

INTRODUCTION

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

Articles for this issue were located by searching the following databases: H. W. Wilson Applied Science and Technology, H. W. Wilson General Science, PubMed, EBSCO Psychology and Behavioral Sciences Collection, PsycARTICLES, PsycINFO, ScienceDirect, and Web of Science. The search terms were altruism, god, goddess, cooperat*, meditat*, prayer, relig*, ritual, spiritu*, supernatur*, 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 1,753 articles, 122 articles have been retained from 67 journals. There are 68 pre-publication citations from 38 journals.

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CONTENTS

Part 1: Articles in Religion, Brain, and Behavior	2
1.1 Scientific Study of Religion: Cognitive Neuroscience.....	2
1.2 Scientific Study of Religion: Evolution.....	5
1.3 Scientific Study of Religion: Psychology and Culture.....	7
1.4 Scientific Study of Religion: Method & Theory.....	13
Part 2: Articles in Spirituality & Health Research	15
2.1 Spirituality & Health: General Health & Well-Being.....	15
2.2 Spirituality & Health: Mental Health.....	23
2.3 Spirituality & Health: Method and Theory.....	31
Part 3: Books.....	45
3.1 Scientific Study of Religion, Brain, and Behavior.....	45
3.2 Spirituality & Health Research	45
Part 4: Articles in Press.....	46
4.1 Scientific Study of Religion, Brain, and Behavior.....	46
4.2 Spirituality & Health Research	47

PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Doufesh, Hazem, Fatimah Ibrahim & Mohammad Safari. 2016. Effects of Muslims praying (Salat) on EEG gamma activity. *Complementary Therapies in Clinical Practice* 24. 6–10.
doi:10.1016/j.ctcp.2016.04.004.

This study investigates the difference of mean gamma EEG power between actual and mimic Salat practices in twenty healthy Muslim subjects. In the actual Salat practice, the participants were asked to recite and performing the physical steps in all four stages of Salat, whereas in the mimic Salat practice they were instructed to perform only the physical steps without recitation. The gamma power during actual Salat was statistically higher than during mimic Salat in the frontal and parietal regions in all stages. In the actual Salat practice, the left hemisphere exhibited significantly higher mean gamma power in all cerebral regions and all stages, except the central-parietal region in the sitting position, and the frontal area in the bowing position. Increased gamma power during Salat, possibly related to an increase in cognitive and attentional processing, supports the concept of Salat as a focus attention meditation.

Ellamil, Melissa, Kieran C. R. Fox, Matthew L. Dixon, Sean Pritchard, Rebecca M. Todd, Evan Thompson & Kalina Christoff. 2016. Dynamics of neural recruitment surrounding the spontaneous arising of thoughts in experienced mindfulness practitioners. *Neuroimage* 136. 186–196.
doi:10.1016/j.neuroimage.2016.04.034.

Thoughts arise spontaneously in our minds with remarkable frequency, but tracking the brain systems associated with the early inception of a thought has proved challenging. Here researchers addressed this issue by taking advantage of the heightened introspective ability of experienced mindfulness practitioners to observe the onset of their spontaneously arising thoughts. Subtle differences in timing were found among the many regions typically recruited by spontaneous thought. In some of these regions, fMRI signal peaked prior to the spontaneous arising of a thought,

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most notably in the medial temporal lobe and inferior parietal lobule. In contrast, activation in the medial prefrontal, temporopolar, mid-insular, lateral prefrontal, and dorsal anterior cingulate cortices peaked together with or immediately following the arising of spontaneous thought. The authors propose that brain regions that show antecedent recruitment may be preferentially involved in the initial inception of spontaneous thoughts, while those that show later recruitment may be preferentially involved in the subsequent elaboration and metacognitive processing of spontaneous thoughts. These findings highlight the temporal dynamics of neural recruitment surrounding the emergence of spontaneous thoughts and may help account for some of spontaneous thought's peculiar qualities, including its wild diversity of content and its links to memory and attention.

Gui, Dan-Yang, Tian Gan & Chao Liu. 2016. Neural evidence for moral intuition and the temporal dynamics of interactions between emotional processes and moral cognition. *Social Neuroscience* 11(4). 380–394.

doi:10.1080/17470919.2015.1081401.

Behavioral and neurological studies have revealed that emotions influence moral cognition. Although moral stimuli are emotionally charged, the time course of interactions between emotions and moral judgments remains unknown. In the present study, researchers investigated the temporal dynamics of the interaction between emotional processes and moral cognition. The results revealed that when making moral judgments, the time course of the event-related potential (ERP) waveform was significantly different between high emotional arousal and low emotional arousal contexts. Different stages of processing were distinguished, showing distinctive interactions between emotional processes and moral reasoning. The precise time course of moral intuition and moral reasoning sheds new light on theoretical models of moral psychology. Specifically, the N1 component (interpreted as representing moral intuition) did not appear to be influenced by emotional arousal. However, the N2 component and late positive potential were strongly affected by emotional arousal; the slow wave was influenced by both emotional arousal and morality, suggesting distinct moral processing at different emotional arousal levels.

Kong, Feng, Xu Wang, Yiyang Song & Jia Liu. 2016. Brain regions involved in dispositional mindfulness during resting state and their relation with well-being. *Social Neuroscience* 11(4). 331–343.

doi:10.1080/17470919.2015.1092469.

Mindfulness can be viewed as an important dispositional characteristic that reflects the tendency to be mindful in daily life, which is beneficial for improving individuals' both hedonic and eudaimonic well-being. However, no study to date has examined the brain regions involved in individual differences in dispositional mindfulness during the resting state and its relation with hedonic and eudaimonic well-being. To investigate this issue, the present study employed resting-state functional magnetic resonance imaging (rs-fMRI) to evaluate the regional homogeneity (ReHo) that measures the local synchronization of spontaneous brain activity in a large sample. Researchers found that dispositional mindfulness was positively associated with the ReHo in the left orbitofrontal cortex (OFC), left parahippocampal gyrus (PHG), and right insula implicated in emotion processing, body awareness, and self-referential processing, and negatively associated with the ReHo in right inferior frontal gyrus (IFG) implicated in response inhibition and attentional control. Furthermore, different neural associations were found with hedonic (i.e., positive and negative affect) and eudaimonic well-being (i.e., the meaningful and purposeful life). Specifically, the ReHo in the IFG predicted eudaimonic well-being whereas the OFC predicted positive affect, both of which were mediated by dispositional mindfulness. Taken together, this study provides the first evidence for linking individual differences in dispositional mindfulness to spontaneous brain activity and demonstrates that dispositional mindfulness engages multiple brain mechanisms that differentially influence hedonic and eudaimonic well-being.

Li, Xiaojing, Juan Yang, Peng Li & Hong Li. 2016. Individual differences in moral judgment competence are related to activity of the prefrontal cortex when attributing blame to evil intention. *Social Neuroscience* 11(4). 438–448.

doi:10.1080/17470919.2015.1093960.

The weighing of intentions and consequences is inconsistent in adult's moral judgments, and this is particularly prominent when assigning blame to the immoral intentions in the absence of negative outcomes. The current study extends previous research by examining how individual differences in moral judgment competence are reflected in the cortical network when making judgments about immoral intentions. Twenty-four participants were scanned, using functional magnetic resonance imaging, while making judgments about three kinds of moral scenarios: a neutral condition, an immoral intention condition, and an immoral condition. The result showed that comparing with making judgments about the other two conditions, making judgments about the immoral intentions takes longer time and was associated with significantly elevated activity in the dorsolateral prefrontal cortex and the ventrolateral prefrontal cortex. Additionally, moral judgment competence scores were inversely correlated with activity in the right dorsolateral prefrontal cortex when assigning blame to the immoral intentions. Greater activity in the right dorsolateral prefrontal cortex in participants with lower moral judgment competence possibly reflected increased recruitment of cognitive resource applied to control impulsive response and integrate competitive information in making judgments about the immoral intention.

Shao, Robin, Kati Keuper, Xiujuan Geng & Tatia M. C. Lee. 2016. Pons to Posterior Cingulate Functional Projections Predict Affective Processing Changes in the Elderly Following Eight Weeks of Meditation Training. *EBioMedicine* 10. 236–248.
doi:10.1016/j.ebiom.2016.06.018.

Evidence indicates meditation facilitates affective regulation and reduces negative affect. It also influences resting-state functional connectivity between affective networks and the posterior cingulate (PCC)/precuneus, regions critically implicated in self-referential processing. However, no longitudinal study employing active control group has examined the effect of meditation training on affective processing, PCC/precuneus connectivity, and their association. Here, researchers report that eight-week meditation, but not relaxation, training 'neutralized' affective processing of positive and negative stimuli in healthy elderly participants. Additionally, meditation versus relaxation training increased the positive connectivity between the PCC/precuneus and the pons, the direction of which was largely directed from the pons to the PCC/precuneus, as revealed by dynamic causal modeling. Further, changes in connectivity between the PCC/precuneus and pons predicted changes in affective processing after meditation training. These findings indicate meditation promotes self-referential affective regulation based on increased regulatory influence of the pons on PCC/precuneus, which new affective-processing strategy is employed across both resting state and when evaluating affective stimuli. Such insights have clinical implications on interventions on elderly individuals with affective disorders.

Tsoi, Lily, James Dungan, Adam Waytz & Liane Young. 2016. Distinct neural patterns of social cognition for cooperation versus competition. *Neuroimage* 137. 86–96.
doi:10.1016/j.neuroimage.2016.04.069.

How do people consider other minds during cooperation versus competition? Some accounts predict that theory of mind (ToM) is recruited more for cooperation versus competition or competition versus cooperation, whereas other accounts predict similar recruitment across these two contexts. The present fMRI study examined activity in brain regions for ToM (bilateral temporoparietal junction, precuneus, dorsomedial prefrontal cortex) across cooperative and competitive interactions with the same individual within the same paradigm. Although univariate analyses revealed that ToM regions overall were recruited similarly across interaction contexts, multivariate pattern analyses revealed that these regions nevertheless encoded information separating cooperation from competition. Specifically, ToM regions encoded differences between cooperation and competition when people believed the outcome was determined by their and their partner's choices but not when the computer determined the outcome. The authors propose that, when people are motivated to consider others' mental states, ToM regions encode different aspects of

mental states during cooperation versus competition. Given the role of these regions for ToM, these findings reveal distinct patterns of social cognition for distinct motivational contexts.

1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Constable, George W. A., Tim Rogers, Alan J. McKane & Corina E. Tarnita. 2016. Demographic noise can reverse the direction of deterministic selection. *Proceedings of the National Academy of Sciences of the United States of America* 113(32). E4745–E4754.
doi:10.1073/pnas.1603693113.

Deterministic evolutionary theory robustly predicts that populations displaying altruistic behaviors will be driven to extinction by mutant cheats that absorb common benefits but do not themselves contribute. Here researchers show that when demographic stochasticity is accounted for, selection can in fact act in the reverse direction to that predicted deterministically, instead favoring cooperative behaviors that appreciably increase the carrying capacity of the population. Populations that exist in larger numbers experience a selective advantage by being more stochastically robust to invasions than smaller populations, and this advantage can persist even in the presence of reproductive costs. The researchers investigate this general effect in the specific context of public goods production and find conditions for stochastic selection reversal leading to the success of public good producers. This insight, developed here analytically, is missed by the deterministic analysis as well as by standard game theoretic models that enforce a fixed population size. The effect is found to be amplified by space; in this scenario, selection reversal occurs within biologically reasonable parameter regimes for microbial populations. Beyond the public good problem, the authors formulate a general mathematical framework for models that may exhibit stochastic selection reversal. In this context, they describe a stochastic analog to r-K theory, by which small populations can evolve to higher densities in the absence of disturbance.

Dunkel, Curtis S. & Edward Dutton. 2016. Religiosity as a predictor of in-group favoritism within and between religious groups. *Personality and Individual Differences* 98. 311–314.
doi:10.1016/j.paid.2016.04.063.

It was hypothesized that religiosity is positively associated with religious in-group favoritism. This hypothesis was tested using the second wave of data from the Midlife in the United States representative survey of middle adulthood. The sample included White participants from four religious groups (Baptists, Catholics, Methodists, and Jews). Consistent with the hypothesis, when analyzing the full sample and within each of the four religious groups, religiosity was predictive of in-group favoritism. However, while differences between religious groups in in-group favoritism emerged, and remained when controlling for the previously found group differences in intelligence and personality, the group differences in in-group favoritism were not mediated by religiosity. For example, while Baptists scored high in both religiosity and in-group favoritism, Jews scored low in religiosity yet high in in-group favoritism. Possible explanations for these findings are discussed, such as genetic similarity among group members.

Jordan, Jillian J., Moshe Hoffman, Martin A. Nowak & David G. Rand. 2016. Uncalculating cooperation is used to signal trustworthiness. *Proceedings of the National Academy of Sciences of the United States of America* 113(31). 8658–8663.
doi:10.1073/pnas.1601280113.

Humans frequently cooperate without carefully weighing the costs and benefits. As a result, people may wind up cooperating when it is not worthwhile to do so. Why risk making costly mistakes? Here, researchers present experimental evidence that reputation concerns provide an answer: people cooperate in an uncalculating way to signal their trustworthiness to observers. The authors present two economic game experiments in which uncalculating versus calculating decision-making is operationalized by either a subject's choice of whether to reveal the precise costs of cooperating (Exp. 1) or the time a subject spends considering these costs (Exp. 2). In both experiments, it is found that participants are more likely to engage in uncalculating cooperation when their decision-making process is

observable to others. Furthermore, the researchers confirm that people who engage in uncalculating cooperation are perceived as, and actually are, more trustworthy than people who cooperate in a calculating way. Taken together, these data provide the first empirical evidence that uncalculating cooperation is used to signal trustworthiness, and is not merely an efficient decision-making strategy that reduces cognitive costs. These results thus help to explain a range of puzzling behaviors, such as extreme altruism, the use of ethical principles, and romantic love.

Saleam, James & Ahmed A. Moustafa. 2016. The Influence of Divine Rewards and Punishments on Religious Prosociality. *Frontiers in Psychology* 7. 1149.
doi:10.3389/fpsyg.2016.01149.

A common finding across many cultures has been that religious people behave more prosocially than less (or non-) religious people. Numerous priming studies have demonstrated that the activation of religious concepts via implicit and explicit cues (e.g., 'God,' 'salvation,' among many others) increases prosociality in religious people. However, the factors underlying such findings are less clear. In this review the authors discuss hypotheses (e.g., the supernatural punishment hypothesis) that explain the religion-prosociality link, and also how recent findings in the empirical literature converge to suggest that the divine rewards (e.g., heaven) and punishments (e.g., hell) promised by various religious traditions may play a significant role. In addition, the authors further discuss inconsistencies in the religion-prosociality literature, as well as existing and future psychological studies which could improve our understanding of whether, and how, concepts of divine rewards and punishments may influence prosociality.

Shariff, Azim F., Aiyana K. Willard, Michael Muthukrishna, Stephanie R. Kramer & Joseph Henrich. 2016. What is the association between religious affiliation and children's altruism? *Current Biology* 26(15). R699-700.
doi:10.1016/j.cub.2016.06.031.

Decety et al. examined the relationships between household religiosity and sociality in children sampled from six countries. The present researchers were keenly interested in the conclusions about a negative relationship between religiosity and generosity, measured with the Dictator Game, as their team has investigated related questions, often with potentially contrasting findings. The authors argue here that, after addressing peculiarities in their analyses, the data of Decety et al. are consistent with a different interpretation.

Vaish, Amrisha, Esther Herrmann, Christiane Markmann & Michael Tomasello. 2016. Preschoolers value those who sanction non-cooperators. *Cognition* 153. 43–51.
doi:10.1016/j.cognition.2016.04.011.

Large-scale human cooperation among unrelated individuals requires the enforcement of social norms. However, such enforcement poses a problem because non-enforcers can free ride on others' costly and risky enforcement. One solution is that enforcers receive benefits relative to non-enforcers. Here researchers show that this solution becomes functional during the preschool years: 5-year-old (but not 4-year-old) children judged enforcers of norms more positively, preferred enforcers, and distributed more resources to enforcers than to non-enforcers. The ability to sustain not only first-order but also second-order cooperation thus emerges quite early in human ontogeny, providing a viable solution to the problem of higher-order cooperation.

Wright, Joshua D. 2016. More Religion, Less Justification for Violence. *Archive for the Psychology of Religion* 38(2). 159–183.
doi:10.1163/15736121-12341324.

A cross-national multilevel analysis was conducted to determine the effects of religion on the extent to which violence is seen as justified against others. Contrary to popular notions that religion causes violence, frequency of prayer, importance of religion, and importance of God were negatively related to justification of violence. Only frequency of service attendance and justification of violence had a positive relationship. This relationship was attenuated when a supernatural meaning system was applied to one's religious beliefs (i.e., religion is primarily for the purpose of making

sense of life after death). This meaning system also moderated the relationship between importance of religion and justification of violence. Finally, national-level importance of God moderated the negative relationship between individual level importance of God and justification of violence, strengthening this relationship. Results undermine the constructivist argument for religion as a cause of violence.

1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND CULTURE

Agag, Gomaa M. & Ahmed A. El-Masry. 2016. Cultural and religiosity drivers and satisfaction outcomes of consumer perceived deception in online shopping. *Internet Research* 26(4). 942–962. doi:10.1108/IntR-06-2015-0168.

The purpose of this paper is to develop and test a model that focuses on the cultural and religiosity drivers and satisfaction outcomes of consumer perceptions about online retailers' deceptive practices. It specifically investigates the role of cultural orientation and religiosity in forming consumer ethical ideology, the link between the consumer's ethical ideology and his/her perceptions regarding the deceptive practices of online retailers, and the effect of perceived deception on consumer satisfaction. The paper is based on a quantitative survey conducted among 468 Egyptian consumers aged 18 and above. These were measured on a five-point Likert scale. To test the hypothesized relationships among the constructs of the model, structural equation modelling was employed. The study confirmed that power distance, uncertainty avoidance, and religiosity are important in forming idealistic attitudes, while both individualism and masculinity lead to an egoistic attitude. Idealism was observed to have a positive association with consumer perceived deception, while egoism was found to negatively affect consumer perceived deception. Finally, it was revealed that the perceptions of consumer about the deceptive practices of online retailing decrease consumer satisfaction.

Andreoni, James, A. Abigail Payne, Justin Smith & David Karp. 2016. Diversity and donations: The effect of religious and ethnic diversity on charitable giving. *Journal of Economic Behavior & Organization* 128. 47–58. doi:10.1016/j.jebo.2016.05.010.

