



RESEARCH REVIEW

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

JULY, 2012

INTRODUCTION

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

Articles for this issue were located by searching the following databases: Applied Science and Technology, ATLA Religion Database, General Science, PubMed, EBSCO Psychology and Behavioral Sciences Collection, PsycARTICLES, PsycINFO, ScienceDirect, and Web of Science. The search terms were altruism, god, goddess, meditat*, prayer, relig*, ritual, spiritu*, and yoga, tailored to the database being searched. Books were located on Amazon.com. Articles not directly relevant to the scientific study of religion were excluded, as were correspondence and reviews. From a universe of 552 articles, 68 articles have been retained from 62 journals. There are 44 pre-publication citations from 37 journals.

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PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Asp, Erik, Kanchna Ramchandran & Daniel Tranel. 2012. Authoritarianism, religious fundamentalism, and the human prefrontal cortex. *Neuropsychology* 26(4). 414–421. doi:10.1037/a0028526.

In this study, evidence was found for the False Tagging Theory, a neurobiological model of the belief and doubt process, which proposes that the prefrontal cortex is critical for normative doubt regarding properly comprehended cognitive representations. Researchers hypothesized that patients with prefrontal cortex damage would have a doubt deficit that would manifest as higher authoritarianism and religious fundamentalism. Ten patients with bilateral damage to the ventromedial prefrontal cortex (vmPFC), 10 patients with damage to areas outside the vmPFC, and 16 medical comparison patients, who experienced life-threatening (but non-neurological) medical events, completed a series of scales measuring authoritarianism, religious fundamentalism, and specific religious beliefs. Analysis revealed that vmPFC patients reported significantly higher authoritarianism and religious fundamentalism than the other groups. The degrees of authoritarianism and religious fundamentalism in the vmPFC group were significantly higher than normative values, as well; by contrast, the comparison groups did not differ from normative values. Moreover, vmPFC patients reported increased specific religious beliefs after brain injury. The authors conclude that the vmPFC is critical for psychological doubt and resistance to authoritarian persuasion.

Froeliger, Brett E, Eric L Garland, Leslie A Modlin & F Joseph McClernon. 2012. Neurocognitive correlates of the effects of yoga meditation practice on emotion and cognition: a pilot study. *Frontiers in Integrative Neuroscience* 6. 48. doi:10.3389/fnint.2012.00048.

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The present study investigated the neurocognitive correlates of emotion interference on cognition in Yoga practitioners and a matched control group (CG). Both groups underwent fMRI while performing an event-related affective Stroop task, which included image viewing trials and Stroop trials bracketed by neutral or negative emotional distractors. During image viewing trials, Yoga practitioners exhibited less reactivity in right dorsolateral prefrontal cortex (dlPFC) to negative as compared to neutral images; whereas the CG had the opposite pattern. A main effect of valence (negative > neutral) was observed in limbic regions (e.g., amygdala), of which the magnitude was inversely related to dlPFC activation. Exploratory analyses revealed that the magnitude of amygdala activation predicted decreased self-reported positive affect in the CG, but not among Yoga practitioners. During Stroop trials, Yoga practitioners had greater activation in ventrolateral prefrontal cortex (vlPFC) during Stroop trials when negative, compared to neutral, emotional distractor were presented; the CG exhibited the opposite pattern. Taken together, these data suggest that though Yoga practitioners exhibit limbic reactivity to negative emotional stimuli, such reactivity does not have downstream effects on later mood state. The authors conclude that this uncoupling of viewing negative emotional images and affect among Yoga practitioners may be occasioned by their selective implementation of frontal executive-dependent strategies to reduce emotional interference during competing cognitive demands and not during emotional processing per se.

Harrison, Ben J, Jesus Pujol, Carles Soriano-Mas, Rosa Hernández-Ribas, Marina López-Solà, Hector Ortiz, Pino Alonso, et al. 2012. Neural Correlates of Moral Sensitivity in Obsessive-Compulsive Disorder. *Archives of General Psychiatry* 69(7). 741–749.
doi:10.1001/archgenpsychiatry.2011.2165.

Researchers sought to use functional magnetic resonance imaging to test the hypothesis that patients with obsessive-compulsive disorder (OCD) (n=73) demonstrate an increased response of relevant ventromedial prefrontal and orbitofrontal cortex regions during difficult moral decision making compared to a control group (n=73). In both groups, moral dilemma led to robust activation of frontal and temporoparietal brain regions. Supporting predictions, patients with OCD demonstrated significantly increased activation of the ventral frontal cortex, particularly of the medial orbitofrontal cortex. In addition, the left dorsolateral prefrontal cortex and left middle temporal gyrus were more robustly activated in patients with OCD. These results were unexplained by group differences in comorbid affective symptoms. Patients' global illness severity predicted the relative magnitude of orbitofrontal-striatal activation. The severity of "harm/checking" symptoms and "sexual/religious" obsessions predicted the magnitude of posterior temporal and amygdala-paralimbic activation, respectively. The authors conclude that the orbitofrontal cortex together with the left dorsolateral prefrontal cortex may be relevant for understanding the link between neurobiological processes and certain maladaptive cognitions in OCD.

Morishima, Yosuke, Daniel Schunk, Adrian Bruhin, Christian C. Ruff & Ernst Fehr. 2012. Linking Brain Structure and Activation in Temporoparietal Junction to Explain the Neurobiology of Human Altruism. *Neuron* 75(1). 73–79.
doi:10.1016/j.neuron.2012.05.021.

These researchers analyzed the neuroanatomical basis of differences in altruism among individuals using voxel-based morphometry. They found that gray matter (GM) volume in the right temporoparietal junction (TPJ) is strongly associated with both individuals' altruism and the individual-specific conditions under which this brain region is recruited during altruistic decision making. Thus, individual differences in GM volume in TPJ not only translate into individual differences in the general propensity to behave altruistically, but they also create a link between brain structure and brain function by indicating the conditions under which individuals are likely to recruit this region when they face a conflict between altruistic and selfish acts.

Prakash, Ravi, Priyanka Rastogi, Indu Dubey, Priyadarshree Abhishek, Suprakash Chaudhury & Brent J Small. 2012. Long-term concentrative meditation and cognitive performance among

older adults. *Neuropsychology, Development, and Cognition. Section B, Aging, Neuropsychology and Cognition* 19(4). 479–494.

doi:10.1080/13825585.2011.630932.

This cross-sectional study comparing the cognitive performance of meditators and non-meditators in the geriatric age group. Twenty long-term practitioners of Vihangam Yoga meditation over the age of 55 were recruited in the present study and were applied six paper-pencil neuropsychological tests for assessment of short-term memory, perceptual speed, attention, and executive functioning. Results were compared with tests applied to 20 age- and education-matched geriatric adults who have not practiced the meditation technique. Vihangam Yogis showed significantly better performances in all these tests of attention except for the digit backward test, where a trend was found in favor of non-meditators. The authors conclude that long-term Vihangam Yoga meditators have cognitive abilities superior to non-meditators in the old age group.

