randomly selected older adults in Chennai, India. Structural equation modelling (SEM) was conducted to test the direct-effect and the mediation models. The direct-effect model posited a direct inverse relation between religiosity and psychological distress. The mediation model posited that psychosocial resources mediate the influence of religiosity on psychological distress. The fit indices supported a partial mediation model. Psychosocial resources partially mediated the influence of religiosity on psychological distress.*

Cohen, Debbie L., Anne Bowler, Stephen A. Fisher, Angela Norris, Andrew Newberg, Hengyi Rao, Rupal Bhavsar, John A. Detre, Thomas Tenhave & Raymond R. Townsend. 2013. Lifestyle Modification in Blood Pressure Study II (LIMBS): Study protocol of a randomized controlled trial assessing the efficacy of a 24 week structured yoga program versus lifestyle modification on blood pressure reduction. *Contemporary Clinical Trials* 36(1). 32–40.  
doi:10.1016/j.cct.2013.05.010.

*Researchers completed a pilot study in 2009 which showed meaningful decreases in 24-hour ambulatory blood pressure readings after a 12 week period of yoga participation. Based on data from the pilot study they are now completing The Lifestyle Modification and Blood Pressure Study (LIMBS II) which is a phase 2 randomized controlled trial designed to determine the effects of yoga therapy and enhanced lifestyle modification on lowering blood pressure in pre-hypertensive and stage 1 hypertensive subjects. Using 24-hour ambulatory blood pressure monitoring, LIMBS II aims to compare the effects on blood pressure reduction in subjects randomized for 24 weeks to one of the three following groups: yoga therapy versus blood pressure education program (sodium restriction and walking program) versus a combination program that involves components of both groups. LIMBS II will also examine the impact that changes in blood pressure have on cerebral blood flow. If successful, the LIMBS study will determine if yoga therapy combined with enhanced lifestyle modification will result in clinically meaningful decreases in blood pressure and thus can be implemented as an alternative to drug therapy for patients with prehypertension and stage 1 hypertension.*

Davis, James M., David M. Mills, Kristin A. Stankevitz, Alison R. Manley, Matthew R. Majeskie & Stevens S. Smith. 2013. Pilot randomized trial on mindfulness training for smokers in young adult binge drinkers. *BMC complementary and alternative medicine* 13(1). 215.  
doi:10.1186/1472-6882-13-215.

*In this article, the authors report results of a pilot study designed to test a novel smoking cessation intervention, Mindfulness Training for Smokers (MTS), in 55 smokers age 18-29 years with regular episodes of binge drinking. The study demonstrated that Mindfulness Training for Smokers shows promise for smoking cessation and alcohol use reduction in treating young adult smokers with alcohol abuse. Results suggest the need for a study with larger sample size and methods that reduce attrition.*

Evans, Subhadra, Beth Sternlieb, Lonnie Zeltzei & Jennie C. Tsao. 2013. Iyengar Yoga and the Use of Props for Pediatric Chronic Pain: A Case Study. *Alternative Therapies in Health & Medicine* 19(5). 66–70.

*In this case study, the authors discuss a 14-year-old girl who had two surgeries for gastro-esophageal reflux disease (GERD) and who had continued chest and abdominal pain, as well as vomiting, difficulty eating, weight loss, and anxiety. Having significantly impaired functioning, she was unable to attend school, sleep, socialize, or eat, and she had become wheelchair-bound. Despite evaluations and treatments by specialists over an extended period of time, her symptoms had not improved. This case history describes how the authors used a 4-mo treatment of Iyengar yoga to help the adolescent resume activities and re-engage with her environment.*

Fung, A. W. T. & L. C. W. Lam. 2013. Spiritual Activity is Associated with Better Cognitive Function in Old Age. *East Asian archives of psychiatry: Official journal of the Hong Kong College of Psychiatrists* 23(3). 102–108.

*In a study of 380 participants, aged 60 years or older and without clinical dementia or major psychiatric disorders, analysis of the results of tests of cognitive functioning showed that engagement in spiritual activity may benefit cognitive function in old age.*

Haber, Jon Randolph, Julia D Grant, Carolyn E Sartor, Laura B Koenig, Andrew Heath & Theodore Jacob. 2013. Religion/spirituality, risk, and the development of alcohol dependence in female twins. *Psychology of Addictive Behaviors* 27(3). 562–572.  
doi:10.1037/a0031915.

*In this study, secondary data analysis of a sample of 4,002 young adult female twins used conditional Cox proportional hazards survival models to examine three distinct stages in the development of alcoholism: years to initiation of drinking, years from first drink to at-risk drinking, and years from at-risk drinking to alcohol dependence (AD). Risk and protective factors from models of alcoholism etiology and studies of R/S dimensionality were modeled simultaneously as predictors of each discrete stage and compared. Findings demonstrated that both risk factors and Religion/Spirituality (R/S) variables influenced initiation of alcohol use; only R/S variables influenced subsequent progression to at-risk drinking; and risk factors primarily influenced further progression to AD. Protective factors (R/S variables being an exemplar) appeared to be critical determinants of intermediate-stage progression, thus suggesting that R/S factors and other psychosocial interventions might be particularly effective in delaying progression toward AD at this stage. In contrast, after the onset of at-risk drinking, the influence of (genetically based) risk factors appeared to accelerate AD regardless of most other influences. Thus, the timing of psychosocial interventions appears critical to their potency and impact.*

Hidajat, Mira, Zachary Zimmer, Yasuhiko Saito & Hui-Sheng Lin. 2013. Religious activity, life expectancy, and disability-free life expectancy in Taiwan. *European Journal of Ageing* 10(3). 229–236.  
doi:10.1007/s10433-013-0273-9.