The present article explores the effects of local ethnic and religious diversity on private donations to charity. Results show that an increase in ethnic diversity decreases donations, and that this effect is driven by non-minorities and blacks. The researchers find a similar relationship between religious diversity and donation that is driven by Catholics, though that evidence is weaker. The authors find no consistent connection between diversity and fraction of households that donate on average. These results provide a parallel to the negative effects of diversity on publicly provided goods, and opens new challenges for fundraisers and policy makers.

Ashar, Yoni K., Jessica R. Andrews-Hanna, Tal Yarkoni, Jenifer Sills, Joan Halifax, Sona Dimidjian & Tor D. Wager. 2016. Effects of compassion meditation on a psychological model of charitable donation. *Emotion* 16(5). 691–705. doi:10.1037/emo0000119.

Compassion is critical for societal wellbeing. Yet, it remains unclear how specific thoughts and feelings motivate compassionate behavior, and a scientific understanding of how to effectively cultivate compassion is lacking. Here, researchers conducted 2 studies designed to a) develop a psychological model predicting compassionate behavior, and b) test this model as a mediator of a Compassion Meditation (CM) intervention and identify the 'active ingredients' of CM. In Study 1, a model predicting compassionate behavior was developed, operationalized as real-money charitable donation, from a linear combination of self-reported tenderness, personal distress, perceived blamelessness, and perceived instrumental value of helping with high cross-validated accuracy. Perceived similarity to suffering others did not predict charitable donation when controlling for other feelings and attributions. In Study 2, a randomized controlled trial, researchers tested the Study 1 model as a mediator of CM and investigated active ingredients. Researchers compared a smartphone-based CM program to 2 conditions—placebo oxytocin and a Familiarity

intervention—to control for expectancy effects, demand characteristics, and familiarity effects. Relative to control conditions, CM increased charitable donations, and changes in the Study 1 model of feelings and attributions mediated this effect. The Familiarity intervention led to decreases in primary outcomes, while placebo oxytocin had no significant effects on primary outcomes. Overall, this work contributes a quantitative model of compassionate behavior, and informs an understanding of the change processes and intervention components of CM.

Braun, Birgit, Johannes Kornhuber, Bernd Lenz & Cohort Study on Substance Use Risk Factors. 2016. Gaming and Religion: The Impact of Spirituality and Denomination. *Journal of Religion and Health* 55(4). 1464–1471.
doi:10.1007/s10943-015-0152-0.

A previous investigation from Korea indicated that religion might modulate gaming behavior. The present study aimed to investigate whether a belief in God, practicing religious behavior and religious denomination affected gaming behavior. Data were derived from a Western cohort of young men (Cohort Study on Substance Use Risk Factors, n=5990). The results showed that a stronger belief in God was associated with lower gaming frequency and smaller game addiction scale scores. In addition, practicing religiosity was related to less frequent online and offline gaming. Finally, Christians gamed less frequently and had lower game addiction scale scores than subjects without religious denomination. In the future, these results could prove useful in developing preventive and therapeutic strategies for the Internet gaming disorder.

Carvalho, Jean-Paul & Mark Koyama. 2016. Jewish emancipation and schism: Economic development and religious change. *Journal of Comparative Economics* 44(3). 562–584.
doi:10.1016/j.jce.2016.06.002.

This paper studies the impact of Jewish Emancipation and economic development on Jewish religious culture in 19th century Europe. In Germany, a liberal Reform movement developed in response to emancipation, while Ultra-Orthodox Judaism emerged in eastern Europe. Here the researchers develop a historical narrative and model of religious organization that accounts for the polarized responses by Jewish communities. This explanation is based on a tradeoff between time and money contributions. A religious organization chooses between a relatively affluent community that expends little effort on religious participation and a poorer community that devotes a large amount of time and effort to religious activity. Political and economic development shape this tradeoff in unexpected ways, leading to complex forms of behavior such as religious schisms and cycles. When preferences are transmitted between generations, organizations tend to be more conservative. This historical narrative points to further extensions of extant models of religion, as well as providing broader insights into cultural integration and religious change.

Chaudhary, Latika & Jared Rubin. 2016. Religious identity and the provision of public goods: Evidence from the Indian Princely States. *Journal of Comparative Economics* 44(3). 461–483.
doi:10.1016/j.jce.2016.05.001.

This paper describes a simple model of how a ruler's religious identity affects public goods provision. A primary insight is that rulers reduce public goods expenditures to a greater degree when there are privately-provided substitutes excludable by religion. The basic idea is that if the good is provided privately to the ruler's co-religionists, the ruler faces weaker incentives to provide this public good because his co-religionists receive lower marginal utility from its provision. Testing such a conjecture is an empirical challenge, however, since the religious identity of rulers rarely varies over time and place. The present researchers address this problem by exploiting variation in the religion of rulers in the Indian Princely States. Using data from the 1911 and 1931 Indian censuses, the authors find that Muslim-ruled states had lower Hindu literacy but had no significant impact on Muslim literacy. This result is consistent with our model, as Muslim religious schools provided a substitute for public schools that served both Hindus and Muslims. The model is further substantiated by the fact that the religion of the ruler had no statistically significant impact on railroad ownership or post office provision, neither of which had privately-provided substitutes.

Dömötör, Zsuzsanna, Roberto Ruíz-Barquín & Attila Szabo. 2016. Superstitious behavior in sport: A literature review. *Scandinavian Journal of Psychology* 57(4). 368–382.
doi:10.1111/sjop.12301.

The objective of this first literature review, in this area, is to unveil the current status of knowledge on superstition in sport. Its outcome reveals that superstitious behaviors vary with the type of sport, athletic level, as well as athletic role. In agreement with past theories, they increase with the level of challenge, as reflected by the importance of the competition, as well as with the level of uncertainty. Cultural factors, in conjunction with the education level, as well as gender, have a strong influence on superstitious behaviors in sports. Based on current thoughts, religiosity and superstition are different psychological constructs used as psychological aids by several athletes. Personality factors appear to mediate the manifestation of the behavior. Elite athletes are clearly more superstitious than non-elite athletes. An interaction between athletic skill and task-difficulty emerges to be another strong predictor of superstition in sport. It is evident that a set of complex personal and situational factors interact in the manifestation of superstitious behavior in sport that is used for the regulation of emotions in a quest for optimal performance. It is concluded that the objective benefits (i.e., success) of superstition in sport may be ascribed to the placebo effect that yields an increased sense of control and mental reassurance in unpredictable contest situations.

Fetterman, Adam K. 2016. On god-belief and feeling clean: Daily experiences are related to feeling clean, particularly for those high in god-belief. *Social Psychological and Personality Science* 7(6). 552–559.
doi:10.1177/1948550616641474.

Recent work has shown robust associations between morality and cleanliness. However, it is not known whether this association is equally consequential for everyone. The author predicted that individuals high (vs. low) in God-belief would be more likely to draw upon feelings of cleanliness to represent their moral concerns. To test this hypothesis, a 2-week daily sampling protocol was used. In an initial session, participants' (n=135) level of God-belief was measured. Then participants' levels of daily cleanliness, neuroticism, impulsivity, and prosocial behaviors were measured every evening. Daily feelings of cleanliness predicted lower levels of neuroticism but only for those high in God-belief. Daily impulsive behaviors predicted lower feelings of cleanliness, and daily prosocial behaviors predicted higher feelings of cleanliness. God-belief moderated these effects such that they were stronger for those higher, than lower, in God-belief. In closing, the author discusses potential reasons for these moderation effects and other theoretical considerations.

Fleischmann, Fenella & Karen Phalet. 2016. Identity Conflict or Compatibility: A Comparison of Muslim Minorities in Five European Cities. *Political Psychology* 37(4). 447–463.
doi:10.1111/pops.12278.

Drawing on large-scale comparative surveys across nine sociopolitical contexts, this article addresses the question of when and why ethno-religious and city or national identities of European-born Muslims are in conflict. The authors argue that the sociopolitical context makes the difference between identity compatibility or conflict and that conflict arises from perceived discrimination and related negative feelings towards the national majority. Using multigroup structural equation modelling, researchers examine how Turkish and Moroccan Muslims in five European cities combine their civic membership of the city and country of residence-as common identities shared with the national majority-with distinct ethnic and religious identities. In all sociopolitical contexts, participants combined significant city and national identities with strong ethnic and religious identifications. Yet, identification patterns varied between contexts from conflict (negatively correlated minority and civic identities) over compartmentalization (zero correlations) to compatibility (positive correlations). Muslims who perceived more personal discrimination were more committed to their ethnic and religious identities while simultaneously dis-identifying from their country and city. Across cities, discrimination experiences and negative majority-group evaluations explained away identity conflict.

Hall, Todd W., Evonne Edwards & David C. Wang. 2016. The spiritual development of emerging adults over the college years: A 4-year longitudinal investigation. *Psychology of Religion and Spirituality* 8(3). 206–217.

doi:10.1037/rel0000051.

Within the past decade, there has been a growing base of research literature on the developmental stage that Jeffrey Arnett (2004) termed emerging adulthood. While there is still much to be known about emerging adulthood in general, even less is known about the religious and spiritual lives of emerging adults. To date, few if any studies have specifically sought to explore the spiritual development of Evangelical Christian students attending an explicitly Christian college—an educational context that openly emphasizes matters relating to religion and spirituality as core educational outcomes (e.g., chapels, bible and theology classes). The current study was designed to explore religious and spiritual change over time among Evangelical Christian emerging adults measured at 8 time points across all 4 years of college. Given the paucity of research, the goal of this study was not to test specific hypotheses, but rather to observe and describe this change.

Hanke, Katja, Marieke Christina van Egmond, Carla Crespo & Diana Boer. 2016. Blessing or burden? The role of appraisal for family rituals and flourishing among LGBT adults. *Journal of Family Psychology* 30(5). 562–568.

doi:10.1037/fam0000214.

Despite recent trends toward greater societal acceptance of LGBT individuals in many Western countries, the elevated chances of being confronted by rejection and hostility or fear are still likely to lead to detrimental psychological health outcomes for this population. The current study assesses how the family can be a resource for psychological well-being. Based on self-determination theory and the family ritual literature, researchers hypothesize that the various family rituals enhance the chances that the human need for relatedness will be satisfied and positively contribute to the degree to which the person flourishes in life. Second, the authors test which factors mediate this pathway. For this purpose, a 3-factorial scale (Family Ritual Appraisal Scale) that assesses the appraisal with which LGBT adults evaluate the participation in family rituals was developed. In a multiple-mediation analysis, three factors (inclusion of self, inclusion of partner, and sense of obligation) were found to mediate significantly the degree by which family rituals lead to higher levels of relatedness in the family and thereby to higher levels of flourishing. Together, the results suggest that it is meaningful to assess the ways in which family rituals are conducted and experienced by individual family members on the effects of family rituals on psychological well-being.

Khatab, Nabil. 2016. The ethno-religious wage gap within the British salariat class: How severe is the penalty? *Sociology* 50(4). 813–824.

doi:10.1177/0038038515575865.

This study analyzes data obtained from the UK Labour Force Survey (LFS) 2002–2013 to examine the ethno-religious differences in the gross hourly pay within the British salariat occupational class. It explores the extent to which these differences are associated with ethnicity, religion or both. The findings suggest that substantial between-group differences do exist, but these differences cannot be attributed to a pure religious or ethnic discrimination. Although two of the Muslim groups experience a greater penalty than many of the other groups, there was no evidence for an overarching 'Muslim penalty'. There also was no evidence for an overarching 'Black penalty'. It is possible that within the salariat class, mechanisms other than pure colour and cultural racism are at work.

Klobučar, Nataša Rijavec. 2016. The Role of Spirituality in Transition to Parenthood: Qualitative Research Using Transformative Learning Theory. *Journal of Religion and Health* 55(4). 1345–1358.

doi:10.1007/s10943-015-0088-4.

This article presents results of a qualitative study of 12 adult couples making transition to parenthood. The aim of the study was to research the meaning of transition to parenthood through the lens of transformative learning theory.

Transformative learning theory explains learning through meaning-making of that life experience. In this paper, the spiritual dimension of learning is emphasized. An important part of research methodology included biographical method, using semi-structured interviews before and after the birth of the first child. The research showed that transformative learning occurs in different spheres of life during transition to parenthood. This paper discusses the spiritual dimension of learning, meaning-making and presents results of the research.

- Krause, Neal. 2016. Assessing supportive social exchanges inside and outside religious institutions: Exploring variations among Whites, Hispanics, and Blacks. *Social Indicators Research* 128(1). 131–146.
doi:10.1007/s11205-015-1022-6.

Research indicates that spiritual struggles (i.e., tensions and strains associated with sacred issues) are associated with greater psychological distress and diminished levels of well-being. However, fewer studies have assessed the relationship between spiritual struggles and indicators of physical health. The purpose of the current study is to see whether spiritual struggles are associated with clinically higher levels of resting pulse rates. In addition, an effort is made to see if the effects of spiritual struggles on resting pulse rates are offset for individuals with a strong sense of distress tolerance. Data from a recent nationwide survey suggest that spiritual struggles are associated with higher resting pulse rates, but only among individuals who do not have a strong sense of distress tolerance.

- Milesi, Patrizia. 2016. Moral foundations and political attitudes: The moderating role of political sophistication. *International Journal of Psychology: Journal International De Psychologie* 51(4). 252–260.
doi:10.1002/ijop.12158.

Political attitudes can be associated with moral concerns. This research investigated whether people's level of political sophistication moderates this association. Based on the Moral Foundations Theory, this article examined whether political sophistication moderates the extent to which reliance on moral foundations, as categories of moral concerns, predicts judgements about policy positions. With this aim, two studies examined four policy positions shown by previous research to be best predicted by the endorsement of Sanctity, that is, the category of moral concerns focused on the preservation of physical and spiritual purity. The results showed that reliance on Sanctity predicted political sophisticates' judgements, as opposed to those of unsophisticates, on policy positions dealing with equal rights for same-sex and unmarried couples and with euthanasia. Political sophistication also interacted with Fairness endorsement, which includes moral concerns for equal treatment of everybody and reciprocity, in predicting judgements about equal rights for unmarried couples, and interacted with reliance on Authority, which includes moral concerns for obedience and respect for traditional authorities, in predicting opposition to stem cell research. Those findings suggest that, at least for these particular issues, endorsement of moral foundations can be associated with political attitudes more strongly among sophisticates than unsophisticates.

- Oliveira, Lívio Luiz Soares de & Renan Xavier Cortes. 2016. Faith and religious attendance in Brazil. *Rationality and Society* 28(3). 320–334.
doi:10.1177/1043463116653718.

One of the most interesting rational religious choice models is that presented by Durkin and Greeley in a 1991 article. The authors base the problem of uncertainty of religious choice on Pascal's Wager as a maximization problem of expected benefit and in faith as an insurance. The objective of the present article is to test the Durkin and Greeley hypothesis model for Brazil. Two dependent variables were used in the tests: religious attendance and faith, as in Durkin and Greeley's original model, and resulted in a highly significant relation. The belief in an after-life had a positive and significant impact on the dependent variable degree of faith. In the case of the tests of the third and last hypothesis of the model, that is, religious attendance and faith are positively related to the religious capital accumulated by the individual, ambiguous results were observed in relation to the confirmation of that hypothesis. An unexpected result turned up: the more conservative the individual showed himself or herself in relation to abortion, the lower was his or her degree of faith and lower was his or her religious frequency.

Paldam, Ella & Uffe Schjoedt. 2016. Miracles and Pain Relief. *Archive for the Psychology of Religion* 38(2). 210–231.
doi:10.1163/15736121-12341322.

This study examines a large collection of healing testimonies published by a Danish Charismatic Christian organization. Diseases and symptoms reported to be healed through charismatic prayer healing (CPH) are counted and coded using ICD-10 diagnostic criteria. The analysis shows that even in testimonies published to convince other believers about the divine powers of prayer, most accounts include relatively mundane reports of pain relief in the musculoskeletal system. Cases of complete and immediate healing of serious diseases, echoing miracles reported in the Bible, also exist in the material, but such cases appear to be predicted by variables relating to the credibility of each testimony. The notable proportion of pain relief in this supposedly highly biased Christian material is interpreted as support for a popular but poorly documented assumption that CPH mainly affects subjective symptoms responsive to expectation modulation.

Pietkiewicz, Igor J. & Monika Kolodziejczyk-Skrzypek. 2016. Living in Sin? How Gay Catholics Manage Their Conflicting Sexual and Religious Identities. *Archives of Sexual Behavior* 45(6). 1573–1585.
doi:10.1007/s10508-016-0752-0.

Religious principles and values provide meaning and affect personal identity. They may also conflict with intimate needs and desires. This article examines how gay Catholics manage conflicting areas between their sexual and religious selves. Eight Polish gays with a Catholic background, who identified themselves as strong believers, shared their experiences during semi-structured interviews that were subjected to interpretative phenomenological analysis. Results showed that internalization of the principles taught by the Roman Catholic Church triggered a conflict when participants became aware of their homosexuality. They used a number of strategies to reconcile conflicting identities, including limiting their religious involvement, questioning interpretation of the doctrine, undermining priests' authority, trying to reject homosexual attraction, putting trust in God's plan, using professional help, and seeking acceptance from clergy. This study alerts mental health professionals to specific risk factors associated with experiencing a religious conflict, and offers guidelines for counseling and further research.

Santoro, Anthony F., Sonia Suchday, Amina Benkhokha, Natasha Ramanayake & Suman Kapur. 2016. Adverse childhood experiences and religiosity/spirituality in emerging adolescents in India. *Psychology of Religion and Spirituality* 8(3). 185–194.
doi:10.1037/rel0000038.

The present exploratory study examined childhood adversity and religiosity and spirituality (R/S) in a sample of adolescents from Hyderabad, India. Self-reports of childhood adversity and R/S were obtained from 139 adolescents (M=13.80 years). Results suggest adversity and existential well-being were significantly and inversely related. Additionally, adversity significantly predicted a desire to connect with a Higher Power. Boys endorsed a greater number of adverse childhood experiences, except physical abuse, which was endorsed at comparable rates by gender. Girls reported greater degrees of well-being and religiosity; however, no gender differences were found on daily spiritual experiences and religious coping. Well-being was significantly associated with religiosity, daily spiritual experiences, and religious coping for girls. Adversity was associated with greater desire to connect with a Higher Power in boys and increased religious coping in girls. The present study was a preliminary effort to examine childhood adversity and R/S in populations that are underrepresented in the literature.

Sheen, Mercedes & Timothy R. Jordan. 2016. Believing is Seeing: A Perspective on Perceiving Images of Objects on the Shroud of Turin. *Archive for the Psychology of Religion* 38(2). 232–251.
doi:10.1163/15736121-12341320.