1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Kurzban, Robert, Peter DeScioli & Daniel Fein. 2012. Hamilton vs. Kant: pitting adaptations for altruism against adaptations for moral judgment. *Evolution and Human Behavior* 33(4). 323–333.

doi:10.1016/j.evolhumbehav.2011.11.002.

Prominent evolutionary theories of morality maintain that the adaptations that underlie moral judgment and behavior function, at least in part, to deliver benefits (or prevent harm) to others. These explanations are based on the theories of kin selection and reciprocal altruism, and they predict that moral systems are designed to maximize Hamiltonian inclusive fitness. In sharp contrast, however, moral judgment often appears Kantian and rule-based. To reconcile this apparent discrepancy, some theorists have claimed that Kantian moral rules result from mechanisms that implement simple heuristics for maximizing welfare. To test this idea, researchers conducted a set of studies in which subjects (n=1,290) decided whether they would kill one person to save five others, varying the relationship of the subject with the others involved (strangers, friends, brothers). Results indicated that participants were less likely to observe the Kantian rule against killing in decisions about brothers and friends, rather than strangers. Subjects reported greater willingness to kill a brother or friend than a stranger (in order to save five others of the same type). The authors conclude that the rule-based structure of moral cognition is not explained by kin selection, reciprocity, or other altruism theories.

Legare, Cristine H & André L Souza. 2012. Evaluating ritual efficacy: evidence from the supernatural. *Cognition* 124(1). 1–15.

doi:10.1016/j.cognition.2012.03.004.

Rituals pose a cognitive paradox: although widely used to treat problems, rituals are causally opaque (i.e., they lack a causal explanation for their effects). How is the efficacy of ritual action evaluated in the absence of causal information? To examine this question using ecologically valid content, three studies (n=162) were conducted in Brazil, a cultural context in which rituals called simpatias are used to treat a great variety of problems ranging from asthma to infidelity. Using content from existing simpatias, experimental simpatias were designed to manipulate the kinds of information that influences perceptions of efficacy. A fourth study (n=68) with identical stimuli was conducted with a U.S. sample to assess the generalizability of the findings across two different cultural contexts. The results provide evidence that information reflecting intuitive causal principles (i.e., repetition of procedures, number of procedural steps) and transcendental influence (i.e., presence of religious icons) affects how people evaluate ritual efficacy.

Lie, Jessamina Lih Yan & Maykel Verkuyten. 2012. Identity practices, ingroup projection, and the evaluation of subgroups: a study among Turkish-Dutch Sunnis. *The Journal of Social Psychology* 152(4). 510–523.

doi:10.1080/00224545.2011.643325.

This research focuses on religious subgroup evaluations by examining the attitude of Turkish-Dutch Sunni Muslims towards Alevi and Shiite Muslims. Following the Ingroup Projection Model, it was expected that Sunni participants who practice Islam will project their self-defining subgroup practices on the superordinate Muslim category, which will be related to more ingroup bias towards Alevis, a Muslim subgroup that performs different religious practices. Two studies yielded consistent evidence that practicing Islam increased ingroup bias towards Alevis. Furthermore, in Study 2, evidence was found suggesting that the effect of practicing Islam on ingroup bias was mediated by relative ingroup prototypicality (RIP). Moreover, practicing Islam did not affect RIP in relation to Shiites who perform the same religious practices that we examined. These findings support the Ingroup Projection Model.

Purzycki, Benjamin G, Daniel N Finkel, John Shaver, Nathan Wales, Adam B. Cohen & Richard Sosis. 2012. What does god know? Supernatural agents' access to socially strategic and non-strategic information. *Cognitive Science* 36(5). 846–869.
doi:10.1111/j.1551-6709.2012.01242.x.

Current evolutionary and cognitive theories of religion posit that supernatural agent concepts emerge from cognitive systems such as theory of mind and social cognition. Some argue that these concepts evolved to maintain social order by minimizing antisocial behavior. If these theories are correct, then people should process information about supernatural agents' socially strategic knowledge more quickly than non-strategic knowledge. Furthermore, agents' knowledge of immoral and uncooperative social behaviors should be especially accessible to people. To examine these hypotheses, researchers measured response-times to questions about the knowledge attributed to four different agents: God; Santa Claus; a fictional surveillance government; and omniscient but non-interfering aliens. These agents vary in their omniscience, moral concern, ability to punish, and how supernatural they are. As anticipated, participants respond more quickly to questions about agents' socially strategic knowledge than non-strategic knowledge, but only when agents are able to punish.

Schaafsma, Juliette & Kipling D. Williams. 2012. Exclusion, intergroup hostility, and religious fundamentalism. *Journal of Experimental Social Psychology* 48(4). 829–837.
doi:10.1016/j.jesp.2012.02.015.

The goal of the present study was to examine whether exclusion leads to increased intergroup hostility and stronger fundamentalist religious beliefs. Using Cyberball, the authors examined how adolescents from different ethnic groups in the Netherlands (of Moroccan, Turkish, and Dutch descent with either Muslim, Christian, or secular beliefs) responded to being included or excluded by ethnic in- and outgroup members, expecting that exclusion by ethnic outgroup members would represent a categorization threat and would result in greater hostility, and further that exclusion by ethnic ingroup members would represent an acceptance threat and would result in responses that reduce uncertainty and increase one's chances of being accepted by others (e.g., a stronger endorsement of fundamentalist religious beliefs). The results revealed that among all ethnic groups, exclusion by ethnic outgroup members led to more hostility toward the co-players and the co-players' ethnic group than exclusion by ethnic ingroup members. This was mediated by the extent to which people attributed their exclusion to the racist attitudes of their co-players. Among Muslims and Christians, exclusion by ethnic ingroup members led to more support for fundamentalist beliefs.

Soler, Montserrat. 2012. Costly signaling, ritual and cooperation: evidence from Candomblé, an Afro-Brazilian religion. *Evolution and Human Behavior* 33(4). 346–356.
doi:10.1016/j.evolhumbehav.2011.11.004.

The apparent wastefulness of religious ritual represents a puzzle for rational choice theorists and evolutionary scholars. In recent years, it has been proposed that such rituals represent costly signals that promote intragroup cooperation precisely because of the effort and resources they require. This hypothesis was tested over the course of a 14-month long ethnographic study in the northeast of Brazil. The research focused on adherents of Candomblé, an

African diasporic religion organized in autonomous congregations primarily located in low-income urban areas. Individuals who reported higher levels of religious commitment behaved more generously in a public goods economic game and revealed more instances of provided and received cooperation within their religious community. This suggests that ritual as a costly signaling may effectively predict willingness to cooperate with other group members and that the signaler may accrue benefits in the form of received cooperation. Socioeconomic variables are also shown to mediate religious signaling. This raises the possibility that signalers strategically alter their expressions of commitment as their needs and circumstances change.

1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND CULTURE

Borooah, Vani K. 2012. Social Identity and Educational Attainment: The Role of Caste and Religion in Explaining Differences between Children in India. *Journal of Development Studies* 48(7). 887–903. doi:10.1080/00220388.2011.621945.