*Research has implicated religious activity as a health determinant, but questions remain, including whether associations persist in places where Judeo-Christian religions are not the majority; whether public versus private religious expressions have equivalent impacts; and the precise advantage expressed as years of life. This article addresses these issues in Taiwan in a sample of 3,739 Taiwanese aged 53+. Surveys of participants show that there is a consistent positive gradient between religious activity and expectancy with greater activity related to longer life and more years without disability. Life and ADL disability-free life expectancies for those with no religious affiliation fit in between the lowest and highest religious activity groups. Results corroborate evidence in the West. Mechanisms that intervene may be similar in Eastern religions despite differences in the ways in which popular religions are practiced. Results for those with no affiliation suggest benefits of religion can be accrued in alternate ways.*

Horton, Karissa D. & Alexandra Loukas. 2013. Depressive symptoms, religious coping, and cigarette smoking among post-secondary vocational students. *Psychology of Addictive Behaviors* 27(3). 705–713.  
doi:10.1037/a0031195.

*This study examined whether religious coping moderated the impact of depressive symptoms on past 30-day cigarette use among a racially/ethnically diverse sample of 963 postsecondary vocational students. Results indicated that depressive symptoms increased the likelihood of cigarette smoking for female students, whereas positive religious coping decreased the likelihood of smoking for female students. Consistent with religious coping*

*theory and as expected, negative religious coping moderated the depressive symptoms-smoking relationship such that negative religious coping exacerbated the impact of depressive symptoms on cigarette smoking among females. Positive religious coping also moderated the depressive symptoms/cigarette smoking relationship for females. However, contrary to expectations, high levels of positive religious coping exacerbated the likelihood of cigarette smoking among females with high levels of depressive symptoms. Surprisingly, neither depressive symptoms nor positive or negative religious coping contributed to the likelihood of males' smoking.*

Hosseini, Mohammadali, Alireza Salehi, Masoud Fallahi Khoshknab, Asghar Rokofian & Patricia Mary Davidson. 2013. The effect of a preoperative spiritual/religious intervention on anxiety in Shia Muslim patients undergoing coronary artery bypass graft surgery: A randomized controlled trial. *Journal of holistic nursing: official journal of the American Holistic Nurses' Association* 31(3). 164–172. doi:10.1177/0898010113488242.

*In this study, a randomized controlled trial of a preoperative spiritual/religious training intervention, congruent with Islamic supplication (Zikr), was administered in five sessions of 45 minutes duration to test the impact on anxiety in comparison with standard care. Seventy participants were selected based on inclusion criteria and randomly allocated to treatment and control groups. Following intervention, there was a statistically significant difference in anxiety mean scores between intervention and control groups. The authors conclude that this study demonstrates that preoperative spiritual/religious training can reduce anxiety in Muslim patients undergoing coronary artery bypass grafting.*

Krygier, Jonathan R., James A. J. Heathers, Sara Shahrestani, Maree Abbott, James J. Gross & Andrew H. Kemp. 2013. Mindfulness meditation, well-being, and heart rate variability: A preliminary investigation into the impact of intensive Vipassana meditation. *International Journal of Psychophysiology* 89(3). 305–313. doi:10.1016/j.ijpsycho.2013.06.017.

*For this study, researchers hypothesized increases in measures of well-being and heart rate variability (HRV), and decreases in ill-being after training in Vipassana yoga compared to before (time effects), during the meditation task compared to resting baseline (task effects), and a time by task interaction with more pronounced differences between tasks after Vipassana training. HRV (5-minute resting baseline vs. 5-minute meditation) was collected from 36 participants before and after they completed a 10-day intensive Vipassana retreat. Following intervention, participants showed significantly increased well-being, and decreased ill-being.*

Lipschitz, David L, Renee Kuhn, Anita Y Kinney, Gary W Donaldson & Yoshio Nakamura. 2013. Reduction in salivary  $\alpha$ -amylase levels following a mind-body intervention in cancer survivors--an exploratory study. *Psychoneuroendocrinology* 38(9). 1521–1531. doi:10.1016/j.psyneuen.2012.12.021.

*Researchers conducted a randomized controlled trial in which 57 cancer survivors with self-reported sleep disturbance received either a Sleep Hygiene Education (SHE; n=18) control, or one of two experimental mind-body interventions, namely, Mind-Body Bridging (MBB; n=19) or Mindfulness Meditation (MM; n=20). At post-intervention assessment, mean salivary  $\alpha$ -amylase levels upon awakening ("Waking" sample) declined in MBB compared with that of SHE. Mean Waking cortisol levels did not differ among treatment groups but declined slightly in SHE. Self-reported sleep improved across the three interventions at Post-assessment, with largest improvements in the MBB intervention.*

Madanmohan, Ananda Balayogi Bhavanani, Zeena Sanjay, L. Vithiyalakshmi & G. Dayanidy. 2013. Effects of eight week yoga therapy program on cardiovascular health in hypertensives. *Indian Journal of Traditional Knowledge* 12(3). 535–541.

*The present study was undertaken to evaluate the effects of a comprehensive eight week yoga therapy program on anthropometric, cardiovascular, biochemical parameters and wellness scores in patients of essential hypertension (HT). 15 patients receiving standard medical treatment for essential HT were recruited and anthropometric, cardiovascular and biochemical investigations were done before and after a comprehensive yoga therapy program comprising of three times a week sessions for 8 weeks. Following intervention, there was a statistically significant decrease in weight, BMI and all resting cardiovascular parameters such as heart rate and blood pressure indices. Total cholesterol (TC), triglyceride (TG), low density (LDL) and very low density (VLDL) lipoproteins reduced significantly while high density (HDL) lipoprotein increased significantly. All the cholesterol based ratios such as TC/HDL, LDL/HDL and showed healthy improvements. The authors find that the benefits obtained in the study can be attributed to the dedicated and regular practice of the comprehensive yoga therapy program that reports a significant improvement in anthropometric and cardiovascular parameters coupled with healthy lipid profile changes in patients of essential HT. The authors conclude that a comprehensive yoga therapy program has potential to enhance the beneficial effects of standard medical management of essential HT and can be used as an effective complementary or integrative therapy program.*

- Mollica, Michelle & Lynne Nemeth. 2013. Spirituality measurement in African American cancer survivors: A critical literature review. *Journal of holistic nursing: Official journal of the American Holistic Nurses' Association* 31(3). 214–225.  
doi:10.1177/0898010113495713.