For many years, the Shroud of Turin has been famous for images of a body and face which many believe were formed during The Resurrection. More recently, however, claims have been made that the Shroud also contains evidence of other objects, and these claims have been used to support the view that the Shroud is the burial cloth of Jesus. However, these claims are based on marks that are barely visible and the psychological processes known to be involved in perceiving objects under data-limited conditions have been largely ignored. Here, researchers consider these processes and assess the claims that objects can be seen on the Shroud. The authors conclude that the viewing conditions provided by images of the Shroud are likely to lead to the illusory perception of objects, and knowing the psychological processes underlying these perceptions is crucial for accurately determining the provenance of the Shroud and other material artefacts.

Verdorfer, Armin Pircher. 2016. Examining mindfulness and its relations to humility, motivation to lead, and actual servant leadership behaviors. *Mindfulness* 7(4). 950–961.
doi:10.1007/s12671-016-0534-8.

This research aimed to examine mindfulness and its relation to servant leadership, an approach that makes humility and altruism the central components of the leadership process. Two empirical studies were conducted in order to test the hypotheses under investigation. Study 1 used a nonleader sample and showed a positive relationship between dispositional mindfulness and humility as well as a non-self-centered motivation to lead, both representing essential features of a servant attitude. On this basis, Study 2 used a leader sample and investigated the relationship between leaders' dispositional mindfulness and actual servant leadership behaviors as perceived by their followers. The findings revealed that leaders' dispositional mindfulness was positively related to direct reports' ratings of the servant leadership dimensions of humility, standing back, and authenticity. In summary, data support the utility of including mindfulness as a predictor in servant leadership research and practice.

1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Goldberg, Simon B., Joseph Wielgosz, Cortland Dahl, Brianna Schuyler, Donal S. MacCoon, Melissa Rosenkranz, Antoine Lutz, Chad A. Sebranek & Richard J. Davidson. 2016. Does the Five Facet Mindfulness Questionnaire measure what we think it does? Construct validity evidence from an active controlled randomized clinical trial. *Psychological Assessment* 28(8). 1009–1014.
doi:10.1037/pas0000233.

The current study attempted a rigorous test of the construct validity of a widely used self-report measure of dispositional mindfulness, the Five Facet Mindfulness Questionnaire (FFMQ), within the context of an active controlled randomized trial (n=130). The trial included three arms: mindfulness-based stress reduction (MBSR), an active control condition that did not include instruction in mindfulness meditation (Health Enhancement Program [HEP]), and a waitlist control condition. Partial evidence for the convergent validity of the FFMQ was shown in correlations at baseline between FFMQ facets and measures of psychological symptoms and psychological well-being. In addition, facets of the FFMQ were shown to increase over the course of an MBSR intervention relative to a waitlist control condition. However, the FFMQ failed to show discriminant validity. Specifically, facets of the FFMQ were shown to increase over the course of the HEP intervention relative to the waitlist control condition. MBSR and HEP, in contrast, did not differ in changes in FFMQ score over time. Implications of these findings for the measurement and theory of mindfulness and MBSR are discussed.

Strulik, Holger. 2016. An economic theory of religious belief. *Journal of Economic Behavior & Organization* 128. 35–46.
doi:10.1016/j.jebo.2016.04.007.

In this paper the author considers how individuals allocate their time between church attendance (and other religious activities) and secular leisure activities. Moreover, individuals use a cognitive style, which is either intuitive-believing or reflective-analytical. The model used here assumes that the full benefit from religious activities is achieved by

intuitive believers. The model predicts that, ceteris paribus, wealthier individuals and individuals with higher cognitive ability are more likely to abandon the intuitive-believing cognitive style. They may continue to attend church but do so less frequently than intuitive believers. In general equilibrium, there exists a locally stable steady state where believing and frequent church attendance is widespread across the social strata. A sufficiently large negative shock (e.g. the Enlightenment, repeal of Sunday shopping laws), however, initiates the gradual secularization of society.

PART 2: ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

2.1 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Biccheri, Eliane, Nicolas Roussiau & Constance Mambet-Doué. 2016. Fibromyalgia, Spirituality, Coping and Quality of Life. *Journal of Religion and Health* 55(4). 1189–1197.
doi:10.1007/s10943-016-0216-9.

The aim of this study is to identify the impact of spirituality on coping strategies and on the quality of life of fibromyalgia patients. The study was carried out on 590 people suffering from fibromyalgia. The data were collected with the French version of the WCC-R (The Ways of Coping Checklist), the questionnaire of spirituality (Evaluation de La Spiritualité) and Diener's Satisfaction with Life Scale questionnaire, translated into French. An analysis carried out with the software SPSS and Hayes' models showed that both problem-focused coping and coping through social support seeking are mediating variables that enable an indirect link between spirituality and quality of life.

DiScipio, William J. 2016. Perceived relaxation as a function of restorative yoga combined with Reiki for cancer survivors. *Complementary Therapies in Clinical Practice* 24. 116–122.
doi:10.1016/j.ctcp.2016.05.003.

Twenty-six cancer survivor volunteers participated in a study of the efficacy of perceived relaxation after performing restorative yoga combined with Reiki. Subjects scoring high ratings of Meaning and Peace in life demonstrated greater perception of depth of relaxation. A comparison of subjects receiving concurrent Reiki (19) and restorative yoga with those who only received restorative yoga (7) showed that Reiki subjects experienced greater perceived depth of relaxation than subjects who were not afforded the Reiki intervention. Non-Reiki participants also showed more difficulty overcoming intrusive fearful thoughts than the Reiki group. Clinical implications suggest that patients should be screened and treated for trauma-like symptoms including intrusive thoughts linked to anxiety and depression before referral to complementary programs that offer meditative or relaxation interventions.

Epel, E. S., E. Puterman, J. Lin, E. H. Blackburn, P. Y. Lum, N. D. Beckmann, J. Zhu, et al. 2016. Meditation and vacation effects have an impact on disease-associated molecular phenotypes. *Translational Psychiatry* 6(8). e880.
doi:10.1038/tp.2016.164.

Meditation is becoming increasingly practiced, especially for stress-related medical conditions. Meditation may improve cellular health; however, studies have not separated out effects of meditation from vacation-like effects in a residential randomized controlled trial. Researchers recruited healthy women non-meditators to live at a resort for 6 days and randomized to either meditation retreat or relaxing on-site, with both groups compared with 'regular meditators' already enrolled in the retreat. Blood drawn at baseline and post intervention was assessed for transcriptome-wide expression patterns and aging-related biomarkers. Highly significant gene expression changes were detected across all groups (the "vacation effect") that could accurately predict (96% accuracy) between baseline and post-intervention states and were characterized by improved regulation of stress response, immune function and amyloid beta (A β) metabolism. Although a smaller set of genes was affected, regular meditators showed post-intervention differences in a gene network characterized by lower regulation of protein synthesis and viral genome activity. Changes in well-being were assessed post intervention relative to baseline, as well as 1 and 10 months later. All groups showed equivalently large immediate post-intervention improvements in well-being, but novice meditators showed greater maintenance of lower distress over time compared with those in the vacation arm. Regular meditators showed a trend toward increased telomerase activity compared with randomized women, who showed increased plasma A β 42/A β 40 ratios and tumor necrosis factor alpha (TNF- α) levels. This highly controlled residential study showed large salutary changes in gene expression networks due to the vacation effect, common to all groups. For those already

trained in the practice of meditation, a retreat appears to provide additional benefits to cellular health beyond the vacation effect.

- Furtado, G. E., M. Uba-Chupel, H. M. Carvalho, N. R. Souza, J. P. Ferreira & A. M. Teixeira. 2016. Effects of a chair-yoga exercises on stress hormone levels, daily life activities, falls and physical fitness in institutionalized older adults. *Complementary Therapies in Clinical Practice* 24. 123–129. doi:10.1016/j.ctcp.2016.05.012.

The aim of this study was to assess the changes mediated by exercise on activities of daily life and falls, physical fitness, salivary cortisol and alpha amylase in older adults living in social and health care givers centers. The sample consisted of 35 women who were divided into two groups: chair-yoga exercises group (CY, n=20) and control group (CG, n=15). All subjects were evaluated before and after 14-weeks. CY was involved in exercise classes two times per week, while the GC did not participate in any exercise. Following intervention, fear of falling decreased in both groups, cortisol increased and alpha-amylase decreased in the CG. No significant changes occurred in physical fitness outcomes. The authors conclude that CY practice was able to maintain the physical fitness scores and stress hormone levels, but was not able to improve the subject's perception on the ability to perform the instrumental activities of daily life.

- Garcia-Martin, E., E. Ruiz-de-Gopegui, S. Otin, A. Blasco, J. M. Larrosa, V. Polo, L. E. Pablo, M. M. P. Demarzo & J. Garcia-Campayo. 2016. Assessment of visual function and structural retinal changes in Zen meditators: Potential effect of mindfulness on visual ability. *Mindfulness* 7(4). 979–987. doi:10.1007/s12671-016-0537-5.

The aim of the present study was to evaluate whether Zen meditation (a mindfulness-based practice) stimulates visual function and increases retinal and retinal nerve fiber layer (RNFL) thickness. This cross-sectional controlled study included 36 eyes of 18 meditators and 76 eyes of 38 age- and sex-matched healthy non-meditators. The average response of both eyes in each subject was analyzed. All subjects underwent evaluation of high and low contrast visual acuity (using ETDRS charts), contrast sensitivity vision (CSV) using the Pelli Robson chart and CSV 1000E test, color vision (using the Farnsworth and L'Anthony desaturated D15 color tests), stereoscopic vision using the TNO test, and retinal and RNFL thickness using optical coherence tomography (OCT). Differences in visual function and RNFL thickness were compared between groups. Results indicated that meditators exhibited significantly better visual acuity with the three contrast levels used and significantly better contrast sensitivity vision (CSV 1000E) than healthy non-meditators. Retinal and RNFL structural measurements did not differ significantly between groups. Ganglion cell layer thickness was moderately correlated with visual acuity, CSV, color vision, and stereoscopic vision. In conclusion, visual function was enhanced in meditators without significant alterations in the retinal morphologic structure. Further studies are needed to determine whether there is a causal association between mindfulness and visual function improvement.

- Hill, Terrence D., Christopher G. Ellison, Amy M. Burdette, John Taylor & Katherine L. Friedman. 2016. Dimensions of religious involvement and leukocyte telomere length. *Social Science & Medicine* 163. 168–175. doi:10.1016/j.socscimed.2016.04.032.

Although numerous studies suggest that religious involvement is associated with a wide range of favorable health outcomes, it is unclear whether this general pattern extends to cellular aging. In this paper, researchers tested whether leukocyte telomere length varies according to several dimensions of religious involvement. The researchers used cross-sectional data from the Nashville Stress and Health Study (2011-2014), a large probability sample of 1252 black and white adults aged 22 to 69 living in Davidson County, TN, USA. Leukocyte telomere length was measured using the monochrome multiplex quantitative polymerase chain reaction method with albumin as the single-copy reference sequence. Dimensions of religious involvement included religiosity, religious support, and religious coping.

Multivariate analyses showed that religiosity (an index of religious attendance, prayer frequency, and religious identity) was positively associated with leukocyte telomere length, even with adjustments for religious support, religious coping, age, gender, race, education, employment status, income, financial strain, stressful life events, marital status, family support, friend support, depressive symptoms, smoking, heavy drinking, and allostatic load. Unlike religiosity, religious support and religious coping were unrelated to leukocyte telomere length across models. Depressive symptoms, smoking, heavy drinking, and allostatic load failed to explain any of the association between religiosity and telomere length. This is the first population-based study to link religious involvement and cellular aging. Although the data suggest that adults who frequently attend religious services, pray with regularity, and consider themselves to be religious tend to exhibit longer telomeres than those who attend and pray less frequently and do not consider themselves to be religious, additional research is needed to establish the mechanisms underlying this association.

Horton, E. Gail, Naelys Luna & Tammy Malloy. 2016. Exploring the Relationships between Spirituality and Personality Disorder Traits among a Sample of In-Patients in Treatment for Substance Use Disorder. *International Journal of Mental Health and Addiction* 14(4). 459–471.
doi:10.1007/s11469-015-9596-4.

Personality disorders (PD) complicate the treatment of individuals with substance use disorders. Spirituality has been shown to be a protective factor in the treatment of addiction but very little research has explored how spirituality may differ among individuals in treatment for substance use issues who present with clinical and non-clinical levels of PD traits. This study examined the relationship between spirituality and PD traits among 305 clients recruited from a residential substance abuse treatment center. Results indicated that the existential well-being dimension of spirituality was a statistically significant predictor of most PD trait levels. In addition, the religious well-being dimension was a statistically significant predictor of Narcissistic traits. However, the clinical significance of these results may be limited due to the relatively low amount of variance in PD trait levels explained by the spirituality dimensions. Clinical implications for the treatment of individuals experiencing comorbid PDs and substance use disorders were discussed highlighting the potential benefit of focusing on therapeutic techniques that would help these clients develop existential well-being in their lives rather than a relationship with a Higher Power.

Kiely, Deirdre & Shira Schwartz. 2016. Mindfulness as an Intervention for Breast Cancer Survivors. *Clinical Journal of Oncology Nursing* 20(4). 357–359.
doi:10.1188/16.CJON.357-359.

Breast cancer survivors often turn to complementary health approaches (CHAs) to address the effects of treatment. Mindfulness-based stress reduction (MBSR) is a type of CHA that uses attentional and meditative exercises to minimize stress and increase awareness of the present. This article aims to determine whether adequate evidence-based research with uniform methodologies and outcomes to support MBSR as an intervention for breast cancer survivors exists.

Krause, Neal & Gail Ironson. 2016. Receiving Support, Giving Support, Neighborhood Conditions, and Waist/Hip Ratios. *Journal of Religion and Health* 55(4). 1123–1135.
doi:10.1007/s10943-016-0182-2.

Obesity is a major health problem in the USA, and, as a result, it is important to identify the factors that help people keep their body weight within healthy limits. The purpose of this study was to see whether receiving support at church and giving support at church buffer (i.e., moderate) the effects of living in rundown neighborhoods on a key marker of obesity-waist/hip ratios (WHR). The data are provided from a recent nationwide survey of people age 18 and older (n=1,456). The findings reveal that giving support to fellow church members tends to offset the effects of living in dilapidated neighborhoods on WHR. In contrast, receiving support from coreligionists does not appear to perform a similar stress-moderating function. The theoretical underpinnings of providing support at church are discussed.

Krause, Neal, Gail Ironson & Kenneth I. Pargament. 2016. Spiritual struggles and resting pulse rates: Does strong distress tolerance promote more effective coping? *Personality and Individual Differences* 98. 261–265.

doi:10.1016/j.paid.2016.04.064.

Research indicates that spiritual struggles (i.e., tensions and strains associated with sacred issues) are associated with greater psychological distress and diminished levels of well-being. However, fewer studies have assessed the relationship between spiritual struggles and indicators of physical health. The purpose of the current study is to see whether spiritual struggles are associated with clinically higher levels of resting pulse rates. In addition, an effort is made to see if the effects of spiritual struggles on resting pulse rates are offset for individuals with a strong sense of distress tolerance. Data from a recent nationwide survey suggest that spiritual struggles are associated with higher resting pulse rates, but only among individuals who do not have a strong sense of distress tolerance.

Larson-Meyer, D. Enette. 2016. A Systematic Review of the Energy Cost and Metabolic Intensity of Yoga. *Medicine and Science in Sports and Exercise* 48(8). 1558–1569.

doi:10.1249/MSS.0000000000000922.

With the increasing popularity of Hatha yoga, it is important to understand the energy cost and METs of yoga practice within the context of the American College of Sports Medicine (ACSM) and the American Heart Association (AHA) physical activity guidelines. This systematic review evaluated the energy cost and metabolic intensity of yoga practice including yoga asanas (poses/postures) and pranayamas (breath exercises) measured by indirect calorimetry. The English-speaking literature was surveyed via PubMed using the general terms “yoga” and “energy expenditure” with no date limitations. Thirteen manuscripts were initially identified with an additional four located from review of manuscript references. Of the 17 studies, 10 evaluated the energy cost and METs of full yoga sessions or flow through Surya Namaskar (sun salutations), eight of individual asanas, and five of pranayamas. METs for yoga practice averaged 3.3 +/- 1.6 and 2.9 +/- 0.8 METs when one outlier (i.e., 7.4 METs for Surya Namaskar) was omitted. METs for individual asanas averaged 2.2 +/- 0.7, whereas that of pranayamas was 1.3 +/- 0.3. On the basis of ACSM/AHA classification, the intensity of most asanas and full yoga sessions ranged from light (less than 3 METs) to moderate aerobic intensity (3-6 METs), with the majority classified as light intensity. Conclusion: This review suggests that yoga is typically classified as a light-intensity physical activity. However, a few sequences/poses, including Surya Namaskar, meet the criteria for moderate-to vigorous-intensity activity. In accordance with the ACSM/AHA guidelines, the practice of asana sequences with MET intensities higher than three (i.e., 910 min) can be accumulated throughout the day and count toward daily recommendations for moderate-or vigorous-intensity physical activity.

Le, Daisy, Cheryl L. Holt, Dominic P. Hosack, Jin Huang & Eddie M. Clark. 2016. Religious Participation is Associated with Increases in Religious Social Support in a National Longitudinal Study of African Americans. *Journal of Religion and Health* 55(4). 1449–1460.

doi:10.1007/s10943-015-0143-1.

This study reports on the association between religious beliefs and behaviors and the change in both general and religious social support using two waves of data from a national sample of African Americans. The Religion and Health in African Americans (RHIAA) study is a longitudinal telephone survey designed to examine relationships between various aspects of religious involvement and psychosocial factors over time. RHIAA participants were 3173 African American men (1281) and women (1892). A total of 1251 men (456) and women (795) participated in wave 2 of data collection. Baseline religious behaviors were associated with increased overall religious social support from baseline to wave 2 and with increased religious social support from baseline to wave 2 in each of the following religious social support subscales: emotional support received, emotional support provided, negative interaction, and anticipated support. Religious beliefs did not predict change in any type of support, and neither beliefs nor behaviors predicted change in general social support. African Americans who are active in faith communities showed increases

in all types of religious social support, even the negative aspects, over a relatively modest longitudinal study period. This illustrates the strength of the church as a social network and the role that it plays in people's lives.

- Mauseth, Kira B., Jordan Skalisky, Noël E. Clark & Ray Kaffer. 2016. Substance Use in Muslim Culture: Social and Generational Changes in Acceptance and Practice in Jordan. *Journal of Religion and Health* 55(4). 1312–1325.
doi:10.1007/s10943-015-0064-z.