Using data from the Indian Human Development Survey of 2005 (n=12,300, ages 8-11), this study examines inequalities within social groups in the test scores of children to argue that inter-group comparisons of educational attainment should take into account not just the mean level of achievement of the children in a group but also the degree of inequality in the distribution of achievements between children in the group. The article then proceeds to enquire why different children have different levels of educational achievement. The central conclusion is that, after controlling for a number of parental, household and school-related factors, children from all the different social groups, when compared to Brahmin children, were disadvantaged, in some or all of the three competencies of reading, arithmetic, and writing. However, this disadvantage was greatest for Muslim, Dalit, and Adivasi children. These children were disadvantaged with respect to all three competencies and their disadvantage embraced failure as well as success. Using a decomposition analysis, the article quantifies the ‘structural advantage’ that Brahmin and High Caste children enjoyed over their Dalit and Muslim counterparts.

Hall, Kelli Stidham, Caroline Moreau & James Trussell. 2012. Lower use of sexual and reproductive health services among women with frequent religious participation, regardless of sexual experience. *Journal of Women’s Health* (2002) 21(7). 739–747. doi:10.1089/jwh.2011.3356.

Utilizing data from the U.S. population-based reproductive health survey, The National Survey of Family Growth (2002 and 2006-2008), researchers found that of the young women aged 15-24 years (n=4,421) nearly all identified a current religious affiliation (82%), with 46% identifying Protestant and 28% Catholic. Three quarters (75%) of young women reported current religious service participation, the majority of whom had experienced sexual intercourse (70%); 31% reported weekly religious service participation. Over half (59%) had used SRH services recently. In unadjusted analyses, young women with current religious affiliation who participated in services weekly and deemed religion important had lower proportions of SRH service use than their counterparts. In multivariate regression models, young women with less-than-weekly religious service participation were 50% more likely to use services than those participating weekly, even among sexually experienced women.

Kunst, Jonas R., Hajra Tajamal, David L. Sam & Pål Ulleberg. 2012. Coping with Islamophobia: The effects of religious stigma on Muslim minorities’ identity formation. *International Journal of Intercultural Relations* 36(4). 518–532. doi:10.1016/j.ijintrel.2011.12.014.

This cross-sectional study examined direct and indirect effects of different forms of religious stigma on the national affiliation of 210 Norwegian-Pakistani and 216 German-Turkish Muslims. Furthermore, the study examined the mediator role of religious identity. Results suggest that being a Muslim in Norway is more reconcilable with affiliating with the nation than being a Muslim in Germany. However, across the samples, the results indicated that various forms of religious stigma affected Muslims’ national identity and engagement in the public and private

sphere in distinct ways. These effects were both positive and negative, differed between the two samples, and in Germany, were mediated by the participants' religious identity. The findings indicated that the ways in which religious stigma influences Muslims' national affiliation is context and culture bound.

- Marschall, Justin C., Loren L. Toussaint, Kaela L. Stuart & Leah M. Gates. 2012. Say Your Prayers, But Make 'Em Quick: Replicating the Effects of Three Minutes of Prayer on Forgiveness. *EXPLORE: The Journal of Science and Healing* 8(4). 249–251.
doi:10.1016/j.explore.2012.04.001.

The authors review research on prayer. They find that research points to a connection between forgiveness and prayer. In a number of studies researchers have documented a positive correlation between increased levels of prayer and increased levels of the disposition toward forgiveness, and empirical and theoretical work also suggests that prayer may be one of the most important and transformational components of the forgiveness process. A nationally representative study of U.S. adults suggests that involvement in religious groups promotes forgiveness through the encouragement and practice of multiple types of prayer, including: (1) praying together, (2) sharing needs, (3) confessing sins, (4) asking God's forgiveness, and (5) offering thanks to God.

- Pechey, Rachel & Peter Halligan. 2012. Prevalence and correlates of anomalous experiences in a large non-clinical sample. *Psychology and Psychotherapy* 85(2). 150–162.
doi:10.1111/j.2044-8341.2011.02024.x.

This study examined the distribution and correlates of differential levels of self-reported anomalous experience in a British sample of 1,000 individuals. Anomalous experiences were found to be relatively common in the general population and were reported (occurring sometimes/often) by 48% of the sample. Being female and endorsing a non-Christian religion were the only two demographic factors related to higher experience scores. Significant relationships were found between anomalous experiences and anomalous beliefs (i.e., delusion-like and paranormal/religious), but not general societal beliefs. Dissociations between anomalous experiences and anomalous beliefs also were present but not common. No significant relationship was found between Capgras-type beliefs and experiences.

- Sendil, Cagla Oneren & Nurten Ozuorcun Kucukertan. 2012. A Qualitative Study about Transmission of Religious Issues. *Procedia - Social and Behavioral Sciences* 47. 913–917.
doi:10.1016/j.sbspro.2012.06.756.

This qualitative study investigated individuals' constructions of current life experiences, related psychological outcomes and emotions based on the religion education process. University students in Ankara were interviewed about their current and past life experiences on religion education process. Findings of this study are thought to point out the importance of parents' and educational agencies' religion education practices in relation to individuals' current life experiences and psychological outcomes.

- Weatherly, Jeffrey N. & Karyn M. Plumm. 2012. Delay Discounting as a Function of Intrinsic/Extrinsic Religiousness, Religious Fundamentalism, and Regular Church Attendance. *The Journal of General Psychology* 139(3). 117–133.
doi:10.1080/00221309.2012.672937.

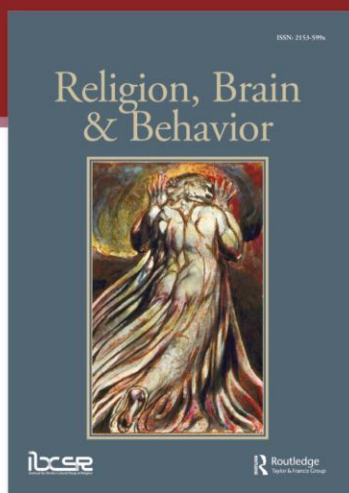
In the present study, 509 participants completed measures of intrinsic religiousness, extrinsic religiousness, religious fundamentalism, and whether they regularly attended church services. They then completed a delay-discounting task involving five outcomes. Although religiousness was not a significant predictor of discounting for all outcomes, participants scoring high in intrinsic religiousness tended to display less delay discounting than participants scoring low. Likewise, participants scoring high in religious fundamentalism tended to display more delay discounting than participants scoring low. These results partially replicate previous ones in showing that the

process of discounting may vary as a function of religiousness. The results also provide some direction for those interested in altering how individuals discount.

1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Sørensen, Torgeir, Lars Lien, Jostein Holmen & Lars Johan Danbolt. 2012. Distribution and understanding of items of religiousness in the Nord-Trøndelag Health Study, Norway. *Mental Health, Religion & Culture* 15(6). 571–585.
doi:10.1080/13674676.2011.604868.