*In this study, a critical literature review was performed to identify instruments measuring spirituality as a response to illness. In all, 13 research articles detailing nine instruments were obtained and included for analysis. Of the nine instruments, only two (Perspectives of Support From God Scale and Connections to God Scale) were psychometrically tested in populations of AAs who had completed primary treatment for their cancer. Cultural validity was tested in only the Perspectives of Support From God Scale, showing a deficit in the assessment of cultural appropriateness of these instruments to the population.*

- Mustian, Karen M, Lisa K Sprod, Michelle Janelins, Luke J Peppone, Oxana G Palesh, Kavita Chandwani, Pavan S Reddy, Marianne K Melnik, Charles Heckler & Gary R Morrow. 2013. Multicenter, randomized controlled trial of yoga for sleep quality among cancer survivors. *Journal of clinical oncology: official journal of the American Society of Clinical Oncology* 31(26). 3233–3241.  
doi:10.1200/JCO.2012.43.7707.

*Researchers recruited 410 survivors of cancer to participate in a randomized, controlled clinical trial designed to determine the efficacy of a standardized yoga intervention compared with standard care for improving global sleep quality (primary outcome) among post-treatment cancer survivors. Following intervention, the authors found that Yoga participants demonstrated greater improvements in global sleep quality and, secondarily, subjective sleep quality, daytime dysfunction, wake after sleep onset, sleep efficiency, and medication use at post-intervention compared with standard care participants.*

- Pal, A., N. Srivastava, V. S. Narain, G. G. Agrawal & M. Rani. 2013. Effect of yogic intervention on the autonomic nervous system in the patients with coronary artery disease: A randomized controlled trial. *Eastern Mediterranean Health Journal* 19(5). 452–458.

*In this study 258 patients diagnosed with coronary artery disease were randomly divided into 2 groups, the yoga group (n=129) and the non-yoga group (n=129); in all, 208 participants completed the study protocol. Following intervention, the researchers observed in the yoga group a statistically significant reduction in body mass index, waist circumference, systolic and diastolic blood pressure, and heart rate.*

- Sadja, Julie & Paul J. Mills. 2013. Effects of Yoga Interventions on Fatigue in Cancer Patients and Survivors: A Systematic Review of Randomized Controlled Trials. *Explore* 9(4). 232–243.

doi:10.1016/j.explore.2013.04.005.

*The authors performed a literature review in order to examine the literature that reports the effects of randomized, controlled yoga interventions on self-reported fatigue in cancer patients and survivors. Ten articles met inclusion criteria and involved a total of 583 participants who were predominantly female, breast cancer survivors. Four studies indicated that the yoga intervention resulted in significant reductions in self-reported fatigue from pre- to post-intervention. Three of the studies reported that there were significant reductions of fatigue among participants who attended a greater number of yoga classes. Risk of bias was high for areas of adequate selection, performance, detection, and patient-reported bias and mixed for attrition and reporting bias. Risk of bias was uniformly low for other forms of bias, including financial conflicts of interest.*

- Tedrus, Glória Maria Almeida Souza, Lineu Corrêa Fonseca, Fabiane De Pietro Magri & Pedro Henrique Magalhães Mendes. 2013. Spiritual/religious coping in patients with epilepsy: relationship with sociodemographic and clinical aspects and quality of life. *Epilepsy & Behavior: E&B* 28(3). 386–390.  
doi:10.1016/j.yebeh.2013.05.011.

*One hundred and ten patients with epilepsy were assessed by a clinical-neurological evaluation, Quality of Life in Epilepsy Inventory-31 (QOLIE-31), and the Spiritual/Religious Coping (SRCOPE) Scale. Researchers found that patients with epilepsy appear to use spiritual/religious coping, especially those with mesial temporal lobe epilepsy, and a predominance of negative coping was associated with a reduced quality of life.*

- Tiedemann, Anne, Sandra O'Rourke, Romina Sesto & Catherine Sherrington. 2013. A 12-Week Iyengar Yoga Program Improved Balance and Mobility in Older Community-Dwelling People: A Pilot Randomized Controlled Trial. *Journals of Gerontology Series A-Biological Sciences and Medical Sciences* 68(9). 1068–1075.  
doi:10.1093/gerona/glt087.

*This trial evaluated the feasibility and effect of a 12-week Iyengar yoga program on balance and mobility in older people. Researchers conducted a blinded, pilot randomized controlled trial with intention-to-treat analysis. Participants were 54 community dwellers not currently participating in yoga or tai chi. The intervention group (n=27) participated in a 12-week, twice-weekly yoga program focused on standing postures and received a fall prevention education booklet. The control group (n=27) received the education booklet only. Fifty-two participants completed follow-up assessments. The intervention group significantly improved compared with control group on standing balance, sit-to-stand test, 4-m walk, and one-legged stand with eyes closed. The authors conclude that this trial demonstrates the balance and mobility-related benefits and feasibility of Iyengar yoga for older people.*

- Zernicke, Kristin A, Tavis S Campbell, Philip K Blustein, Tak S Fung, Jillian A Johnson, Simon L Bacon & Linda E Carlson. 2013. Mindfulness-based stress reduction for the treatment of irritable bowel syndrome symptoms: a randomized wait-list controlled trial. *International Journal of Behavioral Medicine* 20(3). 385–396.  
doi:10.1007/s12529-012-9241-6.