Through narrative analysis, this paper explores the changes in acceptance of and response to substance use in Muslim culture by evaluating data collected in qualitative interviews in Jordan in 2013. What is known and unknown about substance use in Muslim culture throughout the Arab world from previous research findings provides a foundation from which to explore new perspectives and compare themes between younger and older generations in Jordan. Trends of social change and behavioral expression influenced by dramatic political and social upheaval in the Arab world in the last 5 years will also be evaluated for the way in which they may be influencing both substance use and its acceptance among young adults in this population. Recommendations for future research and work in this area are also provided based on these findings.

- Mills, Paul J., Kathleen L. Wilson, Meredith A. Pung, Lizabeth Weiss, Sheila Patel, P. Murali Doraiswamy, Christine Peterson, et al. 2016. The Self-Directed Biological Transformation Initiative and Well-Being. *Journal of Alternative and Complementary Medicine (New York, N.Y.)* 22(8). 627–634.
doi:10.1089/acm.2016.0002.

The objective of this study is to examine the effects of a comprehensive residential mind-body program on well-being. The Self-Directed Biological Transformation Initiative was a quasi-randomized trial comparing the effects of participation in a 6-day Ayurvedic system of medicine-based comprehensive residential program with a 6-day residential vacation at the same retreat location. Participants were 69 healthy women (n=58) and men (n=11). The Ayurvedic intervention addressed physical and emotional well-being through group meditation and yoga, massage, diet, adaptogenic herbs, lectures, and journaling. Following intervention, participants in the Ayurvedic program showed significant and sustained increases in ratings of spirituality and gratitude compared with the vacation group, which showed no change. The Ayurvedic participants also showed increased ratings for self-compassion as well as less anxiety at the 1-month follow-up. Findings suggest that a short-term intensive program providing holistic instruction and experience in mind-body healing practices can lead to significant and sustained increases in perceived well-being and that relaxation alone is not enough to improve certain aspects of well-being.

- Munyaradzi Kenneth, Dodzo, Mhloyi Marvellous, Moyo Stanzia & Dodzo-Masawi Memory. 2016. Praying until Death: Apostolicism, Delays and Maternal Mortality in Zimbabwe. *PLoS One* 11(8). e0160170.
doi:10.1371/journal.pone.0160170.

Religion affects people's daily lives by solving social problems, although it creates others. Female sexual and reproductive health are among the issues most affected by religion. Apostolic sect members in Zimbabwe have been associated with higher maternal mortality. Researchers explored apostolic beliefs and practices on maternal health using 15 key informant interviews in 5 purposively selected districts of Zimbabwe. Results show that apostolicism promotes high fertility, early marriage, non-use of contraceptives and low or non-use of hospital care. It causes delays in recognizing danger signs, deciding to seek care, reaching and receiving appropriate health care. The existence of a customized spiritual maternal health system demonstrates a huge desire for positive maternal health outcomes among apostolics. Researchers conclude that apostolic beliefs and practices exacerbate delays between onset of maternal complications and receiving help, thus increasing maternal risk. The authors recommend complementary and adaptive approaches that address the maternal health needs of apostolics in a religiously sensitive manner.

Rivera-Hernandez, Maricruz. 2016. Religiosity, Social Support and Care Associated with Health in Older Mexicans with Diabetes. *Journal of Religion and Health* 55(4). 1394–1410. doi:10.1007/s10943-015-0105-7.

The main purpose of this study was to examine the relationships between religiosity, social support, diabetes care and control and self-rated health of people living in Mexico who have been diagnosed with diabetes. Structural equation modeling was used to examine these associations using the Mexican Health and Aging Study, a national representative survey of older Mexicans. Findings indicate that emotional support from one's spouse/partner directly affects diabetes care and control and health. Although there is no direct relationship between religiosity and health, religiosity was positively associated with diabetes care and control, but not significantly related to health.

Song, Peige, Chuyun Kang, Evropi Theodoratou, Neneh Rowa-Dewar, Xuebei Liu & Lin An. 2016. Barriers to Hospital Deliveries among Ethnic Minority Women with Religious Beliefs in China: A Descriptive Study Using Interviews and Survey Data. *International Journal of Environmental Research and Public Health* 13(8). doi:10.3390/ijerph13080815.

China has made great progress in improving hospital delivery—the coverage of hospital delivery has increased to above 95% in most regions. Some regions lag behind owing to geographic and economic inequality, particularly the poor ethnic minority areas of the Sichuan Province. This study explores factors which may influence hospital delivery from multiple perspectives, with implications for practice and policy. A framework analysis approach was used to identify and categorize the main barriers and levers to hospital delivery. This analysis draws on basic information from the sampled counties (Butuo and Daofu). The hospital delivery rate was below 50% in the two sampled areas. In both areas, the “New Rural Cooperative Medical Scheme” and “Rural hospital delivery subsidy” were introduced, but only Butuo county had a transportation subsidy policy. Socioeconomically disadvantaged women in both counties who delivered their babies in hospitals could also apply for financial assistance. A lack of transport was among the main reasons for low hospital delivery rates in these two counties. Furthermore, while the hospital delivery costs could be mostly covered by “New Rural Cooperative Medical Scheme” or “Rural Hospital Delivery Subsidy”, reimbursement was not guaranteed. People in Daofu county might be affected by their Buddhism religion for hospital delivery. Women in Butuo following the Animism religion would refuse delivery in hospitals because of language barriers. Traditional lay beliefs were the main factor that influenced hospital delivery; their understandings of reproductive health varied, and many believed that childbirth should not be watched by strangers and that a home delivery was safe. This study has highlighted a number of barriers and levers to hospital delivery in rural poor ethnic minority areas which could inform and improve the access and rate of hospital delivery rate; thereby reducing health inequalities in maternal and child health in China.

Stewart, William C., Kelly E. Reynolds, Lydia J. Jones, Jeanette A. Stewart & Lindsay A. Nelson. 2016. The Source and Impact of Specific Parameters that Enhance Well-Being in Daily Life. *Journal of Religion and Health* 55(4). 1326–1335. doi:10.1007/s10943-015-0076-8.

The purpose of this study was to review four parameters (forgiveness, gratitude, hope and empathy) frequently noted when evaluating well-being. Researchers reviewed clinical studies from 1966 to present. Sixty-three articles were included. All four of the parameters were shown to generally improve an individual's well-being. These parameters demonstrated a positive influence within more specific societal issues including improvement in social relationships, delinquent behavior and physical health. These parameters were generally derived from training and religion. This study suggests that these parameters may improve either one of general well-being, pro-social and positive relational behavior and demonstrate positive health effects.

Tan, Min-Min, Carina K. Y. Chan & Daniel D. Reidpath. 2016. Religiosity, dietary habit, intake of fruit and vegetable, and vegetarian status among Seventh-Day Adventists in West Malaysia. *Journal of Behavioral Medicine* 39(4). 675–686.
doi:10.1007/s10865-016-9736-8.

Religion has been shown to be salutary on health, and a possible link between religion and positive health outcomes is diet. Research has shown that religiosity is associated with better diet but most studies were conducted in a multi-denominational context, which might be confounded with theological differences. This study examined the relationship between religiosity and diet within a homogenous group of believers. Data from survey of 574 Seventh-Day Adventists residing in West Malaysia, aged 18-80, were analyzed using multiple regressions. While none of the religious variables were significantly associated with fruit and vegetable intake, a higher level of religiosity was associated with a better dietary habit and vegetarian status. The mixed relationship between religiosity and diet suggest that further research is needed to explore how religion might influence the diet of adherents.

Trevino, Kelly M., Aanand D. Naik & Jennifer Moye. 2016. Perceived and Actual Change in Religion/Spirituality in Cancer Survivors: Longitudinal Relationships With Distress and Perceived Growth. *Psychology of Religion and Spirituality* 8(3). 195–205.
doi:10.1037/rel0000030.

This observational cohort study examined the relationships between actual and perceived R/S change at 12 months post cancer diagnosis with depression, anxiety, and perceived growth 6 months later. Older adult military veteran cancer survivors (n=111) completed self-report surveys at 6, 12, and 18 months post cancer diagnosis. Perceived R/S change was assessed at 12 months post-diagnosis with “Have your religious or spiritual beliefs changed as a result of your cancer” (more R/S, less R/S, other). Actual R/S change was assessed at 6 and 12 months after diagnosis on a single item, “I have faith in God or a Higher Power” (no, somewhat, yes). A notable minority reported perceived (18.9%) and actual (14.4%) change. Greater perceived R/S change predicted more severe symptoms of depression and anxiety and greater perceived growth at 18 months after diagnosis; perceived growth was positively associated with anxiety. Cancer survivors who report R/S changes may benefit from spiritual and/or psychological support.

Twal, Waleed O., Amy E. Wahlquist & Sundaravadeivel Balasubramanian. 2016. Yogic breathing when compared to attention control reduces the levels of pro-inflammatory biomarkers in saliva: A pilot randomized controlled trial. *BMC Complementary and Alternative Medicine* 16. 294.
doi:10.1186/s12906-016-1286-7.

Self-report measures indicate that Yoga practices are perceived to reduce stress. However, molecular mechanisms through which YB affects stress are just beginning to be understood. While invasive sampling such as blood has been widely used to measure biological indicators such as pro-inflammatory biomarkers, the use of saliva to measure changes in various biomolecules has been increasingly recognized. As Yoga practice stimulates salivary secretion, and saliva is considered a source of biomarkers, changes in salivary cytokines before and after Yogic breathing exercise as specified in an ancient Tamil script, Thirumanthiram, were examined using a Cytokine Multiplex to compare to Attention Control (AC) group. Twenty healthy volunteers were randomized into two groups stratified by gender (n=10 per YB and AC groups). The YB group performed two YB exercises, each for ten minutes, for a total of twenty minutes in a single session as directed by a trained Yoga instructor. The AC group read a text of their choice for 20 min. Saliva was collected immediately after YB training at 0, 5, 10, 15 and 20 min and analyzed by Multiplex enzyme linked immunosorbent assay (ELISA). The levels of interleukin (IL)-1 beta, IL-8, and monocyte chemoattractant protein -1 (MCP-1) were significantly reduced in YB group when compared to AC group. The level of reduction of IL-8 was significant at all time points tested, whereas IL-1 beta showed reduction at 15 and 20 min time points, and MCP-1 level was marginally different at 5-20 min. There were no significant differences between YB and AC groups in the salivary levels of IL-1RA, IL-6, IL-10, IL-17, IP-10, MIP-1b,

and TNF-alpha. These data are the first to demonstrate the feasibility of detecting salivary cytokines using multiplex assay in response to a Yoga practice.

- Valls-Serrano, Carlos, Alfonso Caracuel & Antonio Verdejo-Garcia. 2016. Goal Management Training and Mindfulness Meditation improve executive functions and transfer to ecological tasks of daily life in polysubstance users enrolled in therapeutic community treatment. *Drug and Alcohol Dependence* 165. 9–14.
doi:10.1016/j.drugalcdep.2016.04.040.

The present researchers have previously shown that Goal Management Training + Mindfulness Meditation (GMT+MM) improves executive functions in polysubstance users enrolled in outpatient treatment. The aim of this study was to establish if GMT+MM has similar positive effects on executive functions in polysubstance users in residential treatment, and if executive functions' gains transfer to more ecologically valid goal-oriented tasks. Thirty-two polysubstance users were randomly allocated to eight weeks of GMT+MM (n=16) or control, i.e., no-intervention (n=16); both groups received treatment as usual. Outcome measures included performance in laboratory tasks of basic and complex executive functions (i.e., basic: working memory and inhibition; complex: planning and self-regulation) and in an ecological task of goal-directed behavior (the Multiple Errands Test, contextualized version, MET-CV) measured post-interventions. Results showed that GMT+MM was superior to control in improving basic measures of working memory and reflection impulsivity (Information Sampling Test), along with initial thinking times during planning (Zoo Map Test). In addition, GMT+MM was superior to control in improving performance in the MET-CV. These findings demonstrate that GMT+MM increases reflective processes and the achievement of goals in daily activities, furthermore ecological test can detect changes more easily than laboratory tasks.

- Zgierska, Aleksandra E., Cindy A. Burzinski, Jennifer Cox, John Kloke, Janice Singles, Shilagh Mirgain, Aaron Stegner, Dane B. Cook & Miroslav Bačkonja. 2016. Mindfulness Meditation-Based Intervention Is Feasible, Acceptable, and Safe for Chronic Low Back Pain Requiring Long-Term Daily Opioid Therapy. *Journal of Alternative and Complementary Medicine (New York, N.Y.)* 22(8). 610–620.
doi:10.1089/acm.2015.0314.

Although mindfulness meditation (MM) is increasingly used for chronic pain treatment, limited evidence supports its clinical application for opioid-treated chronic low back pain (CLBP). The goal of this study was to determine feasibility, acceptability, and safety of an MM-based intervention in patients with CLBP requiring daily opioid therapy. A 26-week pilot randomized controlled trial comparing MM-based intervention, combined with usual care, to usual care alone was planned. Patients were adults with CLBP treated with ≥ 30 mg of morphine-equivalent dose (MED) per day for 3 months or longer. Targeted MM-based intervention consisted of eight weekly 2-hour group sessions and home practice (30 minutes/d, 6 days/wk) during the study. "Usual care" for opioid-treated CLBP was provided to participants by their regular clinicians. Feasibility and acceptability of the MM intervention were assessed by adherence to intervention protocol and treatment satisfaction among experimental participants. Safety was evaluated by inquiry about side effects/adverse events and opioid dose among all study participants. Thirty-five participants enrolled during the 10-week recruitment period. The mean age (\pm standard deviation) was 51.8 ± 9.7 years; the patients were predominantly female, with substantial CLBP-related pain and disability, and treated with 148.3 ± 129.2 mg of MED per day. All participants completed baseline assessments; none missed both follow-up assessments or withdrew. Among experimental participants (n=21), 19 attended 1 or more intervention sessions and 14 attended 4 or more. They reported, on average, 164.0 ± 122.1 minutes of formal practice per week during the 26-week study and 103.5 ± 111.5 minutes of brief, informal practice per week. Seventeen patients evaluated the intervention, indicating satisfaction; their qualitative responses described the course as useful for pain management (n=10) and for improving pain coping skills (n=8). No serious adverse events or

safety concerns occurred among the study participants. The authors conclude that MM-based intervention is feasible, acceptable, and safe in opioid-treated CLBP.

2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Achour, Meguellati, Mohd Roslan Mohd Nor & Mohd Yakub Zulkifli MohdYusoff. 2016. Islamic Personal Religiosity as a Moderator of Job Strain and Employee's Well-Being: The Case of Malaysian Academic and Administrative Staff. *Journal of Religion and Health* 55(4). 1300–1311. doi:10.1007/s10943-015-0050-5.

Presently, there is increased in research on job strain and the effects of religiosity on employee well-being. Despite increased recognition of religiosity as a moderator of well-being, limited research has focused on Islamic perspective of moderating job strain. This study examines the moderating effects of Islamic personal religiosity on the relationship between job strain and employee well-being in Malaysian universities. One hundred and seventeen (117) Muslim academic and administrative staff from four public universities were sampled. Data were collected via questionnaires, and our findings show that the effect of job strain on well-being is significant for employees and that personal religiosity of employees contributed to alleviating job strain and enhancing well-being. Thus, the study concludes that Islamic personal religiosity moderates the relationship between job strain and employee well-being.

Aherne, Declan, Katie Farrant, Louise Hickey, Emma Hickey, Lisa McGrath & Deirdre McGrath. 2016. Mindfulness based stress reduction for medical students: Optimising student satisfaction and engagement. *BMC Medical Education* 16. 209. doi:10.1186/s12909-016-0728-8.

Medical practitioners and students are at increased risk of a number of personal and psychological problems. Stress and anxiety due to work-load and study requirements are common and self-care methods are important in maintaining well-being. The current study examines perceptions of and satisfaction ratings with a mindfulness based stress reduction (MBSR) program for 1st year (compulsory) and 2nd year (optional) Graduate Entry Medical School students. A mixed method pre and post study of Year 1 (n=140) and Year 2 (n=88) medical students completing a 7 week MBSR course compared student satisfaction ratings. Thematic analysis of feedback from the students on their perception of the course was also carried out. Year 1 students (compulsory course) were less satisfied with content and learning outcomes than Year 2 students (optional course). Thematic analysis of year 1 student feedback identified themes including great concept, poorly executed; and less discussion, more practice. Year 2 themes included session environment and satisfaction with tutors. The authors conclude that the MBSR course was associated with high levels of satisfaction and positive feedback when delivered on an optional basis. Catering for the individual needs of the participant and promoting a safe environment are core elements of a successful self-care program.

Amirian, Mohammad-Elyas & Masoud Fazilat-Pour. 2016. Simple and Multivariate Relationships Between Spiritual Intelligence with General Health and Happiness. *Journal of Religion and Health* 55(4). 1275–1288. doi:10.1007/s10943-015-0004-y.

The present study examined simple and multivariate relationships of spiritual intelligence with general health and happiness. The employed method was descriptive and correlational. King's Spiritual Quotient scales, GHQ-28 and Oxford Happiness Inventory, are filled out by a sample consisted of 384 students, which were selected using stratified random sampling from the students of Shahid Bahonar University of Kerman. Data are subjected to descriptive and inferential statistics including correlations and multivariate regressions. Bivariate correlations support positive and significant predictive value of spiritual intelligence toward general health and happiness. Further analysis showed that among the Spiritual Intelligence' subscales, Existential Critical Thinking Predicted General Health and Happiness, reverseely. In addition, happiness was positively predicted by generation of personal meaning and

transcendental awareness. The findings are discussed in line with the previous studies and the relevant theoretical background.

- Baldwin, Philip R., Kenia Velasquez, Harold G. Koenig, Ramiro Salas & Peter A. Boelens. 2016. Neural correlates of healing prayers, depression and traumatic memories: A preliminary study. *Complementary Therapies in Medicine* 27. 123–129.
doi:10.1016/j.ctim.2016.07.002.

Depression is a global health concern and when rooted in childhood adversity is particularly difficult to treat. In a previous study, the authors found that healing prayer was effective in reducing depressive symptoms. Subjects suffering with depression according to HAM-D scores underwent task-based brain functional MRI (fMRI) prior to and after a 6-week prayer intervention, and depression symptoms were assessed at both time points and at a 12-month follow-up. Average HAM-D scores decreased from 21.6 ± 3.0 prior to the intervention to 4.0 ± 2.7 immediately afterwards (14 subjects) and remained low (3.7 ± 3.4) at 12-month follow-up (11 subjects). fMRI demonstrated increased activity in the medial prefrontal cortex during focus on the traumatic memory after the prayer intervention. Changes in activity in the left inferior frontal gyrus correlated with improvement in depressive symptoms. Activity in the precuneus region decreased after the prayer intervention when subjects focused on the negative feelings associated with the trauma. The authors conclude that increased activity in the prefrontal cortex after healing prayer may be associated with increased cognitive control over emotions. Healing prayer may help to dissociate the memory of the trauma from feelings associated with it, as evidenced by changes in the precuneus region.