The authors describe religious activity, view of life and religious coping-related attitudes in a sample of 50,374 Norwegians, supplemented by a focus group interview. Women and the elderly were more religiously active and more affiliated with religion. The values of the view of life variable overlapped. Different understanding regarding whether bad things happen for a purpose was indicated. Seeking God's help for strength and solace, both verbalized and not verbalized, had lower prevalence than prayer in general and was considered as a situational and positive activity.



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PART 2. ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

2.1 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Barrett, Bruce, Mary S Hayney, Daniel Muller, David Rakel, Ann Ward, Chidi N Obasi, Roger Brown, et al. 2012. Meditation or Exercise for Preventing Acute Respiratory Infection: A Randomized Controlled Trial. *Annals of Family Medicine* 10(4). 337–346.
doi:10.1370/afm.1376.

After recruiting 154 adults aged 50 years and older, researchers randomized participants to 1 of 3 study groups: 8-week training in mindfulness meditation, matched 8-week training in moderate-intensity sustained exercise, or observational control. Compared with control group, global severity of acute respiratory infection (ARI) was significantly lower for the meditation group. Both global severity and total days of illness (duration) trended toward being lower for the exercise group, as did illness duration for the meditation group.

Britton, Willoughby B, Patricia L Haynes, Keith W Fridel & Richard R Bootzin. 2012. Mindfulness-based cognitive therapy improves polysomnographic and subjective sleep profiles in antidepressant users with sleep complaints. *Psychotherapy and Psychosomatics* 81(5). 296–304.
doi:10.1159/000332755.

The present study investigated whether mindfulness meditation (MM) training could improve sleep profiles in depressed individuals who had achieved at least partial remission with ADM, but still had residual sleep complaints. Twenty-three antidepressant medication (ADM) users with sleep complaints were randomized into an 8-week Mindfulness-Based Cognitive Therapy (MBCT) course or a waitlist control condition. Following intervention, compared to controls the MBCT participants improved on both and objectively measured polysomnographic and subjective measures of sleep. They showed a pattern of decreased wake time and increased sleep efficiency. Sleep depth, as measured by stage 1 and slow-wave sleep, did not change as a result of mindfulness training. Researchers conclude that MM is associated with increases in both objectively and subjectively measured sleep continuity in ADM users.

Cares, Alison C. & Gretchen R. Cusick. 2012. Risks and Opportunities of Faith and Culture: The Case of Abused Jewish Women. *Journal of Family Violence* 27(5). 427–435.
doi:10.1007/s10896-012-9435-3.

The authors explore how faith and subculture can serve for intimate partners both as a source of strength and as a tool for abuse. Researchers analyzed case files from a Jewish domestic violence services agency, and found that Jewish identity conditions women's experiences with intimate partner abuse through the use of Judaism as a "tool" for abuse, the role of Jewish holidays and observances, and the role of the Jewish community. While partners of abused Jewish women often perverted the laws and traditions of Judaism to control their partners and the reaction of the larger community varied, being part of an integrated cultural and religious community offered support for some women.

Cox, Susie S, Rebecca J Bennett, Thomas M Tripp & Karl Aquino. 2012. An empirical test of forgiveness motives' effects on employees' health and well-being. *Journal of Occupational Health Psychology* 17(3). 330–340.
doi:10.1037/a0028314.

Researchers studied the motivations for employees who forgive coworkers who offend them. Individuals who claimed to have forgiven because they believed they had no other alternatives, or who forgave because they believed a higher power (religious) required it, were more likely to report greater stress and poorer health. Positive outcomes of forgiveness were discovered for those employees who forgave because they believed it was the right (moral) thing to

do. Those who forgave for moral reasons reported less stress than those who forgave because they believed they had no other choice or because a higher power demanded it. Forgiving for relationship and apology reasons was not significantly related to either stress or general health.

- Glei, Dana A., Noreen Goldman, Yu-Hsuan Lin & Maxine Weinstein. 2012. Relaxation Practice and Physiologic Regulation in a National Sample of Older Taiwanese. *The Journal of Alternative and Complementary Medicine* 18(7). 653–661.
doi:10.1089/acm.2010.0598.

Researchers surveyed 1,036 Taiwanese adults aged 53 and older. After adjustment for age and sex, results from 934 respondents revealed that overall dysregulation is lower for practitioners of relaxation techniques compared with nonpractitioners. Similar effects of relaxation practice and regular exercise were found on inflammation, but smaller effects for cardiovascular/metabolic risk factors. In the presence of controls for sociodemographic characteristics, medication use, and a wide range of self-reported and interviewer-assessed health indicators, the effect of relaxation practice is attenuated but remains sizable; regular exercise has a comparable effect. The effects are similar for the inflammation subscore, but not significant for cardiovascular/metabolic risk factors after adjusting for health status.

- Lee, Eun-Kyoung Othelia, Hyunsook Yoon, Jungui Lee, Jiyoung Yoon & Eunjin Chang. 2012. Body-Mind-Spirit Practice for Healthy Aging. *Educational Gerontology* 38(7). 473–485.
doi:10.1080/03601277.2011.567182.

This community-based, health promotion intervention for seniors provided a comprehensive review of the effect of body-mind-spirit (BMS) interventions on health behaviors. Seventy community-dwelling older adults were recruited at two community welfare centers and assigned to experimental (n=32) and control (n=38) groups. Extensive evaluations found that participation in the BMS program contributed to better outcomes in both physical and spiritual dimensions of health.

- Nidhi, Ram, Venkatram Padmalatha, Raghuram Nagarathna & Amritanshu Ram. 2012. Effect of a yoga program on glucose metabolism and blood lipid levels in adolescent girls with polycystic ovary syndrome. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics* 118(1). 37–41.
doi:10.1016/j.ijgo.2012.01.027.

In this randomized, interventional controlled trial 90 adolescent girls with polycystic ovary syndrome (PCOS) were randomized into yoga or conventional exercise groups. The changes in fasting insulin, fasting blood glucose, and homeostasis model assessment of insulin resistance were significantly different in the 2 groups. Except for high-density lipoprotein cholesterol, the changes in blood lipid values were also significantly different. Yoga was found to be more effective than conventional physical exercises in improving glucose, lipid, and insulin values, including insulin resistance values, in adolescent girls with PCOS independent of anthropometric changes.

- Peng, Philip W H. 2012. Tai chi and chronic pain. *Regional Anesthesia And Pain Medicine* 37(4). 372–382.
doi:10.1097/aap.0b013e31824f6629.

This article reviews the history, the philosophy, and the evidence for the role of Tai Chi in a few selected chronic pain conditions. Trials examining the health benefit of Tai Chi in chronic pain conditions are mostly low quality. Only 5 pain conditions were reviewed: osteoarthritis, fibromyalgia, rheumatoid arthritis, low back pain, and headache. Of these, Tai Chi seems to be an effective intervention in osteoarthritis, low back pain, and fibromyalgia.

Piko, Bettina F, Eszter Kovacs, Palma Kriston & Kevin M Fitzpatrick. 2012. "To believe or not to believe?" Religiosity, spirituality, and alcohol use among Hungarian adolescents. *Journal of Studies on Alcohol and Drugs* 73(4). 666–674.