*For this study, 90 patients diagnosed with irritable bowel syndrome (IBS) were randomized to either an immediate MBSR program (n=43) or to wait for the next available program (n=47). Both groups exhibited a decrease in IBS symptom severity scores over time, but the improvement in the MBSR group was greater than the controls and was clinically meaningful, with symptom severity decreasing from constantly to occasionally present. At 6-month follow-up, the MBSR group maintained a clinically meaningful improvement in overall IBS symptoms compared to the wait-list group, who also improved marginally, resulting in no statistically significant differences between groups at follow-up.*

## 2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Ai, Amy L., Roslyn Richardson, Carol Plummer, Christopher G. Ellison, Catherine Lemieux, Terrence N. Tice & Bu Huang. 2013. Character Strengths and Deep Connections Following Hurricanes Katrina and Rita: Spiritual and Secular Pathways to Resistance Among Volunteers. *Journal for the Scientific Study of Religion* 52(3). 537–556.

doi:10.1111/jssr.12043.

*This study investigated a conceptual model with two pathways, altruism and perceived spiritual support, leading to resilience among student volunteers following Hurricanes Katrina and Rita (H-KR). Both strengths share the sense of deep connections. Parallel pathways with the two major constructs were estimated using structural equation modeling, adjusting for demographics and peritraumatic emotional reactions. The two indicators may have served as a protective mechanism for all volunteers despite differing racial/cultural backgrounds. The potential protection of these strength factors was mediated through optimism and hope. Resilience among minority volunteers was associated more with faith-related strengths, as indicated in the relevant pathway that also contributed to their altruistic actions. The resilience of white volunteers, however, was directly associated with altruism, a strength that does depend heavily on religious beliefs. Further, the modification index suggested a direct path from race to depression.*

Azorin, J-M, A Kaladjian, E Fakra, M Adida, R Belzeaux, E Hantouche & S Lancrenon. 2013. Religious involvement in major depression: protective or risky behavior? The relevance of bipolar spectrum. *Journal of Affective Disorders* 150(3). 753–759.

doi:10.1016/j.jad.2013.02.034.

*As part of the EPIDEP National Multisite French Study of 493 major depressive patients evaluated in at least two semi-structured interviews 1 month apart, 234 (55.2%) could be classified as with high religious involvement (HRI), and 190 (44.8%) as with low religious involvement (LRI). Compared to LRI, HRI patients did not differ with respect to their religious affiliation but had a later age at onset of their affective illness with more hospitalizations, suicide attempts, associated hypomanic features, switches under antidepressant treatment, prescription of tricyclics, comorbid obsessive compulsive disorder, and family history of affective disorder in first-degree relatives. The following independent variables were associated with religious involvement: age, depressive temperament, mixed polarity of first episode, and chronic depression. The clinical picture of depressive patients with HRI was evocative of chronic mixed depressive episodes described in bipolar III patients within the spectrum of bipolar disorders.*

Berry, Devon, Colleen P. Bass, Cecily Shimp-Fassler & Paul Succop. 2013. Risk, religiosity, and emerging adulthood: Description of Christian, Jewish, and Muslim university students at entering the freshman year. *Mental Health, Religion & Culture* 16(7). 695–710.

doi:10.1080/13674676.2012.715145.

*This report describes the findings of a survey that examined possible factors explaining the relationship between religiosity, risky behaviors and emotional extremes in students as they transitioned into their first year of university. This study accounted for the religious diversity of the US by surveying Christian, Jewish, Muslim and religiously unaffiliated students. Findings indicated that religiosity was consistently and negatively correlated to risky behaviors across all faith groups. Interestingly, unique patterns in levels of religiosity emerged among the various faith groups. Similarly, patterns of engagement in risky behaviors demonstrated variation among religious groups.*

Gallegos, Autumn M., Michael Hoerger, Nancy L. Talbot, Jan A. Moynihan & Paul R. Duberstein. 2013. Emotional benefits of mindfulness-based stress reduction in older adults: The moderating roles of age and depressive symptom severity. *Aging & Mental Health* 17(7). 823–829.

doi:10.1080/13607863.2013.799118.

*For this study, data were collected from a sample of community-dwelling English-speaking adults (n=200) aged 65, who were then randomly assigned to an eight-week MBSR program or a Waitlist Control group. Post-intervention, among MBSR participants, greater baseline depressive symptom severity was also associated with less improvement in positive affect at the six-month follow-up. Findings were qualified by a significant depressive symptom severity by age interaction, such that MBSR participants who were 70 and over with lower baseline depressive symptom severity having the greatest improvement in positive affect at the six-month follow-up.*

Haghighi, Fatemeh. 2013. Correlation between religious coping and depression in cancer patients. *Psychiatria Danubina* 25(3). 236–240.

*This descriptive-correlational study was conducted on 150 consequent cancer patients in three centers: Imam-Reza Hospital in Birjand, Qaem and Omid hospitals in Mashhad. Two questionnaires including Pargament's questionnaire for evaluation of religious coping and the Beck depression inventory were used. Analysis of the questionnaire results showed that no significant difference between men and women in the mean score of avoidant relationship with God and alternate fearfulness and hopefulness (ambivalence coping style), but the mean score of relationship with God in women was higher than men. The rate of depression was higher among patients who had an avoidant strategy. The religious coping method of relationship with God was effective in reducing depression. The rate of depression was lower among patients whose families had a better attitude to religion.*

Krumrei, Elizabeth J., Steven Pirutinsky & David H. Rosmarin. 2013. Jewish spirituality, depression, and health: An empirical test of a conceptual framework. *International Journal of Behavioral Medicine* 20(3). 327–336.  
doi:10.1007/s12529-012-9248-z.

*This study assessed trust/mistrust in God and religious coping and examined their relationships to depressive symptoms and physical health. Religious affiliation and intrinsic religiousness were examined as moderating variables and religious coping was examined as a mediator. Using data collected from anonymous internet surveys completed by 208 Jewish women and men of diverse denominations, researchers found that trust in God and positive religious coping were associated with lower levels of depressive symptoms, and mistrust in God and negative religious coping were associated with greater depressive symptoms. Intrinsic religiosity showed a small moderation effect for mistrust in God and negative religious coping in relation to depressive symptoms and for trust in God in relation to physical health. Further, positive religious coping fully mediated the link between trust in God and less depressive symptoms and negative religious coping fully mediated the relationship between mistrust in God and greater depressive symptoms.*

Levin, Jeff. 2013. Religion and mental health among Israeli Jews: Findings from the SHARE-Israel study. *Social Indicators Research* 113(3). 769–784.  
doi:10.1007/s11205-012-0113-x.