- Batool, Syeda Shahida & Samina Nawaz. 2016. Factors Affecting Disability-Related Depression in Patients with Lost Limbs: A Mediation Model. *Journal of Religion and Health* 55(4). 1381–1393.
doi:10.1007/s10943-015-0098-2.

The objective of the present study was to determine the mediating role of self-efficacy between religiosity, social support, and depression in patients with lost limbs. Researchers sampled 67 male and 33 female disabled patients who had lost limbs in accidents or amputations from four public hospitals in Lahore, Pakistan, and used Religiosity Index (Farooq and Imam), General Self-efficacy Scales (Tabassum et al.), Berlin Social Support Scale (Schwarzer and Schulz), and Siddiqui-Shah Depression Scale, and used a correlation matrix and mediational analyses along with other inferential statistics to develop a model that suggested self-efficacy mediated between religiosity, social support, and depression with negative correlations that partially mediated this relationship. The findings suggest that low level of religiosity, social support, and self-efficacy may play a role in the onset and continuation of depression or its symptoms. The authors found no significant differences in gender, education, and cause of disability in patients with lost limbs. Results have implications for clinical psychologists, counselors, and health psychologists to develop a treatment plan for such patients with depression focusing on the factors implicated above.

- Chan, Kwok-Ying, Vikki Wai-Kee Lau, Ka-Chi Cheung, Richard Shek-Kwan Chang & Man-Lui Chan. 2016. Reduction of psycho-spiritual distress of an elderly with advanced congestive heart failure by life review interview in a palliative care day center. *SAGE Open Medical Case Reports* 4. 2050313X16665998.
doi:10.1177/2050313X16665998.

Major depression is common in patients hospitalized with congestive heart failure and is independently associated with increased re-hospitalization and mortality. Here, researchers report the treatment for an elderly congestive heart failure patient with frequent emergency department visits having major depression and hopelessness. Treatment outcomes measured showed that depressed scores of psychosocial needs were reduced with life review interview therapy in a palliative care day center.

Chan, L. F., B. Mohamad Adam, K. N. Norazlin, M. I. Siti Haida, V. Y. Lee, A. W. Norazura, K. Ek Zakuan & Susan M. K. Tan. 2016. Suicidal ideation among single, pregnant adolescents: The role of sexual and religious knowledge, attitudes and practices. *Journal of Adolescence* 52. 162–169. doi:10.1016/j.adolescence.2016.08.006.

Pregnant adolescents are a high-risk population for suicide. However, a knowledge gap still exists on how sexual and religious knowledge, attitudes and practices (KAP) influence suicidal ideation (SI) in teenage pregnancy. In this study, researchers aim to explore the interplay between psychiatric diagnoses, sociodemographic factors and KAP of sexual and religious issues as risk factors of SI among 114 pregnant Malaysian adolescents from 6 rehabilitation centers and a tertiary hospital. Single sexual partner was an independent predictor of SI, suggesting the role of less sexual experience as a risk factor for SI after controlling for major depression. Participants who were unsure versus those who agreed with the statement that most religions' viewed sex outside marriage as wrong had a lower risk of SI after controlling for major depression. Pregnant adolescents with a single sexual partner were significantly associated with current SI. Ambivalence towards religious prohibitions on premarital sex may protect against suicidal ideation.

Cole-Lewis, Yasmin C., Polly Y. Gipson, Kiel J. Opperman, Alejandra Arango & Cheryl A. King. 2016. Protective Role of Religious Involvement Against Depression and Suicidal Ideation Among Youth with Interpersonal Problems. *Journal of Religion and Health* 55(4). 1172–1188. doi:10.1007/s10943-016-0194-y.

This study examined religious involvement—private religious practices (PRP), organizational religiousness (OR), and religious support (RS)—in relation to depressive symptoms and suicidal ideation (SI) and its protective role, considering youths' school and parent-family connectedness. Youth, ages 12-15 (n=161), were screened for peer victimization, bullying perpetration, and low social connectedness, and assessed for depressive symptoms, SI, school connectedness, parent-family connectedness, and religious involvement. Results indicated that PRP and RS were associated with lower levels of depressive symptoms; PRP and OR were associated with less SI. Controlling for connectedness, PRP remained associated with less SI only. Results suggest the importance of considering religious involvement as a target of youth depression and suicide prevention interventions.

Delgado-Guay, Marvin Omar, Gary Chisholm, Janet Williams, Susan Frisbee-Hume, Andrea O. Ferguson & Eduardo Bruera. 2016. Frequency, intensity, and correlates of spiritual pain in advanced cancer patients assessed in a supportive/palliative care clinic. *Palliative & Supportive Care* 14(4). 341–348. doi:10.1017/S147895151500108X.

Regular assessments of spiritual distress/spiritual pain among patients in a supportive/palliative care clinic (SCPC) are limited or unavailable. Researchers modified the Edmonton Symptom Assessment Scale (ESAS) by adding spiritual pain (SP) to the scale (0 = best, 10 = worst) to determine the frequency, intensity, and correlates of self-reported SP (pain deep in your soul/ being that is not physical) among these advanced cancer patients. The researchers reviewed 292 consecutive consults of advanced cancer patients (ACPs) who were evaluated at a SCPC between October of 2012 and January of 2013. Symptoms were assessed using the new instrument (termed the ESAS-FS). Analysis of data indicated that spiritual pain, which is correlated with physical and psychological distress, was reported in more than 40% of ACPs. Employment of the ESAS-FS allows ACPs with SP to be identified and evaluated in an SCPC.

Grover, Sandeep, Nandita Hazari, Jitender Aneja, Subho Chakrabarti & Ajit Avasthi. 2016. Influence of religion and supernatural beliefs on clinical manifestation and treatment practices in patients with bipolar disorder. *Nordic Journal of Psychiatry* 70(6). 442–449. doi:10.3109/08039488.2016.1151930.

Religious and supernatural beliefs influence help seeking and treatment practices in bipolar disorder, but these are rarely explored by clinicians. This study aimed to understand religiousness, magico-religious beliefs, prevalence of religious and supernatural psychopathology and treatment practices among patients with bipolar disorder in euthymic state. A total of 185 patients of bipolar disorder currently in remission were assessed cross-sectionally for their clinical profile, current clinical status on the Hamilton Depression Rating Scale (HDRS), Young Mania Rating Scale (YMRS) and the Global Assessment of Functioning (GAF). A semi structured instrument for magico-religious beliefs, aetiological models, treatment seeking and treatment practices was administered. More than a third of patients (37.8%) had psychopathology with either religious or supernatural content or both in their lifetime. Almost half (45.4%) the patients believed in a supernatural/religious aetiology for their illness. Among the specific causes, planetary influences (13.5%) and God's will (30.8%) were the most common supernatural and religious cause, respectively. Almost half (44.3%) of patients had first treatment contact with religious/supernatural treatment providers. More than 90% of patients reported belief in God, yet about 70% reported that their doctors did not ask them sufficient questions to understand their religiosity. The authors conclude that magico-religious beliefs are common in bipolar disorder and a large number of patients attribute these as etiological factors for their illness. Consequently, they tend to seek treatment from traditional practitioners prior to approaching medical practitioners and may continue treatment with them alongside medical management.

Henderson, Andrea K. 2016. Jesus didn't teach us to juggle: Religious involvement, work–family conflict, and life satisfaction among African Americans. *Journal of Family Issues* 37(11). 1558–1584. doi:10.1177/0192513X14561520.

Growing research suggests that work/family conflict is harmful to individual well-being. However, few studies have examined this relationship among African Americans, as well as what cultural institutions and practices may help in dealing with the stress of work/family conflict. This study suggests that religion may be an important resource for African Americans in the face of work/family conflict. Using data from the National Survey of Religion and Family Life, a telephone survey of working-age U.S. adults, this study outlines a series of arguments linking work/family conflict, religious involvement, and life satisfaction among African Americans. The results suggest some support for religious involvement in moderating or buffering the harmful effects of work/family conflict on the life satisfaction of African Americans. Study limitations are identified and several promising directions for future research are discussed.

Holland, Karen J., Jerry W. Lee, Helen H. Marshak & Leslie R. Martin. 2016. Spiritual Intimacy, Marital Intimacy, and Physical/Psychological Well-Being: Spiritual Meaning as a Mediator. *Psychology of Religion and Spirituality* 8(3). 218–227. doi:10.1037/rel0000062.

Intimacy is an essential part of marital relationships, spiritual relationships, and is also a factor in well-being, but there is little research simultaneously examining the links among spiritual intimacy, marital intimacy, and well-being. Structural equation modeling was used to examine associations among the latent variables-spiritual intimacy, marital intimacy, spiritual meaning, and well-being-in a cross-sectional study of 5,720 married adults aged 29-100 years. All participants were from the Adventist Health Study-2, Biopsychosocial Religion and Health Study. In the original structural model, all direct associations between the three latent variables of spiritual intimacy, marital intimacy, and well-being were significantly positive indicating that there was a significant relationship among spiritual intimacy, marital intimacy, and well-being. When spiritual meaning was added as a mediating variable, the direct connections of spiritual intimacy to marital intimacy and to well-being became weakly negative. However, the indirect associations of spiritual intimacy with marital intimacy and with well-being were then strongly positive through spiritual meaning. This indicates that the relationship among spiritual intimacy, marital intimacy, and well-being was primarily a result of the meaning that spiritual intimacy brought to one's marriage and well-being, and that without spiritual meaning greater spirituality could negatively influence one's marriage and well-being. These findings

suggest the central place of spiritual meaning in understanding the relationship of spiritual intimacy to marital intimacy and to well-being.

Israel-Cohen, Yael, Oren Kaplan, Smadar Noy & Gabriela Kashy-Rosenbaum. 2016. Religiosity as a Moderator of Self-Efficacy and Social Support in Predicting Traumatic Stress Among Combat Soldiers. *Journal of Religion and Health* 55(4). 1160–1171.

doi:10.1007/s10943-016-0187-x.

Based on a sample of 54 Israeli soldiers (51% non-religious, 49% religious) surveyed upon their return from combat, this study investigates the moderating role of religiosity as a factor that may strengthen cognitive processing tied to the belief in oneself to persevere (i.e., self-efficacy) after trauma and/or as a factor tied to enhanced external social support that religious individuals in particular may benefit from by their involvement in a religious community. Findings revealed (1) social support was tied to greater resilience within the general sample; (2) religious soldiers were less susceptible to traumatic stress than non-religious soldiers; and (3) religiosity moderated the relationship between self-efficacy and traumatic stress but not the relationship between social support and traumatic stress.

Kopacz, Marek, Sybil Morley, Barbara Woźniak, Kelsey Simons, Todd Bishop & C. Vance. 2016. Religious Well-Being and Suicide Ideation in Veterans - An Exploratory Study. *Pastoral Psychology* 65(4). 481–491.

doi:10.1007/s11089-016-0699-z.

Religious well-being is a multi-faceted construct posited as a protective factor against suicidal thoughts and behaviors.

This cross-sectional, exploratory study used religious practice data collected from 5378 U.S. military veterans to create composite measures of private and public religious practice. These composite measures were subsequently used to determine the probability of being identified with a history of suicide ideation. Data analysis was conducted using logistic regression. Veterans with a history of suicide ideation made up 10.2% (n=549) of the sample. Such veterans had significantly lower mean public and private religiosity scores compared to those without ideation. Differences between these two composite measures of religiosity were associated with a higher probability of being identified with a history of suicide ideation. The present study adds to the extant literature by presenting a framework for interpreting religious well-being in the context of religious practice. Quantitative differences in engagement between private and public practices may be indicative of a decreased sense of religious well-being, conferring less protection against suicidal behavior.

LaBarbera, Robin & June Hetzel. 2016. Christian Educators' Use of Prayer to Cope with Stress. *Journal of Religion and Health* 55(4). 1433–1448.

doi:10.1007/s10943-015-0118-2.

Teachers experience significant work-related stress, and research asserts that they show greater mental health symptoms associated with this stress as compared to many other professions. Psychological distress among educators has been reported in the literature to be twice that of the general population. In other lines of research examining religious practices such as prayer, researchers have documented the overall positive impact of prayer on one's mental health. This study identified sources of stress for an international sample of 916 Christian educators, and the use of religious practices such as prayer, to determine whether prayer served as a coping strategy for their work-related stress. A mixed methods approach was used to measure three key variables: sources of stress, spiritual practices, and job satisfaction. Qualitative findings were used to analyze participants' sources of stress, and quantitative findings were used to measure their practice of spiritual disciplines and job satisfaction. A statistically significant relationship was found between frequency of prayer and job satisfaction, providing support for the initial hypothesis.

Lindahl, Eric, Katherine Tilton, Nicole Eickholt & Lisa Ferguson-Stegall. 2016. Yoga reduces perceived stress and exhaustion levels in healthy elderly individuals. *Complementary Therapies in Clinical Practice* 24. 50–56.

doi:10.1016/j.ctcp.2016.05.007.

This study investigated whether a 7-week yoga intervention could improve physical function, perceived stress, and mental/emotional wellness in elderly participants. Eight participants attended 2 60-min Hatha yoga sessions/week for 7 weeks, and performed pre- and post-intervention assessments. Balance was assessed using a 5-test battery. Flexibility was measured by sit-and-reach and shoulder flexibility tests. Functional mobility tests included 8-ft up-and-go, 5 chair stands, and 4-m walk. Participants completed SF-12, exhaustion level, and Perceived Stress Scale (PSS) questionnaires. Following intervention, SF-12 Mental Component Summary scores, exhaustion levels, and PSS scores improved. No differences were found for physical function measures.

Nolan, Caitlin R. 2016. Bending without breaking: A narrative review of trauma-sensitive yoga for women with PTSD. *Complementary Therapies in Clinical Practice* 24. 32–40.

doi:10.1016/j.ctcp.2016.05.006.

The purpose of this review is to evaluate the peer-reviewed empirical evidence on the use of Trauma-Sensitive Yoga (TSY) for the treatment of women with post-traumatic stress disorder (PTSD): specifically, interpersonal trauma such as intimate partner violence. To date, no such review has been conducted. Articles meeting study inclusionary criteria were identified through electronic database searches. A total of five studies (n=5) were selected and reviewed. These studies included two randomized controlled trials (RCT), one follow-up of an RCT, one quasi-experimental study, and one qualitative study. The author finds that there is tentative evidence to support the efficacy of TSY in reducing PTSD, depression, and anxiety symptomatology for women with PTSD; there is also tentative evidence confirming the feasibility of implementing TSY as an adjunctive mental health intervention, particularly for individuals who are non-responsive to cognitive-based psychotherapies. The qualitative findings speak to a number of benefits of yoga practice stimulated by TSY participation centering on the phenomenon of peaceful embodiment.

Shiah, Yung-Jong, Frances Chang, Shih-Kuang Chiang & Wai-Cheong Carl Tam. 2016. Religion and Subjective Well-Being: Western and Eastern Religious Groups Achieved Subjective Well-Being in Different Ways. *Journal of Religion and Health* 55(4). 1263–1269.

doi:10.1007/s10943-014-9905-4.

Culture can moderate which variables most influence subjective well-being (SWB). Because religion can be conceptualized as culture, religious differences can be considered cultural differences. However, there have been few studies comparing how different religious groups evaluate SWB at any given time. This study is among the first to investigate this issue. The present study compared Buddhists, Taoists, Christians, and atheists. In addition to demographic items, 451 Chinese adults completed Chinese version of the Socially Oriented Cultural Conception of SWB Scale. Religious belief was distributed as follows: 10% Christian, 20% Buddhist, 25% Taoist, and 43% atheists. As predicted, the socially oriented cultural conception of SWB was found to be highest among Buddhists, followed in order by Taoists, atheists, and Christians. It was concluded that the various religious groups achieved SWB in different ways.

Shilo, Guy, Ifat Yossef & Riki Savaya. 2016. Religious Coping Strategies and Mental Health Among Religious Jewish Gay and Bisexual Men. *Archives of Sexual Behavior* 45(6). 1551–1561.

doi:10.1007/s10508-015-0567-4.

The present study examined the effects of positive and negative religious coping strategies on the mental health of 113 Israeli gay and bisexual Jewish males with high levels of religiosity, and how sexual identity formation (internalized homophobia and coming out) and societal variables (family and friends' acceptance of sexual orientation and social connections within the LGBT community) mitigated the effects of religious coping strategies on mental health. Findings showed that when dealing with the stress arising from the conflict between religious and sexual identities, individuals used both positive and negative religious coping strategies, but only negative religious coping was associated with poorer mental health. In addition, only in the presence of social resources (social connections with the LGBT

community and the acceptance of sexual orientation by friends), did the use of positive religious coping result in better mental health outcomes. These findings underlined the importance of these resilience social factors in the lives of religious Jewish gay and bisexual men.

- Song, Jun-Mi, Jung-Ah Min, Hyu-Jung Huh & Jeong-Ho Chae. 2016. Types of childhood trauma and spirituality in adult patients with depressive disorders. *Comprehensive Psychiatry* 69. 11–19.
doi:10.1016/j.comppsy.2016.04.003.

The aim of this study was to investigate the differences in spirituality among adult patients with depressive disorders, who had suffered various types of abuse or neglect in childhood. A total of 305 outpatients diagnosed with depressive disorders completed questionnaires on socio-demographic variables, childhood trauma history, and spirituality. Researchers used the Childhood Trauma Questionnaire-Short Form (CTQ-SF) to measure five different types of childhood trauma (emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect) and the Functional Assessment of Chronic Illness Therapy-Spiritual Well-being Scale (FACIT-Sp-12) to assess spirituality. Depressive symptoms and total CTQ-SF scores showed a negative correlation with spirituality. In the regression model, being older and belonging to a religion significantly predicted greater spirituality. Depressive symptoms significantly predicted lower spirituality. From among the five types of childhood trauma assessed by the CTQ-SF, only emotional neglect significantly predicted lower spirituality. The authors conclude that a history of childhood emotional neglect was significantly related to lower spirituality, especially in the case of the Meaning aspect of spirituality. This finding suggests the potential harmful influence of childhood emotional neglect on the development of spirituality in psychiatric patients. Investigating different aspects of childhood trauma might be important in order to develop a more comprehensive psychiatric intervention that aids in the development of spirituality.