Data were collected among high school students (n=592; ages between 14 and 17 years; 48.1% male) from a randomly selected set of schools in Szeged, Hungary, using a self-administered questionnaire and standardized procedures. Despite a high level of alcohol use and a relatively low level of religiosity in the sample, researchers detected a relationship between the importance of religiousness/religious well-being and alcohol use, although religious denomination and affiliation were not significant correlates. Religious attendance and private praying were associated with lower odds of alcohol use among girls; boys who reported a belief in traditional religion were less likely to engage in alcohol use.

Schlitz, Marilyn, Harriet W. Hopf, Loren Eskenazi, Cassandra Vieten & Dean Radin. 2012. Distant Healing of Surgical Wounds: An Exploratory Study. *EXPLORE: The Journal of Science and Healing* 8(4). 223–230.

doi:10.1016/j.explore.2012.04.004.

Researchers sought to examine how expectation and belief might affect the efficacy of distant healing intentions. Women undergoing plastic surgery (n=72) were randomly assigned to 1 of 3 groups: blinded and receiving DHI (DH), blinded and not receiving DHI (control), and knowing that they were receiving DHI (expectancy). Outcome measures included collagen deposition in a surrogate wound and several self-report measures. DHI was provided by experienced distant healers. Following intervention, participants' previous belief in the efficacy of DHI was negatively correlated with the status of their mental health at the end of the study, and healers' perceptions of the quality of their subjective "contact" with the participants were negatively correlated both with change in mood and with collagen deposition. A post-hoc analysis found that among participants assigned to receive DHI under blinded conditions, those undergoing reconstructive surgery after breast cancer treatment reported significantly better change in mood than those who were undergoing purely elective cosmetic surgery.

SeyedAlinaghi, S., S. Jam, M. Foroughi, A. Imani, M. Mohraz, G. E. Djavid & D. S. Black. 2012. Randomized Controlled Trial of Mindfulness-Based Stress Reduction Delivered to Human Immunodeficiency Virus-Positive Patients in Iran: Effects on CD4+ T Lymphocyte Count and Medical and Psychological Symptoms. *Psychosomatic Medicine* 74(6). 620–627.

doi:10.1097/psy.0b013e31825abfaa.

Data from 173 HIV+ patients not yet receiving antiretroviral therapy, who participated in either an 8-week MBSR (n=87) or a brief education and support condition (n=86), were analyzed. Findings suggest that among treatment-adherent Iranian HIV+ patients not yet receiving antiretroviral drug treatment, MBSR seems to have the strongest potential to improve self-reported medical symptoms. In the MBSR condition, the mean CD4 count increased from baseline up to 9 months after treatment and then returned to baseline level at 12 months. Improvements in mean SCL-90R (up to 6 months) and MSCL (up to 12 months) scores were observed for the MBSR condition, whereas education and support condition scores remained the same over time; however, only MSCL improvements significantly differed between groups and these changes lasted up to the final assessment.

Stoltzfus, Kenneth M. & Kathleen J. Farkas. 2012. Alcohol Use, Daily Hassles, and Religious Coping Among Students at a Religiously Affiliated College. *Substance Use & Misuse* 47(10). 1134–1142.

doi:10.3109/10826084.2011.644843.

A study of 423 undergraduate students at a religiously affiliated college indicated that involvement in positive religious coping was significantly related to lower rates of alcohol use. Hierarchical multiple regression analysis revealed that among women, positive religious coping moderated the relationship between two types of daily hassles stress (academic alienation and romantic problems) and alcohol use.

Taibi, Diana M & Michael V Vitiello. 2012. Yoga for osteoarthritis: nursing and research considerations. *Journal of Gerontological Nursing* 38(7). 26–35; quiz 36–37.
doi:10.3928/00989134-20120608-04.

This article presents the current evidence for yoga in treating osteoarthritis (OA). Current research on yoga for OA is scant but promising, showing some evidence of reduced pain, sleep disturbance, and disability. The conceptual model described here proposes musculoskeletal effects (strengthening, flexibility, relaxation), reduction of autonomic arousal, and therapeutic cognitive patterns (distraction, mindfulness) as potentially important mechanisms of yoga.

Yadav, Raj Kumar, Dipti Magan, Nalin Mehta, Ratna Sharma & Sushil Chandra Mahapatra. 2012. Efficacy of a Short-Term Yoga-Based Lifestyle Intervention in Reducing Stress and Inflammation: Preliminary Results. *The Journal of Alternative and Complementary Medicine* 18(7). 662–667.
doi:10.1089/acm.2011.0265.

In a study of 86 patients with chronic diseases who attended a program which included asanas (postures), pranayama (breathing exercises), stress management, group discussions, lectures, and individualized advice, researchers found that the intervention reduced the markers of stress and inflammation as early as 10 days in patients with chronic diseases.

2.2 SPIRITUALITY & HEALTH: MENTAL HEALTH

Benson, G. Odessa, Fei Sun, David R. Hodge & David K. Androff. 2012. Religious coping and acculturation stress among Hindu Bhutanese: A study of newly-resettled refugees in the United States. *International Social Work* 55(4). 538–553.
doi:10.1177/0020872811417474.

After years in Nepali refugee camps, over 100,000 Bhutanese refugees are being resettled around the world by the United Nations High Commissioner for Refugees (UNHCR). This study examines the relationship between religious coping and acculturation stress among newly-resettled Hindu Bhutanese refugees in the United States (US), the projected home of most Bhutanese refugees.

Berman, Noah C., Michael G. Wheaton, Laura E. Fabricant & Jonathan S. Abramowitz. 2012. Predictors of mental pollution: The contribution of religion, parenting strategies, and childhood trauma. *Journal of Obsessive-Compulsive and Related Disorders* 1(3). 153–158.
doi:10.1016/j.jocrd.2012.03.005.

The authors sought to identify predictor variables that could inform theory, treatment, and prevention of mental pollution, one presentation of obsessive-compulsive disorder, using self-report questionnaires from a large number of undergraduate students. Results indicated that mental pollution was not associated with degree of religiosity, yet positively associated with exposure to childhood trauma and maladaptive guilt induction strategies by one's parents.

Brady, Stephanie, Nancy O'Connor, Diane Burgermeister & Patricia Hanson. 2012. The impact of mindfulness meditation in promoting a culture of safety on an acute psychiatric unit. *Perspectives in Psychiatric Care* 48(3). 129–137.
doi:10.1111/j.1744-6163.2011.00315.x.

The authors examined the impact of a mindfulness-based stress reduction (MBSR) program on managing work stress and improving patient outcomes, using a one-group pre-/post-test design. The Mental Health Professionals Stress Scale, the Sense of Self Scale, the Toronto Mindfulness Scale, and the Maslach Burnout Inventory were

used. Results indicate that the MBSR class assisted staff in decreasing their stress levels and improve their self-care, which resulted in increases in patient satisfaction and decreases in patient safety events.

Braam, Arjan W, Marianne Klinkenberg, Henrike Galenkamp & Dorly J H Deeg. 2012. Late-life depressive symptoms, religiousness, and mood in the last week of life. *Depression Research and Treatment* 2012. 754031.

doi:10.1155/2012/754031.