*This study investigates the impact of religiousness on mental health indicators in a population sample of Israeli Jews aged 50 or older (n=1,287). For this group, participation in synagogue activities was found to be significantly associated with less depression, better quality of life, and more optimism, even after adjusting for effects of the other religious measures, for sociodemographic covariates, for the possibly confounding effect of age-related activity limitation, and for nativity. Findings for prayer were less consistent, including inverse associations with mental health, perhaps reflecting prayer's use as a coping response. Finally, religious education was associated with greater optimism.*

Pearce, Michelle & Harold G. Koenig. 2013. Cognitive behavioral therapy for the treatment of depression in Christian patients with medical illness. *Mental Health, Religion & Culture* 16(7). 730–740.



doi:10.1080/13674676.2012.718752.

*This article presents theoretical and empirical evidence to support the hypothesis that Christian cognitive behavioral therapy (C-CBT), which utilizes the religious resources of patients in the treatment of depression, may boost the effects of conventional CBT in Christian patients with medical illness. Potential evidence and explanatory factors for this hypothesis will be explored. A description of major theoretical principles of C-CBT and future directions for research will also be discussed.*

Skarupski, Kimberly A., George Fitchett, Denis A. Evans & Carlos F. Mendes de Leon. 2013. Race differences in the association of spiritual experiences and life satisfaction in older age. *Aging & Mental Health* 17(7). 888–895.

doi:10.1080/13607863.2013.793285.

*In this study, researchers sought to test the hypothesis that the positive relationship between spiritual experiences and life satisfaction is stronger among older African Americans than among older Whites. Using data from 6,864 community-dwelling persons aged 65+ (66% African American) who participated in the Chicago Health and Aging Project, it was found that African American race was associated with lower life satisfaction. There was also found a positive association between spiritual experiences and life satisfaction. In an additional model, a significant race by spiritual experiences interaction term indicates that spiritual experiences are more positively associated with life satisfaction among African Americans.*

Sreevani, Rental, Konduru Reddemma, Cecilia L W Chan, Pamela Pui Yu Leung, Venus Wong & Celia Hoi Yan Chan. 2013. Effectiveness of integrated body-mind-spirit group intervention on the well-being of Indian patients with depression: a pilot study. *The Journal of Nursing Research: JNR* 21(3). 179–186.

doi:10.1097/jnr.0b013e3182a0b041.

*For this study, 30 adult patients diagnosed with depression attending the psychiatric outpatient department at a district hospital were randomly assigned to either the intervention group or comparison group. The intervention group received both the intervention and routine hospital treatment and underwent four group integrated body-mind-spirit group intervention therapy sessions. Comparison group participants received routine hospital treatment only. Results showed that both groups had significant reductions in the level of depression, improvements in well-being, and work and social adjustment at 3-month follow-up compared with baseline. In addition, the intervention group showed significant mean differences in levels of depression, well-being, and work and social adjustment compared with the comparison group.*

Walker, Ja’Nina J & Buffie Longmire-Avital. 2013. The impact of religious faith and internalized homonegativity on resiliency for black lesbian, gay, and bisexual emerging adults. *Developmental Psychology* 49(9). 1723–1731.

doi:10.1037/a0031059.

*This study sought to examine the relations between religious faith, internalized homonegativity, and resiliency for Black lesbian, gay, and bisexual (LGB) emerging adults. One hundred seventy-five Black LGB emerging adults, ranging in age between 18 and 25 years old, completed an online survey designed to examine multiple identities and psychological well-being. Utilizing hierarchical linear regression, it was found that internalized homonegativity moderated the relationship between religious faith and resiliency. Religious faith was a significant contributor to resiliency when the participant concurrently reported high internalized homonegativity.*

Webb, Jon R, Jameson K Hirsch, Preston L Visser & Kenneth G Brewer. 2013. Forgiveness and health: Assessing the mediating effect of health behavior, social support, and interpersonal functioning. *The Journal of psychology* 147(5). 391–414.

*Cross-sectional multiple mediation-based analyses of associations between dimensions of forgiveness and physical and mental health were conducted using a sample of 363 undergraduate students from rural Southern Appalachia. Multivariable analyses reflected associations of forgiveness of self and forgiveness of others, but not feeling forgiven by God, with physical health status, somatic symptoms, mental health status, and psychological distress. All such associations operated through health behavior and/or social support; however, only in the context of forgiveness of self did such associations also operate through interpersonal functioning (problems). While forgiveness of self and forgiveness of others each appear to have a robust indirect relationship with health, mediation-based associations involving forgiveness of self were nearly twice as frequent. It may be that forgiveness of self is relatively more important to health-related outcomes.*

Webb, Jon R., T. Dustin Phillips, David Bumgarner & Elizabeth Conway-Williams. 2013. Forgiveness, mindfulness, and health. *Mindfulness* 4(3). 235–245.  
doi:10.1007/s12671-012-0119-0.

*Researchers hypothesized that mindfulness would play a role in the relationship between forgiveness and health. Cross-sectional mediation-based analyses were conducted on data collected from a sample of 368 undergraduate students in southern Appalachia. Mindfulness played a role in the association of forgiveness of self, forgiveness of others, and forgiveness of situations with physical health status, somatic symptoms, mental health status, and psychological distress. In the context of the forgiveness–health association, mindfulness may play a primary role for forgiveness of others and largely a secondary role for forgiveness of self and forgiveness of situations. The role of mindfulness may be explained by the (un)forgiveness–energy hypothesis, such that forgiveness may allow energy to be invested in mindful processes. Religious/spiritual diversity may impact the association of forgiveness and mindfulness.*

Witzig, Theodore F. & C. Alec Pollard. 2013. Obsessional beliefs, religious beliefs, and scrupulosity among fundamental Protestant Christians. *Journal of Obsessive-Compulsive and Related Disorders* 2(3). 331–337.  
doi:10.1016/j.jocrd.2013.06.002.