- Souza Cavalcante, Ricardo de, Vanessa Burgugi Banin, Niura Aparecida de Moura Ribeiro Paula, Solange Ramires Daher, Marta Cassoni Habermann, Francisco Habermann, Ariane Moyses Bravin, Carlos Eduardo Capelasso da Silva & Luis Gustavo Modelli de Andrade. 2016. Effect of the Spiritist “passe” energy therapy in reducing anxiety in volunteers: A randomized controlled trial. *Complementary Therapies in Medicine* 27. 18–24.
doi:10.1016/j.ctim.2016.05.002.

In Brazil, one of the most used energy therapies is the Spiritist “passe”, which is practiced by Spiritist healers. Although experimental studies have demonstrated the effectiveness of different energy therapies in reducing anxiety and pain, little is known about the effect of the Spiritist “passe” on health outcomes. Therefore, the present study aimed at evaluating the effectiveness of “passe” energy therapy in reducing anxiety symptoms. In this prospective, randomized controlled trial, participants were randomly allocated into two groups: Intervention (8 weekly Spiritist “passe” sessions, n=23), and Control (8 weekly sham Spiritist “passe” sessions, n=27). Anxiety was assessed using the Trait Anxiety Inventory (STAI-trait). Of 97 individuals screened, 50 were included in the final analysis. Decreasing STAI-trait anxiety scores were observed in both groups throughout the study. By the end of the study, 17% and 63% of intervention and control participants, respectively, still met the criterion for anxiety. However, anxiety reduction was more accentuated in the Spiritist “passe” group.

- Toussaint, Loren, Shanmukh Kamble, Justin C. Marschall & Deepti B. Duggi. 2016. The effects of brief prayer on the experience of forgiveness: An American and Indian comparison. *International Journal of Psychology: Journal International De Psychologie* 51(4). 288–295.
doi:10.1002/ijop.12139.

The present study offers a cross-cultural examination of the effect of prayer on forgiveness. American (n=51) and Indian (n=100) participants either prayed for their romantic partner (prayer condition) or described their romantic partner’s physical attributes (control condition). Prayers were self-guided and lasted 3 minutes. Pre-test and post-test measures of retaliation were completed. Results showed that participants in the prayer group showed statistically significant decreases in retaliation motives from pre-test to post-test and the magnitude of this change was not different

across cultures. Control groups in both cultures showed no change. Because of the religious diversity present in the Indian sample, the robustness of the effect of prayer on forgiveness was tested across Christian, Hindu and Muslim Indians. Religious affiliation did not moderate the effect of prayer on forgiveness in this sample. Results suggest that a brief prayer is capable of producing real change in forgiveness and this change is consistent across American and Indian cultures and across three different religious groups in India. Brief prayer for others that enhances forgiveness may be useful for individuals in close relationships, in certain counselling settings and for people in many different walks of life.

VanderWeele, Tyler J., Shanshan Li, Alexander C. Tsai & Ichiro Kawachi. 2016. Association Between Religious Service Attendance and Lower Suicide Rates Among US Women. *JAMA Psychiatry* 73(8). 845–851.
doi:10.1001/jamapsychiatry.2016.1243.

Previous studies have linked suicide risk with religious participation, but the majority have used ecologic, cross-sectional, or case-control data. To examine the longitudinal association between religious service attendance and suicide and the joint associations of suicide with service attendance and religious affiliation. Researchers evaluated associations between religious service attendance and suicide from 1996 through June 2010 in a large, long-term prospective cohort, the Nurses' Health Study, in an analysis that included 89,708 women. Religious service attendance was self-reported in 1992 and 1996. Data analysis was conducted from 1996 through 2010. Cox proportional hazards regression models were used to examine the association between religious service attendance and suicide, adjusting for demographic covariates, lifestyle factors, medical history, depressive symptoms, and social integration measures. Researchers performed sensitivity analyses to examine the influence of unmeasured confounding. Among 89,708 women aged 30 to 55 years who participated in the Nurses' Health Study, attendance at religious services once per week or more was associated with an approximately 5-fold lower rate of suicide compared with never attending religious services. Service attendance once or more per week vs less frequent attendance was associated with a hazard ratio of 0.05 for Catholics but only 0.34 for Protestants. Results were robust in sensitivity analysis and to exclusions of persons who were previously depressed or had a history of cancer or cardiovascular disease. There was evidence that social integration, depressive symptoms, and alcohol consumption partially mediated the association among those occasionally attending services, but not for those attending frequently.

Wahbeh, Helané & Barry S. Oken. 2016. Internet Mindfulness Meditation Intervention for the General Public: Pilot Randomized Controlled Trial. *JMIR Mental Health* 3(3). e37.
doi:10.2196/mental.5900.

Mindfulness meditation interventions improve a variety of health conditions and quality of life, are inexpensive, easy to implement, have minimal if any side effects, and engage patients to take an active role in their treatment. However, the group format can be an obstacle for many to take structured meditation programs. Internet Mindfulness Meditation Intervention (IMMI) is a program that could make mindfulness meditation accessible to all people who want and need to receive it. However, the feasibility, acceptability, and ability of IMMI to increase meditation practice have yet to be evaluated. The primary objectives of this pilot randomized controlled study were to (1) evaluate the feasibility and acceptability of IMMIs in the general population and (2) to evaluate IMMI's ability to change meditation practice behavior. The secondary objective was to collect preliminary data on health outcomes. Potential participants were recruited from online and offline sources. In a randomized controlled trial, participants were allocated to IMMI or Access to Guided Meditation arm. IMMI included a 1-hour Web-based training session weekly for 6 weeks along with daily home practice guided meditations between sessions. The Access to Guided Meditation arm included a handout on mindfulness meditation and access to the same guided meditation practices that the IMMI participants received, but not the 1-hour Web-based training sessions. The study activities occurred through the participants' own computer and Internet connection and with research-assistant telephone and email contact. Feasibility and acceptability were measured with enrollment and completion rates and participant satisfaction. The ability of IMMI to modify behavior and increase meditation practice was measured by objective

adherence of daily meditation practice via Web-based forms. Self-report questionnaires of quality of life, self-efficacy, depression symptoms, sleep disturbance, perceived stress, and mindfulness were completed before and after the intervention period via Web-based surveys. Researchers enrolled 44 adults were enrolled and 31 adults completed all study activities. There were no group differences on demographics or important variables at baseline. Participants rated the IMMI arm higher than the Access to Guided Meditation arm on Client Satisfaction Questionnaire. IMMI was able to increase home practice behavior significantly compared to the Access to Guided Meditation arm: days practiced, total minutes, and average minutes. As expected, there were no significant differences on health outcomes. In conclusion, IMMI was found to be feasible and acceptable. The IMMI arm had increased daily meditation practice compared with the Access to Guided Meditation control group. More interaction through staff and/or through built-in email or text reminders may increase daily practice even more. Future studies will examine IMMI's efficacy at improving health outcomes in the general population and also compare it directly to the well-studied mindfulness-based group interventions to evaluate relative efficacy.

Wirth, Anne-Gritli & Arndt Büssing. 2016. Utilized Resources of Hope, Orientation, and Inspiration in Life of Persons with Multiple Sclerosis and Their Association with Life Satisfaction, Adaptive Coping Strategies, and Spirituality. *Journal of Religion and Health* 55(4). 1359–1380.
doi:10.1007/s10943-015-0089-3.

In a cross-sectional survey among 213 patients with multiple sclerosis, researchers intended to analyze their resources of hope, orientation, and inspiration in life, and how these resources are related to health-associated variables, adaptive coping strategies, and life satisfaction. Resources were categorized as Faith (10%), Family (22%), Other sources (16%), and No answer (53%). These non-respondents were predominantly neither religious nor spiritual (70% R-S-). Although R-S- persons are a heterogeneous group with varying existential interest, they did not significantly differ from their spiritual/religious counterparts with respect to physical and mental health or life satisfaction, but for an adaptive Reappraisal strategy and Gratitude/Awe.

2.3 SPIRITUALITY & HEALTH: METHOD AND THEORY

Al Turki, Yousef Abdullah. 2016. Mass Gathering Medicine New discipline to Deal with Epidemic and Infectious Diseases in the Hajj Among Muslim Pilgrimage: A Mini Review Article. *Journal of Religion and Health* 55(4). 1270–1274.
doi:10.1007/s10943-014-9970-8.

Mass Gathering Medicine is one of the new disciplines in medicine. It deals with all health aspects in overcrowded areas. Mass Gathering Medicine is an important new challenging discipline which needs to be supported by all concerned experts such as the World Health Organization, Centers for Disease Control and Prevention, ministries of health from all countries, universities, research centers, and all other experts in this field. Scientists and academic staffs from all countries should be encouraged to participate in narrowing the gap of knowledge for Mass Gathering Medicine. Postgraduate board or fellowship certificate should be encouraged internationally.

Alishahi Tabriz, Amir, Hossein Dabbagh & Harold G. Koenig. 2016. Medical Ethics in Qisas (Eye-for-an-Eye) Punishment: An Islamic View; an Examination of Acid Throwing. *Journal of Religion and Health* 55(4). 1426–1432.
doi:10.1007/s10943-015-0120-8.

Physicians in Islamic countries might be requested to participate in the Islamic legal code of qisas, in which the victim or family has the right to an eye-for-an-eye retaliation. Qisas is only used as a punishment in the case of murder or intentional physical injury. In situations such as throwing acid, the national legal system of some Islamic countries asks for assistance from physicians, because the punishment should be identical to the crime. The perpetrator could not be punished without a physician's participation, because there is no way to guarantee that the sentence would be carried out without inflicting more injury than the initial victim had suffered. By examining two cases of acid

throwing, this paper discusses issues related to physicians' participation in qisas from the perspective of medical ethics and Islamic Shari'a law. From the standpoint of medical ethics, physicians' participation in qisas is not appropriate. First, qisas is in sharp contrast to the Hippocratic Oath and other codes of medical ethics. Second, by physicians' participation in qisas, medical practices are being used improperly to carry out government mandates. Third, physician participation in activities that cause intentional harm to people destroys the trust between patients and physicians and may adversely affect the patient-physician relationship more generally. From the standpoint of Shari'a, there is no consensus among Muslim scholars whether qisas should be performed on every occasion. The authors argue that disallowing physician involvement in qisas is necessary from the perspectives of both medical ethics and Shari'a law.

Baldacchino, Jean-Paul. 2016. Visions or hallucinations? Lacan on mysticism and psychosis reconsidered: The case of St George of Malta. *British Journal of Psychotherapy* 32(3). 392–414.
doi:10.1111/bjp.12230.

Mysticism has long featured in discussions among psychoanalysts and mental health practitioners, anthropologists and scholars of religion. In this paper the author analyzes the life and visions of a twentieth century mystic in the Catholic Mediterranean. Through this case study the author seeks to compare the psychoanalytic and to a lesser extent the psychiatric discussions of "hallucinations" with the theological explanations of visions. Via a Lacanian discussion of the case of the first Maltese saint it is argued that there are interesting points of convergence between the two. An adequate understanding of the cultural context within which visions are articulated as meaningful experiences is essential to an understanding and clinical treatment of people presenting symptoms associated with religious content. A psychoanalytical understanding can serve to enrich and enliven theological discussions on madness as a path to sanctity.

Berning, Joel N., Armeen D. Poor, Sarah M. Buckley, Komal R. Patel, David J. Lederer, Nathan E. Goldstein, Daniel Brodie & Matthew R. Baldwin. 2016. A Novel Picture Guide to Improve Spiritual Care and Reduce Anxiety in Mechanically Ventilated Adults in the Intensive Care Unit. *Annals of the American Thoracic Society* 13(8). 1333–1342.
doi:10.1513/AnnalsATS.201512-831OC.

Hospital chaplains provide spiritual care that helps patients facing serious illness cope with their symptoms and prognosis, yet because mechanically ventilated patients cannot speak, spiritual care of these patients has been limited. To determine the feasibility and measure the effects of chaplain-led picture-guided spiritual care for mechanically ventilated adults in the intensive care unit (ICU). Researchers conducted a quasi-experimental study at a tertiary care hospital between March 2014 and July 2015. Fifty mechanically ventilated adults in medical or surgical ICUs without delirium or dementia received spiritual care by a hospital chaplain using an illustrated communication card to assess their spiritual affiliations, emotions, and needs and were followed until hospital discharge. Feasibility was assessed as the proportion of participants able to identify spiritual affiliations, emotions, and needs using the card. Among the first 25 participants, researchers performed semi-structured interviews with 8 ICU survivors to identify how spiritual care helped them. For the subsequent 25 participants, the researchers measured anxiety (on 100-mm visual analog scales [VAS]) immediately before and after the first chaplain visit, and then performed semi-structured interviews with 18 ICU survivors with added measurements of pain and stress (on \pm 100-mm VAS). Anxiety after the first visit decreased 31%. Among 28 ICU survivors, 26 (93%) remembered the intervention and underwent semi-structured interviews, of whom 81% felt more capable of dealing with their hospitalization and 0% felt worse. The 18 ICU survivors who underwent additional VAS testing during semi-structured follow-up interviews reported a 49-point reduction in stress and no significant change in physical pain that they attributed to picture-guided spiritual care.

Best, Megan, Phyllis Butow & Ian Olver. 2016. Palliative care specialists' beliefs about spiritual care. *Supportive Care in Cancer* 24(8). 3295–3306.

doi:10.1007/s00520-016-3135-0.

A previous survey of the Multinational Association of Supportive Care in Cancer (MASCC) members found low frequency of spiritual care provision. Researchers hypothesized that physicians with special training in palliative medicine would demonstrate an increased sense of responsibility for and higher self-reported adequacy to provide spiritual care to patients than health professionals with general training. The researchers surveyed members of the Australian and New Zealand Palliative Medicine Society (ANZSPM) to ascertain their spiritual care practices. The research team sent 445 e-mails on four occasions, inviting members to complete the online survey. Tabulated results were analyzed to describe the results. One hundred and fifty-eight members (35.5%) responded. Physicians working primarily in palliative care comprised the majority (95%) of the sample. Significantly more of the ANZSPM than MASCC respondents had previously received training in spiritual care and had pursued training in the previous 2 years. There was a significant difference between the two groups with regard to interest in and self-reported ability to provide spiritual care. Those who believed it was their responsibility to provide spiritual care were more likely to have had training, feel they could adequately provide spiritual care, and were more likely to refer patients if they could not provide spiritual care themselves.

Brelsford, Gina M., Joshua Ramirez, Kristin Veneman & Kim K. Doheny. 2016. Sacred Spaces: Religious and Secular Coping and Family Relationships in the Neonatal Intensive Care Unit. *Advances in Neonatal Care: Official Journal of the National Association of Neonatal Nurses* 16(4). 315–322. doi:10.1097/ANC.0000000000000263.

Preterm birth is an unanticipated and stressful event for parents. In addition, the unfamiliar setting of the intensive care nursery necessitates strategies for coping. The primary study objective of this descriptive study was to determine whether secular and religious coping strategies were related to family functioning in the neonatal intensive care unit. Fifty-two parents of preterm (25-35 weeks' gestation) infants completed the Brief COPE (secular coping), the Brief RCOPE (religious coping), and the Family Environment Scale within 1 week of their infant's hospital admission. This descriptive study found that parents' religious and secular coping was significant in relation to family relationship functioning. Specifically, negative religious coping (i.e., feeling abandoned or angry at God) was related to poorer family cohesion and use of denial.

Carey, Lindsay B., Timothy J. Hodgson, Lillian Krikheli, Rachel Y. Soh, Annie-Rose Armour, Taranjeet K. Singh & Cassandra G. Impiombato. 2016. Moral Injury, Spiritual Care and the Role of Chaplains: An Exploratory Scoping Review of Literature and Resources. *Journal of Religion and Health* 55(4). 1218–1245. doi:10.1007/s10943-016-0231-x.

This scoping review considered the role of chaplains with regard to “moral injury.” Moral injury is gaining increasing notoriety. This is due to greater recognition that trauma (in its various forms) can cause much deeper inflictions and afflictions than just physiological or psychological harm, for there may also be wounds affecting the ‘soul’ that are far more difficult to heal, if at all. As part of a larger research program exploring moral injury, a scoping review of literature and other resources was implemented utilizing Arksey and O'Malley's scoping method to focus upon moral injury, spirituality (including religion) and chaplaincy. Of the total number of articles and/or resources noting the term “moral injury” in relation to spiritual/religious issues (n=482), the results revealed 60 resources that specifically noted moral injury and chaplains (or other similar bestowed title). The majority of these resources were clearly positive about the role (or the potential role) of chaplains with regard to mental health issues and/or moral injury. The World Health Organization International Classification of Diseases: Australian Modification of Health Interventions to the International Statistical Classification of Diseases and related Health problems, was utilized as a coding framework to classify and identify distinct chaplaincy roles and interventions with regard to assisting people with moral injury. Several recommendations are made concerning moral injury and chaplaincy, most particularly the need for greater research to be conducted.

- Derose, Kathryn P., Beth Ann Griffin, David E. Kanouse, Laura M. Bogart, Malcolm V. Williams, Ann C. Haas, Karen R. Flórez, et al. 2016. Effects of a pilot church-based intervention to reduce HIV stigma and promote HIV testing among African Americans and Latinos. *AIDS and Behavior* 20(8). 1692–1705.
doi:10.1007/s10461-015-1280-y.

HIV-related stigma and mistrust contribute to HIV disparities. Addressing stigma with faith partners may be effective, but few church-based stigma reduction interventions have been tested. Researchers implemented a pilot intervention with 3 Latino and 2 African American churches (4 in matched pairs) in high HIV prevalence areas of Los Angeles County to reduce HIV stigma and mistrust and increase HIV testing. The intervention included HIV education and peer leader workshops, pastor-delivered sermons on HIV with imagined contact scenarios, and HIV testing events. Researchers surveyed congregants at baseline and 6-month follow-up (n=1235) and found statistically significant reductions in HIV stigma and mistrust in the Latino intervention churches but not in the African American intervention church nor overall across matched African American and Latino pairs. However, within matched pairs, intervention churches had much higher rates of HIV testing. Stigma reduction and HIV testing may have synergistic effects in community settings.

- Edara, Inna. 2016. Differentiating Among Three Catholic Groups in the United States: The Role of Ethnic-Cultural and Religious-Spiritual Variables. *Pastoral Psychology* 65(4). 443–457.
doi:10.1007/s11089-016-0702-8.