After-death interviews with proxy respondents of deceased sample members of the Longitudinal Aging Study Amsterdam provided information on depressed mood in the last week of life, as well as on the presence of a sense of peace with the approaching end of life. Other characteristics were derived from interviews with the sample members when still alive. Significant interactions were identified between measures of religiousness and previous depressive symptoms in their associations with mood in the last week of life. Among those with previous depressive symptoms, church-membership, church-attendance and salience of religion were associated with a greater likelihood of depressed mood in the last week of life. Among those without previous depressive symptoms, church-attendance and salience of religion were associated with a higher likelihood of a sense of peace. For older adults in the last phase of life, supportive effects of religiousness were more or less expected. For those with recent depressive symptoms, however, religiousness might involve a component of existential doubt.

Chen, Kevin W, Christine C Berger, Eric Manheimer, Darlene Forde, Jessica Magidson, Laya Dachman & C W Lejuez. 2012. Meditative therapies for reducing anxiety: a systematic review and meta-analysis of randomized controlled trials. *Depression and Anxiety* 29(7). 545–562.

doi:10.1002/da.21964.

This literature review was conducted to study the efficacy of meditation for anxiety. A total of 36 RCTs were included in the meta-analysis (2,466 observations). Most RCTs were conducted among patients with anxiety as a secondary concern. Results of the review demonstrate some efficacy of meditative therapies in reducing anxiety symptoms. However, most studies measured only improvement in anxiety symptoms, but not anxiety disorders as clinically diagnosed.

Iglesias, Silvia L, Sergio Azzara, Juan Carlos Argibay, María Lores Arnaiz, María de Valle Carpineta, Hugo Granchetti & Eduardo Lagomarsino. 2012. Psychological and physiological response of students to different types of stress management programs. *American Journal of Health Promotion: AJHP* 26(6). e149–158.

doi:10.4278/ajhp.110516-QUAL-199.

Researchers randomly assigned 52 undergraduate students to 1 of 3 programs: the first program included training in deep breathing, relaxation response, meditation, and guided imagery techniques (RRGI); the second program included training in cognitive behavioral techniques (CB); the third program included both RRGI and CB (RRGICB). Subjects in the RRGI group showed significantly lower levels of anxiety, anger, neuroticism, respiratory rate, hopelessness, and salivary cortisol after the treatment. Subjects in the CB group showed significantly lower levels of anxiety, anger, and neuroticism after the treatment. Subjects in the RRGICB group showed significantly lower levels of anxiety, anger, neuroticism, hopelessness, respiratory rate, and salivary cortisol after the treatment. Subjects in the control group showed only one variable modification, a significant increase in cortisol levels. The combination of deep breathing, relaxation response, meditation, and guided imagery techniques with CB seems to be effective at helping people to deal with stress.

Rokach, Ami, Jackie Chin & Ami Sha'ked. 2012. Religiosity and coping with loneliness. *Psychological Reports* 110(3). 731–742.

The present, preliminary study aimed to explore whether coping with loneliness is influenced by one's religious observance. The present study focused on Israeli Jews. 250 participants identified themselves as Secular,

Conservative, or Orthodox, by answering a 34-item yes/no questionnaire on loneliness. The three groups statistically significantly differed in their manner of coping with loneliness only on the Religion and Faith subscale, as hypothesized.

Schwerkoske, John P., Jason P. Caplan & Dawn M. Benford. 2012. Self-Mutilation and Biblical Delusions: A Review. *Psychosomatics* 53(4). 327–333.

The authors identify in research literature 16 cases of self-mutilation prompted by Biblical verses. All patients presented with a diagnosis of psychosis at the time of the event. Other common themes include substance abuse, guilt over sexual acts, absence of pain or regret, and destruction of the severed body part.

Vancampfort, D., K. Vansteelandt, T. Scheewe, M. Probst, J. Knapen, A. De Herdt & M. De Hert. 2012. Yoga in schizophrenia: a systematic review of randomised controlled trials. *Acta Psychiatrica Scandinavica* 126(1). 12–20.
doi:10.1111/j.1600-0447.2012.01865.x.

The objective of this systematic review was to assess the effectiveness of yoga as a complementary treatment on general psychopathology, positive and negative symptoms and health-related quality of life (HRQL) for people with schizophrenia. Only three randomized controlled trials met the inclusion criteria. Results indicated that yoga therapy can be an useful add-on treatment to reduce general psychopathology and positive and negative symptoms. In the same way, HRQL improved in those antipsychotic-stabilized patients with schizophrenia following yoga.

Whitehead, Brenda R & Cindy S Bergeman. 2012. Coping with daily stress: differential role of spiritual experience on daily positive and negative affect. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences* 67(4). 456–459.
doi:10.1093/geronb/gbr136.

This study uses a daily paradigm to examine the potential moderating effect of everyday spiritual experience (ESE) on the deleterious impact of a given day's perceived stress (PS) on that day's positive and negative affect (PA/NA) in a participant group of 244 older adults. Results indicate that ESE buffered the negative effect of PS on same-day NA but had a positive direct effect on same-day PA.

Williamson, W. Paul & Ralph W. Hood. 2012. The Lazarus Project: a longitudinal study of spiritual transformation among substance abusers. *Mental Health, Religion & Culture* 15(6). 611–635.
doi:10.1080/13674676.2011.608527.

This is a longitudinal study of spiritual transformation at the Lazarus Project (LP), a 12-month Pentecostal-Charismatic residency program for substance abuse. The article reports preliminary findings which suggest that, among chronic substance abusers, the LP helps to facilitate conversion as a form of spiritual transformation that persists at least one-year post-graduation.

2.3 SPIRITUALITY & HEALTH: METHOD AND THEORY

Ata, Abe. 2012. Bereavement anxieties and health amongst the Australian-Italian Catholic community. *Mental Health, Religion & Culture* 15(6). 555–570.
doi:10.1080/13674676.2011.599370.

The author presents guidelines for professional caregivers in relation to eight cultural/religious groups including Australian-born Christians and Arab-born Muslims, based on a survey of 269 households in the state of Victoria, Australia. The focus here is upon the relationships between the Australian Italian community and personal health outcomes during bereavement. The following sub-strata are examined: community differences in relation to grief and loss practices and traditions; the value of religious communal support and counseling; symptomatological differences from psychosocial and educational perspectives; psychopathological/psychiatric

symptoms and beliefs and practice concerning the afterlife. Significant differences were revealed between the sexes on such matters as health problems, grief expressions, psychosomatic manifestations, communication with the dead, beliefs in the afterlife and interpretation of the meaning of loss.

- Buck, Harleah G & Susan C McMillan. 2012. A psychometric analysis of the spiritual needs inventory in informal caregivers of patients with cancer in hospice home care. *Oncology Nursing Forum* 39(4). E332–339.
doi:10.1188/12.onf.e332-e339.