*The purpose of the present study is to examine obsessional beliefs, scrupulosity, and religious beliefs in a relatively large, homogeneous sample of fundamental Protestant Christians. This study included validated measures of religious commitment, level of religious fundamentalism, and degree of spiritual well-being. Results support the hypotheses that scrupulosity would be positively correlated with obsessional beliefs and negatively correlated with religious commitment and spiritual well-being. However, contrary to expectations, religious fundamentalism was not significantly related to scrupulosity.*

Wupperman, Peggilee, Melissa Fickling, David H. Klemanski, Matthias Berking & Jeannie B. Whitman. 2013. Borderline personality features and harmful dysregulated behavior: The mediational effect of mindfulness. *Journal of Clinical Psychology* 69(9). 903–911.  
doi:10.1002/jclp.21969.

*The current preliminary study investigated whether deficits in mindfulness (awareness, attentiveness, and acceptance of the present experience) may underlie the relationship of borderline personality disorder (BPD) features to self-injury and overall acts of harmful dysregulated behavior. Nonparametric bootstrapping procedures were used to examine theoretical relationships among variables in a psychiatric sample of adults (n=70). Participants were asked to imagine themselves in distress-inducing situations and then write what they would actually do to decrease distress in such situations. As hypothesized, mindfulness statistically mediated the relationship of BPD features to reported acts of (a) self-injury and (b) overall harmful dysregulated behaviors.*

Ysseldyk, Renate, S. Alexander Haslam & Catherine Haslam. 2013. Abide with me: religious group identification among older adults promotes health and well-being by maintaining multiple group memberships. *Aging & Mental Health* 17(7). 869–879.  
doi:10.1080/13607863.2013.799120.

*This paper aims to examine relationships between religion (identification and group membership) and well-being among older adults. Study 1 (n=42) surveyed older adults living in residential care homes in Canada, who completed measures of religious identity, other group memberships, and depression. Study 2 (n=7,021) longitudinally assessed older adults in the UK on similar measures, but with the addition of perceived physical health. In Study 1, religious identification was associated with fewer depressive symptoms, and membership in multiple groups mediated that relationship. However, no relationships between social or exercise groups and mental health were evident. Study 2 replicated these patterns, but additionally, maintaining multiple group memberships over time partially mediated the relationship between religious group membership and physical health. The authors conclude that these findings suggest that religious social networks are an especially valuable source of social capital among older adults, supporting well-being directly and by promoting additional group memberships (including those that are non-religious).*

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

Bergomi, Claudia, Wolfgang Tschacher & Zeno Kupper. 2013. The assessment of mindfulness with self-report measures: Existing scales and open issues. *Mindfulness* 4(3). 191–202.  
doi:10.1007/s12671-012-0110-9.

*This paper gives an overview of the current status in the field of self-report assessment of mindfulness. All eight currently available and validated mindfulness scales (for adults) are evaluated, with a particular focus on their virtues and limitations and on differences among them. It will be argued that none of these scales may be a fully adequate measure of mindfulness, as each of them offers unique advantages but also disadvantages. In particular, none of them seems to provide a comprehensive assessment of all aspects of mindfulness in samples from the general population. Three main open issues are discussed: (1) the coverage of aspects of mindfulness in questionnaires; (2) the nature of the relationships between these aspects; and (3) the validity of self-report measures of mindfulness.*

Büssing, Arndt, Annina Janko, Klaus Baumann, Niels Christian Hvidt & Andreas Kopf. 2013. Spiritual needs among patients with chronic pain diseases and cancer living in a secular society. *Pain Medicine* 14(9). 1362–1373.  
doi:10.1111/pme.12198.

*Research has shown that several patients report unmet psychosocial and spiritual needs. While most studies focus on patients with advanced stages of disease, the authors of this article identified unmet spiritual needs in patients with chronic pain diseases and cancer living in a secular society. Patients (n=392) with chronic pain diseases recruited for this study predominantly report needs related to inner peace and generative relatedness on a personal level, whereas needs related to transcendent relatedness were of minor relevance. Nevertheless, even religious “skeptics” can express specific religious needs, and these should be recognized.*

Cooper, Katherine L, Esther Chang, Athena Sheehan & Amanda Johnson. 2013. The impact of spiritual care education upon preparing undergraduate nursing students to provide spiritual care. *Nurse Education Today* 33(9). 1057–1061.  
doi:10.1016/j.nedt.2012.04.005.

*Spiritual care is an important component of holistic care. In Australia competency statements relating to nursing practice emphasize the need to provide care that addresses the spiritual as well as other aspects of being. However,*

*many nurses feel they are poorly prepared to provide spiritual care. This review explores spiritual care education in undergraduate nursing programs and identifies the need for an Australian study.*

- Dein, Simon. 2013. Religious doubts: Implications for psychopathology and psychotherapy. *Bulletin of the Menninger Clinic* 77(3). 201–221.  
doi:10.1521/bumc.2013.77.3.201.

*This article examines the psychopathological implications of religious doubts. Following a discussion of their prevalence, their role in development and causal factors, and their impact upon religious belief, the author discusses the relationship between religious doubts and anxiety and depression. Religious doubts may enter the psychotherapeutic process, and the author discusses one form of religious cognitive-behavioral therapy using the Bible that might be useful for Christian patients with such doubts. The author presents a case study to exemplify these points.*

- Dunn, Rose, Jennifer L. Callahan & Joshua K. Swift. 2013. Mindfulness as a transtheoretical clinical process. *Psychotherapy* 50(3). 312–315.  
doi:10.1037/a0032153.