Catholic demographics in the United States have been shifting rapidly to such an extent that more than one third of Catholic parishes have become “multicultural.” Such a shift poses the challenge of maintaining the universal trait of the Catholic Church while adapting to the changes brought in by cultural diversity. In order to validate and further expand on the need to face and adapt to the diversity within the Catholic Church in the United States, this project examined the role of selected ethnic, cultural, religious, and spiritual variables in differentiating among three Catholic groups of European Americans, Asian Indian Americans, and Taiwanese Americans. Multivariate analysis for group differences indicated that the European Americans had higher scores on spiritual transcendence and individualism, and lower scores on exploration and resolution of ethnic identity. Taiwanese Americans scored high on collectivism. Asian Indian Americans scored lower on religious motivation than the European and Taiwanese Americans. Discriminant function analysis resulted in two discriminant functions. The first one discriminated European Americans from the other two groups, with the universality facet of spiritual transcendence and the affirmation of ethnic identity emerging as the significant contributors to the discrimination. The second function discriminated between Taiwanese American and Asian Indian American Catholics, with collectivism and religious motivation emerging as the significant contributors. These significant results, their implications for Catholic parishes, and directions for future research are discussed.

- Eleuteri, Stefano & Carla Farulla. 2016. Sexual counselling with Catholics: How to cope with sexual issues with Catholic clients? *Sexual & Relationship Therapy* 31(3). 289–300.
doi:10.1080/14681994.2016.1192595.

Sexual health is an integral part of the multifaceted human experience that is driven both by biological factors and psychological facets. Sociocultural aspects including religious beliefs can influence sexual mores and how one perceives oneself as a sexual being. The authors present some of the key tenets of Catholicism that are relevant for the sexual health professional, concentrating on the most important issues focused in the literature as interesting for the influence that religious beliefs have on sexual health. Counselling about chastity, contraception usage and HIV/STIs risk, homosexuality and homophobia, and sexual therapy will be discussed in their correlation with the Catholic doctrine. The literature analysis shows that when working with clients facing tensions and conflicts between sexual and religious identity development, counselors should view their work as aiding them in finding points of connection between religious and sexual identities. Professionals should use all available resources to learn about the beliefs and

religious practices of their patients. An attempt to understand the personal belief system is critical for overall success in the sexual health treatment paradigm. Clinicians need to be sensitive to the members' attachment to Catholicism or other religions and potential need community for social support and spiritual guidance.

- Ferrell, Betty, Elaine Wittenberg, Vanessa Battista & Gay Walker. 2016. Exploring the spiritual needs of families with seriously ill children. *International Journal of Palliative Nursing* 22(8). 388–394. doi:10.12968/ijpn.2016.22.8.388.

Although researchers know that families of seriously ill children experience spiritual distress, especially at the end of the child's life, there is little information on the specific spiritual needs of families. In order to develop further training for nurses in pediatrics and help nurses develop skills for communicating about spirituality, this research examined the spiritual needs of families based on nurses' experiences with families of seriously ill children. Nurses' experiences revealed that families' anger with God, blame/regret, forgiveness, and ritual and cultural traditions are salient spiritual needs requiring effective nurse communication skills to support families of ill children.

- Francoeur, Richard B., Nancy Burke & Alicia M. Wilson. 2016. The Role of Social Workers in Spiritual Care to Facilitate Coping With Chronic Illness and Self-Determination in Advance Care Planning. *Social Work in Public Health* 31(5). 453–466. doi:10.1080/19371918.2016.1146199.

Spiritual values and beliefs of patients and families influence resilience during chronic illness and shape patient choices during advance care planning. The spiritual needs of Baby Boomers will be more diverse than previous generations, in connection with the questioning, experimental mind-set of this group and the fact that it includes a higher proportion of immigrant populations outside the Judeo-Christian tradition. Social workers are trained explicitly to intervene with diverse populations and are well positioned to offer spiritual support in ways that do not necessarily conform to traditional religions. To the extent of their individual expertise and competence, social workers should assess and provide spiritual care to clients, including those who either are underserved or prefer not to seek assistance from clergy or chaplains because they feel alienated from religious institutions and representatives. They should also be aware of ethical dilemmas in consulting with spiritual care professionals in developing spiritual interventions. Social work education should address clients' humanistic and existential concerns, beliefs and behaviors of the major religions, and forms of nontraditional religious and spiritual experiences; it should also provide experiential opportunities for engaging with grief and earlier advance care planning. There should be attention to different theological perspectives of the major religions regarding the problem of good and evil, which may preoccupy even clients who no longer participate in organized religion, because these unresolved existential issues may weaken client coping with chronic conditions and may diminish clarity and self-awareness for engaging authentically and effectively in advance care planning.

- Gaidry, Alicia D. & Paul J. Hoehner. 2016. Pilot Study: The Role of Predeployment Ethics Training, Professional Ethics, and Religious Values on Naval Physicians' Ethical Decision Making. *Military Medicine* 181(8). 786–792. doi:10.7205/MILMED-D-15-00104.

Military physicians serving overseas in cross-cultural settings face the challenge of meeting patients' needs and adhering to their personal and professional ethics while abiding by military obligations and duties. Pre-deployment ethics training for Naval physicians continues to be received in many forms, if received at all, and has largely not addressed their specific roles as medical providers in the military. This study explores the perceived effectiveness of pre-deployment ethics training received by Naval physicians. Additionally, it considers the contribution of different types of ethics training, religious values, and the professional ethics on Naval physicians' perceived ability to effectively manage ethically challenging scenarios while on deployment. A total of 49 Naval physicians participated in an online survey. 16.3% reported not receiving any form of ethics training before deployment. Of those that reported receiving ethics training before deployment, 92.7% found the ethics training received was helpful in some way while

on deployment. While a medical school course was most contributory overall to their ability to handle ethically difficult situations while on deployment (70.7%), what most Naval physicians felt would help them better handle these types of situations would be a mandatory military training/ military course (63.2%) or personal mentorship (57.9%).

Harmon, Brook E., Marci Chock, Elizabeth Brantley, Michael D. Wirth & James R. Hébert. 2016. Disease Messaging in Churches: Implications for Health in African-American Communities. *Journal of Religion and Health* 55(4). 1411–1425.
doi:10.1007/s10943-015-0109-3.

Using the right messaging strategies, churches can help promote behavior change. Frequencies of disease-specific messages in 21 African-American churches were compared to overall and cancer-specific mortality and morbidity rates as well as church-level variables. Disease messages were found in 1025 of 2166 items. Frequently referenced topics included cancer (n=316), mental health conditions (n=253), heart disease (n=246), and infectious diseases (n=220). Messages for lung and colorectal cancers appeared at low frequency despite high mortality rates in African-American communities. Season, church size, and denomination showed significant associations with health messages. Next steps include testing messaging strategies aimed at improving the health of churchgoing communities.

Heiney, Sue P., Mary Gullatte, Pearman D. Hayne, Barbara Powe & Brian Habing. 2016. Fatalism Revisited: Further Psychometric Testing Across Two Studies. *Journal of Religion and Health* 55(4). 1472–1481.
doi:10.1007/s10943-015-0159-6.

Cancer fatalism may impact outcomes, particularly for African American (AA) women with breast cancer (BrCa). Researchers examined the psychometrics of the modified Powe Fatalism Inventory in sample of AA women with BrCa from two studies. Only the predetermination and God's will items satisfy the conditions to be classified as a strong subscale. The present analysis identified that five items had strong psychometric properties for measuring fatalism for AA women with BrCa. However, these items do not include all the defining attributes of fatalism. A strong measure of fatalism strengthens our understanding of how this concept influences AA patient outcomes.

Jones, Nev, Timothy Kelly & Mona Shattell. 2016. God in the brain: Experiencing psychosis in the postsecular United States. *Transcultural Psychiatry* 53(4). 488–505.
doi:10.1177/1363461516660902.

There is a growing literature on what contemporary cultural theorists have broadly termed the “postsecular”: the abandonment of clear-cut boundaries between the secular and nonsecular in the industrialized West and an embrace of a complex understanding of what is real that neither accepts nor rejects the supernatural. These new cultural currents may affect not only philosophers and theologians, but also the ways in which individuals with psychosis make sense of their experiences. This paper reports on the key findings of an in-depth qualitative analysis of 19 interviews of individuals diagnosed with psychotic disorders. The majority of participants described ongoing and self-conscious struggles to demarcate their experiences as the products of the real world or a “crazy” mind. With equal frequency, participants weighed and debated competing secular and supernatural explanations, often juxtaposing and blending different explanatory frameworks. Researchers found that this syncretic process affected not only the content of psychotic experiences-what delusions or hallucinations are about-but also the type of arguments or logics used to justify particular interpretations. The authors discuss the implications of these observations with respect to clinical practice and the broader phenomenology of psychosis, challenging often oversimplified discourse on “insight” and suggesting that polarization(s) between “biomedical” and “psychosocial” explanations may be of less relevance to patients’ real-world experiences than is often assumed.

Kim, Chae Young. 2016. Carl Gustav Jung and Granville Stanley Hall on Religious Experience. *Journal of Religion and Health* 55(4). 1246–1260.
doi:10.1007/s10943-016-0237-4.

Granville Stanley Hall (1844-1924) with William James (1842-1910) is the key founder of psychology of religion movement and the first American experimental or genetic psychologist, and Carl Gustav Jung (1875-1961) is the founder of the analytical psychology concerned sympathetically about the religious dimension rooted in the human subject. Their fundamental works are mutually connected. Among other things, both Hall and Jung were deeply interested in how the study of religious experience is indispensable for the depth understanding of human subject. Nevertheless, except for the slight indication, this common interest between them has not yet been examined in academic research paper. So this paper aims to articulate preliminary evidence of affinities focusing on the locus and its function of the inner deep psychic dimension as the religious in the work of Hall and Jung.

Kopacz, Marek S., Bruce D. Feldstein, Cecille Allman Asekoff, Maurice S. Kaprow, Rebecca Smith-Coggins & Kathy A. Rasmussen. 2016. How Involved are Non-VA Chaplains in Supporting Veterans? *Journal of Religion and Health* 55(4). 1206–1214.
doi:10.1007/s10943-016-0223-x.

In terms of supporting veteran populations, little is known of the experiences of chaplains professionally active outside of Department of Veterans Affairs (VA) healthcare settings. The present study looks to examine how involved non-VA chaplains are in supporting veterans as well as their familiarity with the VA. An online survey was distributed in a convenience sample of chaplains, of which 39 met the inclusion criterion for this study (i.e., no past or present VA affiliation). The results find that most of the non-VA chaplains encounter veteran service users either on a weekly or monthly basis. Though familiar with VA services, non-VA chaplains were not sure of their veteran service users' VA enrollment status nor did they feel able to adequately advise their veteran service users on VA enrollment. The results suggest that non-VA chaplains actively support veteran populations. Opportunities for enhancing chaplaincy services and VA outreach programs are discussed.

Köteles, Ferenc, Péter Simor, Márton Czető, Noémi Sárog & Renáta Szemerszky. 2016. Modern health worries - the dark side of spirituality? *Scandinavian Journal of Psychology* 57(4). 313–320.
doi:10.1111/sjop.12297.

Modern health worries (MHWs) are widespread in modern societies. MHWs were connected to both negative and positive psychological characteristics in previous studies. The study aimed to investigate the relationships among intuitive-experiential information processing style, spirituality, MHWs, and psychological well-being. Members of the Hungarian Skeptic Society (n=128), individuals committed to astrology (n=601), and people from a non-representative community sample (n=554) completed questionnaires assessing intuitive-experiential information processing style, spirituality, modern health worries (MHWs), and psychological well-being. Astrologers showed higher levels of spirituality, intuitive-experiential thinking, and modern health worries than individuals from the community sample; and skeptics scored even lower than the latter group with respect to all three constructs. Within the community sample, medium level connections between measures of spirituality and the experiential thinking style, and weak to medium level correlations between spirituality and MHWs were found. The connection between MHWs and experiential thinking style was completely mediated by spirituality. Individuals with higher levels of spirituality are particularly vulnerable to overgeneralized messages on health related risks. Official communication of potential risks based on rational scientific reasoning is not appropriate to persuade them as it has no impact on the intuitive-experiential system.

Levin, Jeff. 2016. Prevalence and Religious Predictors of Healing Prayer Use in the USA: Findings from the Baylor Religion Survey. *Journal of Religion and Health* 55(4). 1136–1158.
doi:10.1007/s10943-016-0240-9.

Using data from the 2010 Baylor Religion Survey (n=1,714), this study investigates the prevalence and religious predictors of healing prayer use among US adults. Indicators include prayed for self (lifetime prevalence = 78.8%), prayed for others (87.4%), asked for prayer (54.1%), laying-on-of-hands (26.1%), and participated in a prayer group (53.0%). Each was regressed onto eight religious measures, and then again controlling for sociodemographic

variables and health. While all religious measures had net effects on at least one healing prayer indicator, the one consistent predictor was a four-item scale assessing a loving relationship with God. Higher scores were associated with more frequent healing prayer use according to every measure, after controlling for all other religious variables and covariates.

- Lumpkins, Crystal Y., Priya Vanchy, Tamara A. Baker, Christine Daley, Florence Ndikum-Moffer & K. Allen Greiner. 2016. Marketing a Healthy Mind, Body, and Soul: An Analysis of How African American Men View the Church as a Social Marketer and Health Promoter of Colorectal Cancer Risk and Prevention. *Health Education & Behavior* 43(4). 452–460.
doi:10.1177/1090198115604615.

The Centers for Disease Control and Prevention ranks colorectal cancer (CRC) as the third most commonly diagnosed cancer among men in the United States; African American (AA) men are at even greater risk. The present study was from a larger study that investigates the church's role as a social marketer of CRC risk and prevention messages, and whether religiously targeted and tailored health promotion materials will influence screening outcome. The authors used an integrated theoretical approach to explore participants' perceptions of CRC risk and prevention and how promotion messages should be developed and socially marketed by the church. Six focus groups were conducted with men from predominately AA churches in the Midwest. Themes from focus group discussions showed participants lacked knowledge about CRC, feared cancer diagnosis, and feared the procedure for screening. Roles of masculinity and the mistrust of physicians were also emergent themes. Participants did perceive the church as a trusted marketer of CRC but believed that promotional materials should be co-sponsored and co-developed by reputable health organizations. Employing the church as a social marketer of CRC screening promotion materials may be useful in guiding health promotions and addressing barriers that are distinct among African American men.

- Marconi, Anna, Gaia Gragnano, Christian Lunetta, Ramona Gatto, Viviana Fabiani, Aurora Tagliaferri, Gabriella Rossi, Valeria Sansone & Francesco Pagnini. 2016. The experience of meditation for people with amyotrophic lateral sclerosis and their caregivers—A qualitative analysis. *Psychology, Health & Medicine* 21(6). 762–768.
doi:10.1080/13548506.2015.1115110.

There is a lack of studies about psychological interventions for people with amyotrophic lateral sclerosis (ALS) and their caregivers. Researchers investigated the experience of a meditation training program tailored for ALS needs. People with ALS (pALS) and their caregivers that joined a meditation program for ALS were interviewed at the end of the program. Verbatims were analyzed with a qualitative approach. Both pALS and their caregivers reported a positive impact on their psychological well-being, promoted by an increase in acceptance and non-judgmental attitude. Furthermore, coping strategies seem to improve, with a positive effect on resilience skills. The ALS meditation training program seems to be an effective psychological intervention for the promotion of well-being in pALS and their caregivers.

- Morgan, Jonathan & Steven J. Sandage. 2016. A Developmental Model of Interreligious Competence. *Archive for the Psychology of Religion* 38(2). 129–158.
doi:10.1163/15736121-12341325.

This paper articulates a developmental model for how individuals relate to religious difference. The authors begin by reviewing scholarly work on multicultural competencies and initial research on religious diversity. To provide a framework for the model, they explore the Developmental Model of Intercultural Sensitivity and its relationship to research within the psychology of religion. The review closes by examining and critiquing a preliminary model of interreligious sensitivity. From this multi-faceted review, the authors propose a developmental model of interreligious competence and suggest key psychological capacities that undergird the model. Two case studies ground the theory before future directions for research are explored. Throughout, the authors consider the philosophical issues of alterity that shape encounters with religious diversity. By developing this model of interreligious competence, this article aims

to provide a framework to help psychologists and other human service professionals become more effective in their interactions across religious difference.

- Musa, Ahmad S. & David J. Pevalin. 2016. Development of the Arabic Spiritual Care Intervention-Provision Scale. *Journal of Clinical Nursing* 25(15–16). 2275–2284.
doi:10.1111/jocn.13174.

This study develops a new instrument, the Spiritual Care Intervention-Provision Scale, and assesses its psychometric properties in an Arab Muslim nurse sample. The Spiritual Care Intervention-Provision Scale was developed to measure the frequency with which nurses provided aspects of spiritual care. Most of the available spiritual care instruments were developed in the West and reflect a predominantly Christian tradition. A review of the literature on spiritual care in nursing revealed that no instrument exists for measuring spiritual care interventions provided by nurses to Arab Muslim patients. Following an extensive literature search, review by an expert panel and a pilot study which included patients' views regarding aspects of spiritual care provided by nurses, the final version of the Spiritual Care Intervention-Provision Scale was tested in a convenience sample of 360 Jordanian Arab Muslim nurses. The internal consistency of the Spiritual Care Intervention-Provision Scale was high. The exploratory factor analysis supported a two-factor structure for the Spiritual Care Intervention-Provision Scale as hypothesized. A significant positive correlation between the Spiritual Care Intervention-Provision Scale and religiosity was in the expected direction though small in magnitude.

- Nouman, Hani & Yael Benyamini. 2016. Religious Coping in Stressful Situations. *Archive for the Psychology of Religion* 38(2). 184–209.
doi:10.1163/15736121-12341323.

Religious coping has been found to help people in stressful situations. It takes place within a specific cultural religious/ context yet its measurement has not always been adapted to the context of the study population. The aim of this study was to develop an instrument to measure religious coping among religious Jews—a population that has received little research attention—and assess the associations of religious coping strategies with emotional adjustment. The study was based on quantitative data gathered from 332 religious Jewish women who were coping with stress. The findings support the utilization of three religious coping strategies by the participants: Seeking the Support of God, Seeking the Support of Rabbis, and Seeking the Support of the Community, which were found to be directly correlated with better emotional adjustment. This instrument can assist in evaluating and understanding religious coping with stressful situations and in culturally adapting psychosocial interventions to promote emotional adjustment.

- Osafo, Joseph. 2016. Seeking Paths for Collaboration between Religious Leaders and Mental Health Professionals in Ghana. *Pastoral Psychology* 65(4). 493–508.
doi:10.1007/s11089-016-0703-7.