The article reports on tests of the validity and reliability of the Spiritual Needs Inventory (SNI) in measuring the spiritual needs of informal caregivers of patients with cancer in hospice home care. Using a sample of 410 informal caregivers of patients with cancer in hospice home care, researchers found evidence for the validity and reliability of the SNI. They conclude that use of the SNI with hospice caregivers could aid nurses in the identification of spiritual needs, enabling the development of plans of individualized, high-quality care.

- Bülow, Hans-Henrik, Charles L Sprung, Mario Baras, Sara Carmel, Mia Svantesson, Julie Benbenishty, Paulo A Maia, Albertus Beishuizen, Simon Cohen & Daniel Nalos. 2012. Are religion and religiosity important to end-of-life decisions and patient autonomy in the ICU? The Ethicatt study. *Intensive Care Medicine* 38(7). 1126–1133.
doi:10.1007/s00134-012-2554-8.

In this study of ICU physicians and nurses, as well as patients and family members, in Europe, researchers found that religious respondents wanted more treatment and were more in favor of life prolongation, and they were less likely to want active euthanasia than those only affiliated to a particular religion. No differences were found between religious and affiliated professionals regarding patient's autonomy. Inter-religious differences were detected, with Protestants most likely to follow competent patients' wishes and the Jewish respondents least likely to do so, and Jewish professionals more frequently accepting patients' wishes for futile treatment. However, these findings on autonomy were due to regional differences, not religious ones.

- Burke, Adam. 2012. Comparing individual preferences for four meditation techniques: zen, vipassana (mindfulness), qigong, and mantra. *Explore (New York, N.Y.)* 8(4). 237–242.
doi:10.1016/j.explore.2012.04.003.

This study provides information on differences in preference for type of meditation, using data from a pilot study of 247 undergraduates. After learning two open observing meditation techniques (Vipassana and Zen), and two focused attention techniques (Mantra and Qigong Visualization), participants practiced one method per week. A within subjects comparison revealed that significantly more participants chose Vipassana or Mantra meditation as their preferred techniques compared with Qigong Visualization and Zen.

- Büssing, Arndt, Anemone Hedtstück, Sat Bir S. Khalsa, Thomas Ostermann & Peter Heusser. 2012. Development of Specific Aspects of Spirituality during a 6-Month Intensive Yoga Practice. *Evidence-based Complementary and Alternative Medicine: eCAM* 2012. 981523.
doi:10.1155/2012/981523.

After observing 160 individuals starting a yoga teacher training for two months, researchers found that an intensive yoga practice may significantly increase specific aspects of practitioners' spirituality, mindfulness, and mood. Particularly non-religious/non-spiritual individuals showed moderate effects for an increase of conscious interactions/compassion. These changes are dependent in part on their original spiritual/religious self-perception, and there were strong correlations among the constructs of conscious interactions/compassion, and mindfulness.

- Campbell, Jennifer Chrisman & John Chambers Christopher. 2012. Teaching Mindfulness to Create Effective Counselors. *Journal of Mental Health Counseling* 34(3). 213–226.

The authors write of their experience teaching mindfulness practices to counseling students. The article provides a detailed description of their mindfulness-based course, proposes recommendations for counseling coursework in mindfulness, and discusses the impact of the course on the ability to cultivate therapeutic presence.

- Chung, Vincent C H, Marc Chong, Lau Chun Hong, Polly H X Ma, Samuel Y S Wong & Sian M Griffiths. 2012. Emotionless holism: Factor and Rasch analysis of the Chinese Integrative Medicine Attitude Questionnaire. *Chinese Journal of Integrative Medicine* 18(6). 457–465.
doi:10.1007/s11655-012-1117-8.

Researchers analyzed data from 165 Hong Kong Western medical doctors (WMD) randomly sampled from the official registry and identified Eastern-Western differences in the interpretation of the Integrative Medicine Attitude Questionnaire. For Chinese WMD, the emphasis of holistic care is placed on “tonifying” the body rather than on nurturing the mind and spirit. Confucian and Taoist conceptualizations of mental health as well as the persistent stigma towards mental illness within modern Chinese culture may explain why Chinese WMD do not regard mental health promotion as part of routine healthcare.

- Cragun, Carrie L & Myrna L Friedlander. 2012. Experiences of Christian clients in secular psychotherapy: A mixed-methods investigation. *Journal of Counseling Psychology* 59(3). 379–391.
doi:10.1037/a0028283.

The authors interviewed 11 Christian former therapy clients to uncover factors contributing to positive versus negative experiences in secular psychotherapy. Results indicated that although many participants felt hesitant to discuss their faith due to uncertainty about their therapists’ reactions, positive experiences were reportedly facilitated by therapists’ openness to understanding clients’ faith and giving clients control over how much, when, and how to discuss their religious beliefs and practices. Dissatisfied clients reported that their therapists expressed opposing religious views or avoided discussing religious or spiritual issues.

- Garcia, Dennise, Gemma D Skillman & Robert D Dvorak. 2012. Spirituality, environmental consciousness, and health awareness and use of complementary and alternative medicine. *Advances in Mind-Body Medicine* 26(1). 8–12.

The study authors investigated the relationship between level of complementary and alternative medicine (CAM) use and spirituality, environmental consciousness, and health awareness in 190 participants. The results suggest that as CAM use increases, all three positive lifestyle practices increase also. Moreover, unexpected results demonstrated that as the level of CAM use increased from medium to high, health awareness also increased.

- Giske, Tove & Pamela H Cone. 2012. Opening up to learning spiritual care of patients: a grounded theory study of nursing students. *Journal of Clinical Nursing* 21(13-14). 2006–2015.
doi:10.1111/j.1365-2702.2011.04054.x.

This research was designed to determine the perspectives of undergraduate nursing students’ (n=42) on spiritual care, and how they learn to assess and provide spiritual care to patients. The participants’ main concern was “How to create a professional relationship with patients and maintain rapport when spiritual concerns were recognized.” Participants resolved this by “Opening up to learning spiritual care.” This basic social process has three iterative phases that develop as a spiral throughout the nursing programme: “Preparing for connection,” “Connecting with and supporting patients” and “Reflecting on experiences.”

- Kushner, Kenneth. 2012. You cannot wash off blood with blood: entering the mind through the body. *Explore (New York, N.Y.)* 8(4). 243–248.
doi:10.1016/j.explore.2012.04.002.4

The purpose of this article is to examine the relationship between breathing, posture and concentration in one tradition of Zen. The author explains how this relationship may be relevant to the practice of psychotherapy and the healing arts, as well as its implications for future research in these fields.

Leppma, Monica. 2012. Loving-Kindness Meditation and Counseling. *Journal of Mental Health Counseling* 34(3). 197–204.

This article examines the use and implications of loving-kindness meditation (LKM) in mental health counseling. LKM incorporates nonjudgmental awareness of the present moment, which enhances attention, presence, acceptance, and self-regulation; it also entails directing caring feelings toward oneself and then others and emphasizes both self-care and interconnectedness.

Maciejewski, Paul K, Andrea C Phelps, Elizabeth L Kacel, Tracy A Balboni, Michael Balboni, Alexi A Wright, William Pirl & Holly G Prigerson. 2012. Religious coping and behavioral disengagement: opposing influences on advance care planning and receipt of intensive care near death. *Psycho-Oncology* 21(7). 714–723.

doi:10.1002/pon.1967.