*The use of mindfulness in psychotherapy has garnered the attention of both researchers and therapists over recent years. Based on established research, use of mindfulness with clients is recommended to improve awareness during sessions, reduce ruminative thinking patterns, and increase self-compassion regardless of theoretical orientation. In this article, de-identified clinical material is used to illustrate both informal and formal mindfulness training in session. Further, illustrations of pre-session and within-session therapist mindfulness are presented, recommending that therapists develop their own mindfulness practice, as research has demonstrated that it is related to important clinical skills including attentiveness, non-judgment, and improved client perceptions.*

- Ferrell, Betty, Shirley Otis-Green & Denice Economou. 2013. Spirituality in cancer care at the end of life. *Cancer Journal* 19(5). 431–437.  
doi:10.1097/PPO.0b013e3182a5baa5.

*The authors hold that there is a compelling need to integrate spirituality into the provision of quality palliative care by oncology professionals. Patients and families report the importance of spiritual, existential, and religious concerns throughout the cancer trajectory. Leading palliative care organizations have developed guidelines that define spiritual care and offer recommendations to guide the delivery of spiritual services. There is growing recognition that all team members require the skills to provide generalist spiritual support. Attention to person-centered, family-focused oncology care requires the development of a health care environment that is prepared to support the religious, spiritual, and cultural practices preferred by patients and their families. These existential concerns become especially critical at end of life and following the death for family survivors. Oncology professionals require education to prepare them to appropriately screen, assess, refer, and/or intervene for spiritual distress.*

- Gijsberts, Marie-José H E, Jenny T van der Steen, Martien T Muller, Cees M P M Hertogh & Luc Deliens. 2013. Spiritual End-of-Life Care in Dutch Nursing Homes: An Ethnographic Study. *Journal of the American Medical Directors Association* 14(9). 679–684.  
doi:10.1016/j.jamda.2013.04.001.

*Two researchers conducted an ethnographic participatory study in a Dutch nursing home between April 2010 and June 2011, on a psychogeriatric unit (mostly dementia) and a somatic unit for residents suffering from physical disabilities. The researchers found that spiritual issues were addressed only informally and were not part of the formal care process, either for residents suffering from dementia or for those with physical disabilities. These results raise questions about how the lack of communication about spiritual end-of-life care between disciplines, and the informal and formal care processes affect spiritual well-being.*

Hamid, Aseel & Adrian Furnham. 2013. Factors affecting attitude towards seeking professional help for mental illness: A UK Arab perspective. *Mental Health, Religion & Culture* 16(7). 741–758. doi:10.1080/13674676.2012.718753.

*This study examined various factors affecting attitude towards seeking professional psychological help (ATSPPH) in Arabs living in the UK: causal beliefs, shame-focused attitudes, confidentiality concerns, ethnic identity and demographic variables. Participants completed an online questionnaire and results indicated that Arabs showed significantly less positive ATSPPH and had stronger causal beliefs in supernatural and non-Western physiology than British Caucasians. Confidentiality concerns, but not shame-focused attitudes were significant predictors of ATSPPH; confidentiality concerns were more significant for Arabs than for British Caucasians.*

Koslander, Tiburtius, Unni Å Lindström & António Barbosa da Silva. 2013. The human being's spiritual experiences in a mental healthcare context; their positive and negative meaning and impact on health: A hermeneutic approach. *Scandinavian Journal of Caring Sciences* 27(3). 560–568. doi:10.1111/j.1471-6712.2012.01067.x.

*In this article, 32 stories selected from William James' 1956 book 'The Varieties of Religious Experience are hermeneutically interpreted and discussed in the light of international research on patients' spirituality. The results are three main themes: (i) the positive meanings of spirituality, (ii) the negative meanings of spirituality and (iii) the both negative and positive meaning of spirituality.*

Lawrence, Ryan E, Kenneth A Rasinski, John D Yoon & Farr A Curlin. 2013. Religion and anxiety treatments in primary care patients. *Anxiety, Stress & Coping* 26(5). 526–538. doi:10.1080/10615806.2012.752461.

*This study measures how religious beliefs affect anxiety treatments in primary care, using survey data from 896 primary care physicians and 312 psychiatrists. Religious physicians were more likely to promote religious resources. There was no statistically significant difference between physicians' recommendations for religious and nonreligious patients. There was no statistically significant difference in religious and nonreligious physicians' referrals to a psychologist, licensed counselor, or psychiatrist. Ultimately, no difference was found in religious and nonreligious physicians' support for mental health referrals; however, religious physicians were more likely to encourage using religious resources.*

Lilja, Josefine L., Lars-Gunnar Lundh, Torbjörn Josefsson & Fredrik Falkenström. 2013. Observing as an essential facet of mindfulness: A comparison of FFMQ patterns in meditating and non-meditating individuals. *Mindfulness* 4(3). 203–212. doi:10.1007/s12671-012-0111-8.

*One of the most comprehensive measures of mindfulness is the Five Facet Mindfulness Questionnaire (FFMQ) with five factors: Observing, Describing, Acting with awareness, Non-judging, and Non-reactivity. Hierarchical confirmatory factor analyses, however, have suggested that only four of the FFMQ factors (i.e. all except Observing) were components of "an overall mindfulness construct." This is puzzling because Observing represents a core aspect of all definitions of mindfulness. Therefore, the purpose of the present study was to approach this problem by a person-oriented approach, focusing on patterns on the FFMQ scales, rather than linear associations between them. Data on the FFMQ were collected on 817 individuals. Cluster analysis was used to group these participants in 13 clusters, according to their profiles of scores on the five FFMQ scales. Of the participants, 325 were categorized as meditators and 317 as non-meditators. To test hypotheses about the relation between Observing and mindfulness (which the authors assumed should be higher among meditators), the meditators/non-meditators categorization was cross-tabulated with the FFMQ clusters. The results showed that all clusters in which meditators were over-represented had high scores on Observing, and all clusters in which meditators were underrepresented had low scores on Observing—which supports the hypothesis that mindfulness is related to high*

*levels of Observing. The relationship between Observing and Nonjudging, however, was found to be more complex than expected. The results are discussed in terms of mindfulness seen as a multidimensional skill, which may develop differently in various subgroups of individuals.*

Pattison, Stephen. 2013. Religion, spirituality and health care: confusions, tensions, opportunities. *Health care analysis: HCA: journal of health philosophy and policy* 21(3). 193–207.  
doi:10.1007/s10728-013-0245-4.