The treatment gap for mental illness is wide between low- and middle-income countries. The World Health Organization and other relevant bodies are seeking to reduce this gap through culturally innovative and sensitive programming. In Ghana, for example, only 2% of the mentally ill access treatment, which means that 98% do not receive care. Various discourses are ongoing to scale up mental health services in Ghana. One of these is the fostering of a collaborative framework between lay mental health workers (such as religious leaders or faith healers) and professional mental health workers. This article seeks to provide a framework within which collaborative linkages between religious leaders (e.g., the clergy, traditional healers) and professional mental health workers can be established. The article begins with a brief overview of Ghana's mental health landscape, followed by a description of the challenges that make collaboration a difficult task. Next, the need for a holistic view of health in Ghana is addressed by examining Engel's biopsychosocial model and Tnumasi's work on the complementary role of traditional systems. The essay ends by providing a three-step approach—understanding, task shifting, and broadened curricula—as a model to guide any collaboration between religious leaders and health practitioners in Ghana.

- Pilaikiat, Rawewan, Warunee Fongkaew, Hunsu Sethabouppha, Pikul Phornphibul & Joachim G. Voss. 2016. Development of a Buddhist Spiritual Care Model for People at the End of Life. *Journal of Hospice & Palliative Nursing* 18(4). 324–331.
doi:10.1097/NJH.0000000000000255.

The delivery of spiritual care in Thailand is hampered by the absence of a model for health care providers that has contextual relevance within the country. The aim of this study is to develop a Buddhist Spiritual Care Model to guide health care providers in Thailand in the delivery of spiritual care practices for people at the end of life. The new Buddhist Spiritual Care Model builds upon the strength of existing Judeo-Christian theoretical models and extends those to a context where chaplains, for example, play no role in the care of hospital patients. To support Thai nurses in the delivery of Buddhist spiritual care, the authors have chosen to use 4 familiar steps from the nursing process (needs assessment, planning of actions, activities related to the plan, and effectiveness of activities). This is a thinking structure familiar enough to understand through which health care providers can be encouraged to begin to see themselves delivering spiritual care for people at the end of life and their family members. This theoretical model is conceptualized to allow health care providers to implement spiritual care within the normative environments in Thailand, regardless of their own spiritual affiliations and without relying on a specialist spiritual provider.

- Proserpio, Tullio, Laura Veneroni, Matteo Silva, Alvaro Lassaletta, Rosalia Lorenzo, Chiara Magni, Marina Bertolotti, et al. 2016. Spiritual support for adolescent cancer patients: a survey of pediatric oncology centers in Italy and Spain. *Tumori* 102(4). 376–380.
doi:10.5301/tj.5000494.

Spirituality is a fundamental aspect of the psychological well-being of adolescents with cancer. This study reports on a survey conducted at pediatric oncology centers in Italy and Spain to examine the situation concerning the provision of spiritual support. An ad hoc questionnaire was distributed including multiple-choice questions on whether or not spiritual support was available; the spiritual counselor's role; how often the spiritual counselor visited the unit; and the type of training this person had received. A spiritual support service was available at 24 of the 26 responding centers in Italy and 34/36 in Spain. The training received by the spiritual counselor was exclusively theological in most cases (with medical or psychological training in a few cases). In both countries the spiritual counselor was mainly involved in providing religious services and support at the terminal stage of the disease or in talking with patients and families. Cooperation with caregivers was reported by 27.3% and 46.7% of the Italian and Spanish centers, respectively, while the daily presence of the chaplain on the ward was reported by 18.2% and 26.7%. The role of the spiritual counselor in pediatric oncology—in Italy and Spain at least—is till neither well-established nor based on standardized operating methods or training requirements. A model that implies the constant presence of a spiritual counselor in hospital wards may be proposed to provide appropriate spiritual support to adolescents with cancer.

- Raman, Shanti, Rachel Nicholls, Jan Ritchie, Husna Razee & Samaneh Shafiee. 2016. How natural is the supernatural? Synthesis of the qualitative literature from low and middle income countries on cultural practices and traditional beliefs influencing the perinatal period. *Midwifery* 39. 87–97.
doi:10.1016/j.midw.2016.05.005.

The objective of this study was to review qualitative research studies conducted in low resource settings around the perinatal continuum over the past two decades, with particular focus on the cultural realm; to identify common themes in the research-base, in order to provide policy direction for culturally appropriate perinatal interventions. A systematic literature search was carried out of electronic databases from 1990 to 2014, including Medline, Embase, CINAHL and PsycINFO, using relevant search terms such as traditional beliefs, practices, pregnancy, childbirth. The authors found that religious and spiritual beliefs strongly influenced behavior over the perinatal period. Beliefs in supernatural influences, particularly malevolent forces were widespread, such that pregnancy was concealed in many parts of Africa and Asia. In most low resource settings, pregnancy and childbirth were seen as normal

phenomena. Rituals played an important part for women and their infants, reinforced by inter-generational support. Cross-cutting themes that emerged were: (1) the role of women as mothers, demonstrating their “goodness” by bearing pain and suffering; (2) the idea of the ‘natural’ incorporating the supernatural; and (3) negotiating change across generations.

- Rao, Angela, Louise D. Hickman, Jane L. Phillips & David Sibbritt. 2016. Prevalence and characteristics of Australian women who use prayer or spiritual healing: A nationally representative cross-sectional study. *Complementary Therapies in Medicine* 27. 35–42.
doi:10.1016/j.ctim.2016.05.005.

The objective of this study was to determine the prevalence and characteristics of users of prayer or spiritual healing among Australian women aged 31-36 years. This cross-sectional study was conducted as a part of the Australian Longitudinal Study on Women’s Health (ALSWH). The sample used in the current sub-study were participants from the “young” cohort (1973-78) (n=8180) aged between 31 and 36 years. Prayer or spiritual healing was used on a regular basis by 20% of women aged between 31 and 36 years in 2009. Women who had symptoms of chronic illnesses, women who had never smoked and women who used other forms of CAM were significantly more likely to use prayer or spiritual healing.

- Robinson, Mary R., Mary Martha Thiel, Kezia Shirkey, David Zurakowski & Elaine C. Meyer. 2016. Efficacy of Training Interprofessional Spiritual Care Generalists. *Journal of Palliative Medicine* 19(8). 814–821.
doi:10.1089/jipm.2015.0373.

Provision of spiritual/religious (S/R) care has been associated with improvements in patient care, patient-provider relationships, and resource utilization. Clinicians identify a lack of training in S/R care as the primary impediment. The purpose of the study was to evaluate the effectiveness of one-day, simulation-based workshops to prepare inter-professional clinicians to function as capable, confident, and ethical spiritual care generalists. Inter-professional practitioners (physicians, nurses, social workers, psychologists, child life specialists) in a quaternary care academic pediatric hospital participated in daylong Spiritual Generalist workshops utilizing professional actors to learn requisite spiritual generalist skills. Participants completed pre- and post-workshop questionnaires on the day of the workshop, and three-month follow-up self-report questionnaires that included 1-5-point Likert scale items focused on 15 spiritual generalist skills. One hundred fifteen inter-professional staff members completed pre- and post-questionnaires and three-month follow-up surveys. Analysis revealed significant mean improvement in all 15 spiritual generalist skills targeted for developing mastery within each of three broad domains: Spiritual Screen and Care Plan, Provision of Spiritual Care, and Professional Development. Although the initial degree of improvement tended to be greater immediately post-workshop, 14 of the 15 spiritual generalist skills remained significantly higher at three months compared to pre-workshop.

- Ruscio, Aimee C., Christine Muench, Emily Brede, Jessica MacIntyre & Andrew J. Waters. 2016. Administration and assessment of brief mindfulness practice in the field: A feasibility study using ecological momentary assessment. *Mindfulness* 7(4). 988–999.
doi:10.1007/s12671-016-0538-4.

Measuring the construct, component processes, and practice of mindfulness remains challenging. This ecological momentary assessment (EMA) study was a pilot parallel group randomized controlled trial of a brief mindfulness practice (Brief-MP) intervention on self-reported mindfulness and performance-based cognition. Adult community smokers were randomly assigned to a Brief-MP or Control (sham meditation) group. Participants carried a personal digital assistant (PDA) for 2 weeks and were instructed to initiate 20 min of meditation (or control) training on the PDA daily, and to complete an assessment of mindfulness and cognition immediately afterwards. Additionally, participants completed assessments at random times up to four times per day. Primary outcome variables were feasibility and acceptability, state and trait mindfulness, a decentered perspective to depressive stimuli, and attentional

bias to smoking stimuli. Thirty-seven participants provided EMA data totaling 1,874 assessments. Fifteen of 18 Brief-MP participants completed over 75% of mindfulness trainings in the field. The majority of Brief-MP participants endorsed favorable descriptions of the intervention: “acceptable,” and “willing to recommend to a friend.” Linear Mixed Model analyses on EMA data revealed that, over time, Brief-MP (vs. Control) increased self-reported Curiosity and Decentering assessed by the Toronto Mindfulness Scale. Brief-MP did not change trait mindfulness or cognition. In sum, Brief-MP administered in the field was acceptable and increased state mindfulness.

Saad, Marcelo & Roberta de Medeiros. 2016. Programs of religious/spiritual support in hospitals - five “Whies” and five “Hows.” *Philosophy, Ethics, and Humanities in Medicine: PEHM* 11(1). 5.
doi:10.1186/s13010-016-0039-z.

A contemporary orientation of the hospital experience model must encompass the clients’ religious-spiritual dimension. The objective of this paper is to share a previous experience, highlighting at least five reasons hospitals should invest in this direction, and an equal number of steps required to achieve it. In the first part, the text discourses about five reasons to invest in religious-spiritual support programs: 1. Religious-spiritual wellbeing is related to better health; 2. Religious-spiritual appreciation is a standard for hospital accreditation; 3. To undo religious-spiritual misunderstandings that can affect treatment; 4. Patients demand a religious-spiritual outlook from the institution; and 5. Costs may be reduced with religious-spiritual support. In the second part, the text suggests five steps to implement religious-spiritual support programs: 1. Deep institutional involvement; 2. Formal staff training; 3. Infrastructure and resources; 4. Adjustment of institutional politics; and 5. Agreement with religious-spiritual leaders. The authors hope the information compiled here can inspire hospitals to adopt actions toward optimization of the healing experience.

Salimena, Anna Maria de Oliveira, Roberta Rocha Belligoli Ferrugini, Maria Carmen Simões Cardoso de Melo & Thais Vasconcelos Amorim. 2016. Understanding spirituality from the perspective of patients with mental disorders: contributions to nursing care. *Revista gaúcha de enfermagem / EENFUFGRS* 37(3). e51934.
doi:10.1590/1983-1447.2016.03.51934.

The objective of this study is to understand the meanings of spirituality from the perspective of patients with mental disorders. Qualitative phenomenological research was conducted with nine users of a center for psychosocial care in a city in the interior of Minas Gerais, Brazil, in February 2014. Two units of meaning emerged from the comprehensive analysis: spirituality is a therapeutic support for mental health; the temple is the religious manifestation of spirituality. The patients believe that religion helps them cope with their health problems, and claimed that being religious helps them express their belief through prayers, attend a place of worship, and behave in a way that reveals their faith in God and in the saints.

Tzu, Gary, Brittany Bannerman & Karim McCallums. 2016. Novices Come Home to Non-dual Being: A Transpersonal, Existential, Phenomenological Analysis. *International Journal of Mental Health and Addiction* 14(4). 483–504.
doi:10.1007/s11469-015-9600-z.

Awakening into non-duality entails a focus on self-transcendence and movement through different levels of consciousness. Coming to abide in non-dual being involves the end of seeking; an embracement and radical acceptance of non-division, or not-two, in each moment; and the cultivation of the understanding of ourselves as consciousness itself. Accepting the availability of life as what is, no matter how it manifests, brings one into greater cooperation with the flow of life as we embrace our undivided, natural state of being. Letting go and coming to abide in this state is not without its challenges, as one experiences realizations and insights that can feel like the destruction of one’s entire world and previous understandings. Awakening must occur on the levels of the mind (mental), heart (emotional), and guts (existential), each with their own host of effects, crises, and stumbling blocks. This article focuses on the themes that manifested during the second part of the journeys of novices as they came home to abide in

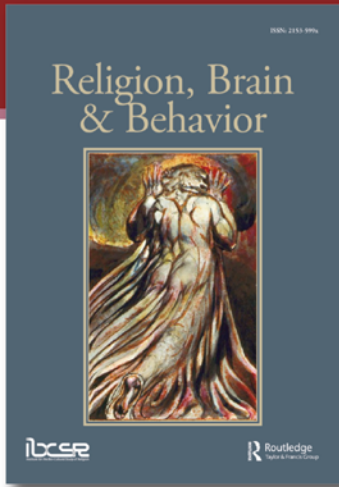
non-dual being and included: Awakening moments and encounters with the abyss; coming to the end of seeking and realizing that there is nothing to do and nowhere to go; learning to live in and trust this one beautiful, yet ordinary moment; experiencing no mind, no self, and no knowing; experiencing expansion, connection, and love by awakening the heart; re-experiencing and residing in one's own essence, energy, and authenticity; and coming to rest in underlying peace, freedom, and wholeness. These themes are explored in the context of awakening the various levels of consciousness and transcending the final stages of psyche development. The integral role and implications of the non-dual perspective in accelerating and promoting holistic healing in psychotherapy are discussed.

Waikakul, Waraporn & Saranatra Waikakul. 2016. Pain Perception in Buddhism Perspective. *Journal of Religion and Health* 55(4). 1336–1344.
doi:10.1007/s10943-015-0080-z.

Dhamma, which Lord Buddha has presented to people after his enlightenment, analyzes every phenomenon and objects into their ultimate elements. The explanation of sensory system is also found in a part of Dhamma named Abhidhammapitaka, the Book of the Higher Doctrine in Buddhism. To find out the relationship between explanation of pain in the present neuroscience and the explanation of pain in Abhidhamma, the study was carried out by the use of a comprehensive review. The comparisons were in terms of peripheral stimulation, signal transmission, modulation, perception, suffering, determination and decision making for the responding to pain. The authors found that details of the explanation on pain mechanism and perception in Abhidhamma could associate well with our present scientific knowledge. Furthermore, more refinement information about the process and its function in particular aspects of pain perception were provided in Abhidhammapitaka.

You, Sukkyung & Ji Eun Yoo. 2016. Evaluation of the Spiritual Well-Being Scale in a Sample of Korean Adults. *Journal of Religion and Health* 55(4). 1289–1299.
doi:10.1007/s10943-015-0010-0.

This study explored the psychometric qualities and construct validity of the Spiritual Well-Being Scale using a sample of 470 Korean adults. Two factor analyses, exploratory factor analysis and confirmatory factor analysis, were conducted in order to test the validity of the SWBS. The results of the factor analyses supported the original two-dimensional structure of the SWBS-religious well-being (RWB) and existential well-being (EWB) with method effects associated with negatively worded items. By controlling for method effects, the evaluation of the two-factor structure of SWBS is confirmed with clarity. Further, the differential pattern and magnitude of correlations between the SWB subscales and the religious and psychological variables suggested that two factors of the SWBS were valid for Protestant, Catholic, and religiously unaffiliated groups except Buddhists. The Protestant group scored higher in RWB compared to the Buddhist, Catholic, and unaffiliated groups. The Protestant group scored higher in EWB compared to the unaffiliated groups. Future studies may need to include more Buddhist samples to gain solid evidence for validity of the SWBS on a non-Western religious tradition.



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PART 3: BOOKS

3.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

- Beaman, Lori G. & Steven Tomlins (eds.). 2016. *Atheist Identities - Spaces and Social Contexts*. (Boundaries of Religious Freedom: Regulating Religion in Diverse Societies). Springer.
- Howes, David. 2016. *Ritual, Performance and the Senses*. (Ed.) Jon P. Mitchell & Michael Bull. Bloomsbury Academic.
- Johnson, Andy J. (ed.). 2016. *Religion and Men's Violence Against Women*. Springer.
- Jong, Jonathan & Jamin Halberstadt. 2016. *Death Anxiety and Religious Belief: An Existential Psychology of Religion*. (Scientific Studies of Religion: Inquiry and Explanation). New York: Bloomsbury Academic.
- Kripal, Jeffrey J. (ed.). 2016. *Religion: Mental Religion*. (Macmillan Interdisciplinary Handbooks). Macmillan.
- Murphy, Joanne M. A. (ed.). 2016. *Ritual and Archaic States*. University Press of Florida.
- Possamai, Adam, James T. Richardson & Bryan S. Turner (eds.). 2016. *The Sociology of Shari'a: Case Studies from around the World*. Springer.
- Slone, D. Jason & James A. Van Slyke (eds.). 2015. *The Attraction of Religion: A New Evolutionary Psychology of Religion*. (Scientific Studies of Religion: Inquiry and Explanation). Bloomsbury Academic.

3.2 SPIRITUALITY & HEALTH RESEARCH

- Baldwin, Jennifer (ed.). 2016. *Sensing Sacred: Exploring the Human Senses in Practical Theology and Pastoral Care*. (Studies in Body and Religion). Lanham: Lexington Books.
- Miller-Perrin, Cindy & Elizabeth Krumrei Mancuso. 2016. *Faith from a Positive Psychology Perspective*. Springer.

PART 4: ARTICLES IN PRESS

4.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

- Ali, Mohsin & Wajahat Azmi. Religion in the boardroom and its impact on Islamic banks' performance. *Review of Financial Economics*.
doi:10.1016/j.rfe.2016.08.001.
- Barnett, Michael D., Kylie B. Sligar & Chiachih D. C. Wang. 2016. Religious Affiliation, Religiosity, Gender, and Rape Myth Acceptance: Feminist Theory and Rape Culture. *Journal of Interpersonal Violence*.
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- Bernardo, Allan B. I., Jose Antonio R. Clemente & Ma. Jenina N. Nalipay. 2016. What personal value types are associated with beliefs on the social value of religion? *Psychological Studies*.
doi:10.1007/s12646-016-0359-5.
- Dubendorff, S. Julianna & Andrew F. Luchner. 2016. The Perception of Atheists as Narcissistic. *Psychology of Religion and Spirituality*.
doi:10.1037/rel0000093.
- Etengoff, Chana & Eric M. Rodriguez. 2016. Gay Men's and Their Religiously Conservative Family Allies' Scriptural Engagement. *Psychology of Religion and Spirituality*.
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- Fatima, Shameem, Musferah Mehfooz & Sumera Sharif. 2016. Role of Islamic Religiosity in Predicting Academic Motivation of University Students. *Psychology of Religion and Spirituality*.
doi:10.1037/rel0000097.
- Frey, Ulrich J. Cooperative strategies outside the laboratory — evidence from a long-term large-N-study in five countries. *Evolution and Human Behavior*.
doi:10.1016/j.evolhumbehav.2016.07.006.
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