This study examines the relationships between methods of coping with advanced cancer, completion of advance care directives, and receipt of intensive, life-prolonging care near death. Analysis of data from 345 patient interviews indicated that positive religious coping was associated with lower rates of having a living will and predicted higher rates of intensive, life-prolonging care near death.

Marchand, William R. 2012. Mindfulness-based stress reduction, mindfulness-based cognitive therapy, and zen meditation for depression, anxiety, pain, and psychological distress. *Journal of Psychiatric Practice* 18(4). 233–252.

doi:10.1097/01.pra.0000416014.53215.86.

This review provides a synopsis of three mindfulness interventions that have demonstrated effectiveness for psychiatric symptoms and/or pain: Zen meditation, mindfulness-based stress reduction (MBSR), and mindfulness-based cognitive therapy (MBCT). Studies indicate that MBSR and MBCT have broad-spectrum antidepressant and antianxiety effects and decrease general psychological distress. MBCT is strongly recommended as an adjunctive treatment for unipolar depression. The evidence suggests that both MBSR and MBCT have efficacy as adjunctive interventions for anxiety symptoms. MBSR is beneficial for general psychological health and stress management in those with medical and psychiatric illness as well as in healthy individuals. Finally, MBSR and Zen meditation have a role in pain management.

Phelps, Andrea C, Katharine E Lauderdale, Sara Alcorn, Jennifer Dillinger, Michael T Balboni, Michael Van Wert, Tyler J Vanderweele & Tracy A Balboni. 2012. Addressing spirituality within the care of patients at the end of life: Perspectives of patients with advanced cancer, oncologists, and oncology nurses. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology* 30(20). 2538–2544.

doi:10.1200/JCO.2011.40.3766.

After surveys and interviews with 339 cancer physicians and nurses, and 75 patients with cancer, the authors found that the majority of all three groups believed that routine spiritual care would have a positive impact on patients. Only 25% of patients had previously received spiritual care. Physicians held more negative perceptions of spiritual care than patients and nurses. Objections to spiritual care frequently related to professional role conflicts. Participants described ideal spiritual care to be individualized, voluntary, inclusive of chaplains/clergy, and based on assessing and supporting patient spirituality.

Sharma, Rashmi K, Alan B Astrow, Kenneth Texeira & Daniel P Sulmasy. 2012. The Spiritual Needs Assessment for Patients (SNAP): Development and Validation of a Comprehensive

Instrument to Assess Unmet Spiritual Needs. *Journal of Pain and Symptom Management* 44(1). 44–51.

doi:10.1016/j.jpainsymman.2011.07.008.

Forty-seven ambulatory cancer patients completed cross-sectional and longitudinal surveys to test the validity and reliability of a new instrument, The Spiritual Needs Assessment for Patients (SNAP), designed to assess patients' spiritual needs. The results provide preliminary evidence that the SNAP is a valid and reliable instrument for measuring spiritual needs in a diverse patient population.

Verhoef, Marja J & Andrea Mulkins. 2012. The healing experience-how can we capture it? *Explore (New York, N.Y.)* 8(4). 231–236.

doi:10.1016/j.explore.2012.04.005.

In-depth, semi-structured interviews were conducted with 35 individuals with previous healing experiences at 2 wellness centers in Vancouver, BC. Researchers found that, contrary to the assumptions of the Healing Hypothesis, which is the basis of the Integrative Medicine (I-MED) Index instrument, healing is an individualized process that does not follow a uniform pattern. Results of the study can be used to provide the basis for an instrument to assess individuals' healing experiences in a more dynamic manner.

PART 3. BOOKS

3.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

- Barnard, Alan. 2012. *Genesis of Symbolic Thought*. Cambridge University Press.
- Chen, Carolyn, & Russell Jeung (eds.). 2012. *Sustaining Faith Traditions: Race, Ethnicity, and Religion among the Latino and Asian American Second Generation*. NYU Press.
- Kahn, Peter H, & Patricia H Hasbach (eds.). 2012. *Ecopsychology Science, Totems, and the Technological species*. Cambridge, Mass.: MIT Press.
- Kim, Dong Young. 2012. *Understanding Religious Conversion: The Case of St. Augustine*. Pickwick Publications.
- McNamara, Patrick, & Wesley J Wildman (eds.). 2012. *Science and the world's religions*. 3 vols. (Brain, Behavior, and Evolution). Santa Barbara, Calif.: Praeger.
- Plante, Thomas G. 2012. *Religion, spirituality, and positive psychology: Understanding the psychological fruits of faith*. Santa Barbara, Calif.: Praeger.
- Wilson, Erika. 2012. *Emotions and Spirituality in Religions and Spiritual Movements*. University Press of America.

3.2 SPIRITUALITY & HEALTH RESEARCH

- Carlin, Nathan & Donald Capps. 2012. *100 years of happiness: insights and findings from the experts*. Santa Barbara, Calif.: Praeger.
- Coward, Harold, & Kelli I. Stajduhar (eds.). 2012. *Religious Understandings of a Good Death in Hospice Palliative Care*. State University of New York Press.
- Greggo, Stephen P. & Timothy A. Sisemore. 2012. *Counseling and Christianity: Five Approaches*. (Christian Association for Psychological Studies Partnership). IVP Academic.
- Huguelet, Philippe & Harold Koenig. 2012. *Religion and spirituality in psychiatry*. Cambridge University Press.
- Mackinnon, Christa. 2012. *Shamanism and Spirituality in Therapeutic Practice: An Introduction*. Singing Dragon.
- Partridge, Damani J (ed.). 2012. *Religion, personality, and mental health*. Springer.
- Swartley, Willard M. 2012. *Health, healing and the church's mission: Biblical perspectives and moral priorities*. Downers Grove, Ill.: IVP Academic.

PART 4. ARTICLES IN PRESS

4.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

- Aghababaei, Naser. 2012. Religious, honest and humble: Looking for the religious person within the hexaco model of personality structure. *Personality and Individual Differences*. doi:10.1016/j.paid.2012.07.005.
- Black, David S, Steve W Cole, Michael R Irwin, Elizabeth Breen, Natalie M St Cyr, Nora Nazarian, Dharma S Khalsa & Helen Lavretsky. 2012. Yogic meditation reverses NF- κ B and IRF-related transcriptome dynamics in leukocytes of family dementia caregivers in a randomized controlled trial. *Psychoneuroendocrinology*. doi:10.1016/j.psyneuen.2012.06.011.
- Carey, Jasmine M & Delroy L Paulhus. 2012. Worldview Implications of Believing in Free Will and/or Determinism: Politics, Morality, and Punitiveness. *Journal of personality*. doi:10.1111/j.1467-6494.2012.00799.x.
- Farb, Norman A S, Zindel V Segal & Adam K Anderson. 2012. Mindfulness meditation training alters cortical representations of interoceptive attention. *Social cognitive and affective neuroscience*. doi:10.1093/scan/nss066.
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