*This paper raises some issues about understanding religion, religions and spirituality in health care to enable a more critical mutual engagement and dialogue to take place between health care institutions and religious communities and believers. Understanding religions and religious people is a complex, interesting matter. Taking into account the whole reality of religion and spirituality is not just about meeting specific needs, nor of trying to ensure that religious people abandon their distinctive beliefs and insights when they engage with health care institutions and policies. Members of religious groups and communities form an integral part of the structure and fabric of health care delivery, whether as users or in delivery capacities. Religion is both facilitator and resistor, friend and critic, for health care institutions, providers and workers.*

Senreich, Evan. 2013. An Inclusive Definition of Spirituality for Social Work Education and Practice. *Journal of Social Work Education* 49(4). 548–563.  
doi:10.1080/10437797.2013.812460.

*A formidable body of recent literature advocates the incorporation of spirituality into the bio-psycho-social framework of social work education and practice. No consistent conceptualization of spirituality has been developed, however, that can be used with all clients and that is fully consonant with social work values as taught in schools of social work. Certain culturally derived perspectives regarding spirituality have been endorsed in social work literature in a way that does not fully honor each client's view of the nature of existence. This article proposes an inclusive definition of spirituality for social work education that considers every client's perceptions regarding what is unknowable as equally valid.*

Sulmasy, Daniel P. 2013. Ethos, mythos, and thanatos: spirituality and ethics at the end of life. *Journal of pain and symptom management* 46(3). 447–451.  
doi:10.1016/j.jpainsymman.2013.03.016.

*Every ethos implies a mythos in the sense that every systematic approach to ethics is inevitably based on some fundamental religious or religion-like story that gives answers to questions such as: Where did I come from? Where am I going? How am I to live? These narratives generally lay hidden beneath the plane of the interpersonal interactions that characterize all clinical encounters, but caring for patients who are approaching death brings them closer to the surface. For many patients and practitioners, these narratives will be expressed in explicitly religious language; others may invoke a sense of “immanent transcendence” that affords a spiritual perspective without requiring theism or notions of eternity. The author holds that, in caring for patients at the end of life, practitioners should strive to be more conscious of the narratives that undergird their own spiritual and ethical positions as well as seek to understand those of the patients they serve.*

Swift, Chris. 2013. A state health service and funded religious care. *Health care analysis: HCA: journal of health philosophy and policy* 21(3). 248–258.  
doi:10.1007/s10728-013-0252-5.

*This paper analyses the role chaplaincy plays in providing religious and spiritual care in the UK's National Health Service. The approach considers both the current practice of chaplains and also the wider changes in society around beliefs and public service provision. Amid a small but growing literature about spirituality, health and illness, the author argues that the role of the chaplain is changing and that such change is creating pressures on the identity and performance of the chaplain as a religiously authorized health worker. The author questions whether*

*either orthodox belief or religious belonging have any significant bearing on the patients' demand for chaplaincy services. Utilizing an example of chaplaincy work it is argued that patient need constitutes the strongest platform for both practice development and an articulated understanding of what chaplains bring to health care. Drawing on a case study the definition and interpretation of spiritual need will be discussed in relation to chaplaincy practice. In conclusion, the author sets out the case for effective research to establish with greater precision the detail of the chaplain's practice within a state-funded health system.*

Tran, Ulrich S, Tobias M Glück & Ingo W Nader. 2013. Investigating the Five Facet Mindfulness Questionnaire (FFMQ): Construction of a short form and evidence of a two-factor higher order structure of mindfulness. *Journal of Clinical Psychology* 69(9). 951–965.  
doi:10.1002/jclp.21996.

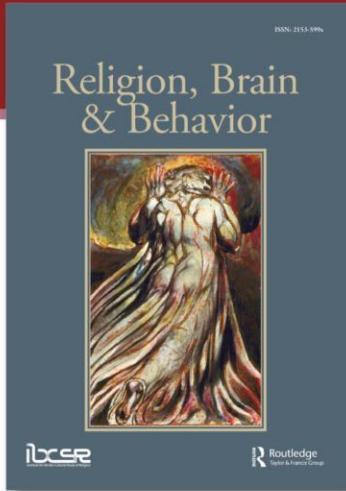
*In this article, the authors derived an alternative two-factor higher order structure for the Five Facet Mindfulness Questionnaire (FFMQ), delineating the attentional and experiential aspects of mindfulness. Data of 640 persons from the Austrian community were used for primary analyses, and data of 333 Austrian students were used for cross-validation. Confirmatory models fitted only poorly on the full 39-item FFMQ. Fit was acceptable in an abridged 20-item version in both samples. The Nonreact scale had only weak psychometric properties. ESEM analyses suggested a good fit of two higher order factors and revealed structural differences between the samples. Beneficial effects of mindfulness appeared to be uniquely associated with the experiential aspects of mindfulness. Strategies of emotion regulation showed differential associations with the two higher order factors in the two samples.*

Wynne, Lianne. 2013. Spiritual care at the end of life. *Nursing Standard* 28(2). 41–45.  
doi:10.7748/ns2013.09.28.2.41.e7977.

*This article examines the role of spirituality in palliative care, focusing on spiritual assessment, communication and compassion in nursing. The article attempts to provide a working definition of spirituality, focusing on who should provide spiritual care and the difficulties in meeting the spiritual needs of individuals at the end of life. Strategies to promote the spiritual wellbeing of the patient are discussed.*

Zhang, Kaili Chen. 2013. Fostering the Inner Life of Children with Special Needs: A spiritual approach. *International Journal of Disability, Development & Education* 60(3). 242–252.  
doi:10.1080/1034912X.2013.812190.

*The purpose of this article is to explore issues related to spirituality and disabilities. The following aspects are considered: the relationship between spirituality and disabilities; spirituality as an integral part of overall student development and learning; and spirituality as a source of social and psychological support.*



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